

Release notes - Version 9.9

GLIMS



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Version 9.9.7

Important modifications

Financial export in CPOWISH format: support for version 2201 (BILX_CPOWISH-00107)

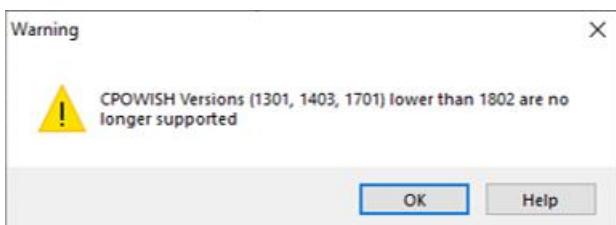
Introduction

Multiple changes have been applied to the CPOWISH financial shipment export in order to comply with legal requirements.

Protocols

Version 2201 will now be supported as an option in the **Version** drop down list of the FinancialShipment.Send screen.

Protocol versions 1304 1403 and 1701 will no longer be supported. An error message will appear when one of these versions is chosen.



Only versions 1802 and 2201 will be available for use.

Fields

Several changes have been implemented to the fields of the financial shipment export file.

These fields have been adapted:

- Some fields now support more digits, for instance ICAMI, which now supports seven digits instead of six;
- Time: several fields now include seconds.

The fields with amounts in BEF (IMTBP, ...) have been removed.

Warning

The fields are now identified as codes and no longer as numbers, because their positions have changed. The codes can be retrieved from the official protocol description. This is relevant for customers who overrule fields using the site function Send_<RecordType>_Values. The site function return value has to be adapted, for instance "\7=XXXX" should now be replaced by "CLIE4\=XXXX".

```

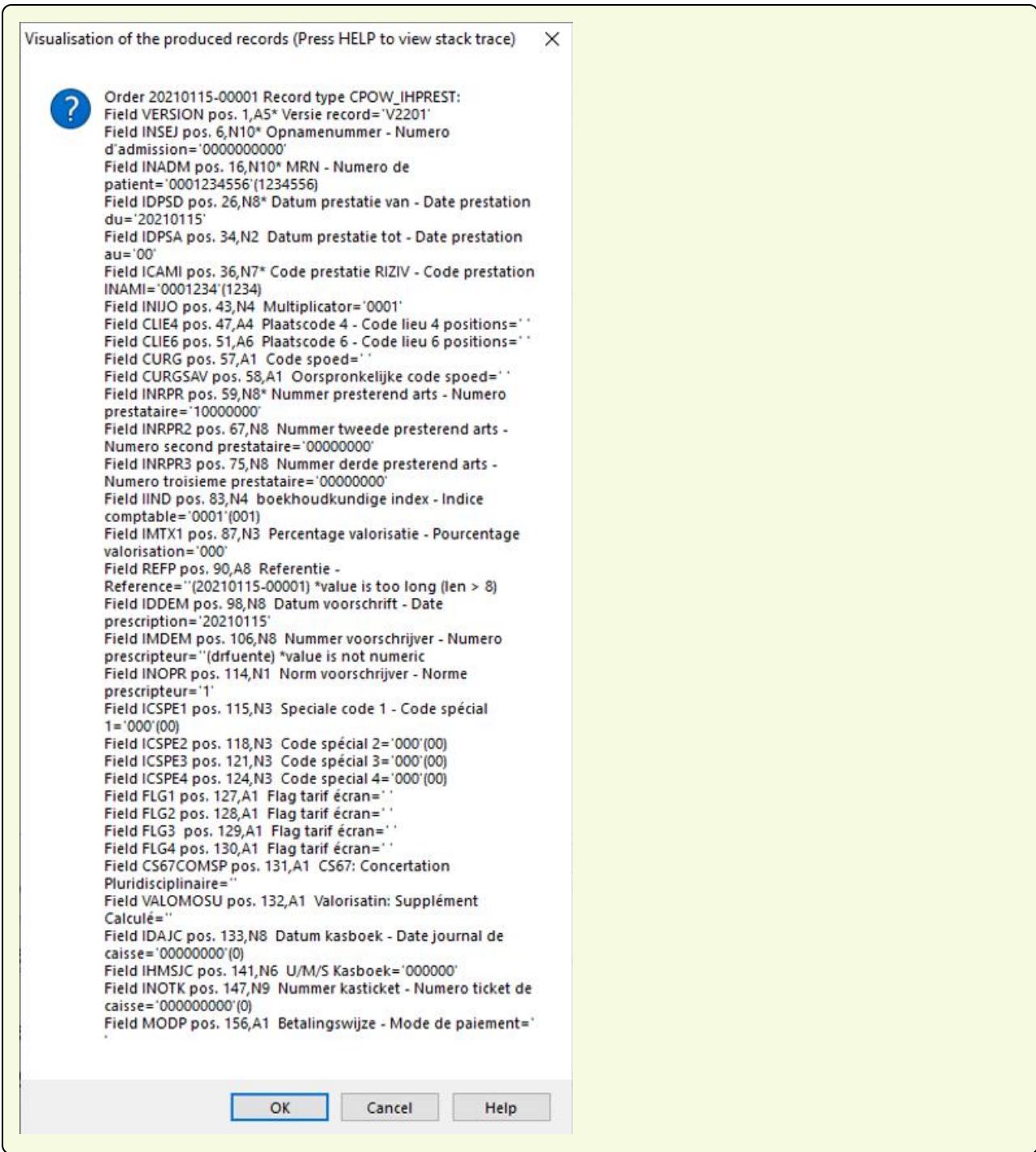
retstr := retstr + IfKnownString("\1=" + INSEJ);
retstr := retstr + IfKnownString("\2=" + INADM);
retstr := retstr + IfKnownString("\3=" + IDPSD);
retstr := retstr + IfKnownString("\4=00");
retstr := retstr + IfKnownString("\7=" + CLIE4);
retstr := retstr + IfKnownString("\9=" + INRPR);
retstr := retstr + IfKnownString("\12=" + IINDC);
retstr := retstr + IfKnownString("\13=000");
retstr := retstr + IfKnownString("\14=" + .Order.ShortId);
retstr := retstr + IfKnownString("\15=" + IDDEM);
retstr := retstr + IfKnownString("\16=" + IMDEM);
retstr := retstr + IfKnownString("\17=" + INOPR);
retstr := retstr + IfKnownString("\18=" + ICSPE1);
retstr := retstr + IfKnownString("\19=" + ICSPE2);
retstr := retstr + IfKnownString("\20=" + ICSPE3);
retstr := retstr + IfKnownString("\27= ");
retstr := retstr + IfKnownString("\36=" + IPRREL);
retstr := retstr + IfKnownString("\37=0");
retstr := retstr + IfKnownString("\42=" + IDACCO);
retstr := retstr + IfKnownString("\66=" + IMTBPE);

retstr := retstr + IfKnownString("\INSEJ=" + INSEJ);
retstr := retstr + IfKnownString("\INADM=" + INADM);
retstr := retstr + IfKnownString("\IDPSD=" + IDPSD);
retstr := retstr + IfKnownString("\IDPSA=00");
retstr := retstr + IfKnownString("\CLIE4=" + CLIE4);
retstr := retstr + IfKnownString("\INRPR=" + INRPR);
retstr := retstr + IfKnownString("\IINDC=" + IINDC);
retstr := retstr + IfKnownString("\IIND=" + IINDC);
retstr := retstr + IfKnownString("\IMTX1=000");
retstr := retstr + IfKnownString("\REPP=" + .Order.ShortId);
retstr := retstr + IfKnownString("\IDDEM=" + IDDEM);
retstr := retstr + IfKnownString("\IMDEM=" + IMDEM);
retstr := retstr + IfKnownString("\INOPR=" + INOPR);
retstr := retstr + IfKnownString("\ICSPE1=" + ICSPE1);
retstr := retstr + IfKnownString("\ICSPE2=" + ICSPE2);
retstr := retstr + IfKnownString("\ICSPE3=" + ICSPE3);
retstr := retstr + IfKnownString("\HOOP= ");
retstr := retstr + IfKnownString("\IPRREL=" + IPRREL);
retstr := retstr + IfKnownString("\ICHOPE=0");
retstr := retstr + IfKnownString("\IDACCO=" + IDACCO);
retstr := retstr + IfKnownString("\IMTBPE=" + IMTBPE);

```

Note

The list of used field codes is shown when **Full logging** is enabled in the FinancialShipment.Send screen.



Usage of new bilx.pl file for German billing (BILX_GKVDT-00516)

In addition to modification [MATE-07344](#), the following KVDT-related functions are now available in a separate library (bilx.pl file) for ease of maintenance of the GLIMS installation.

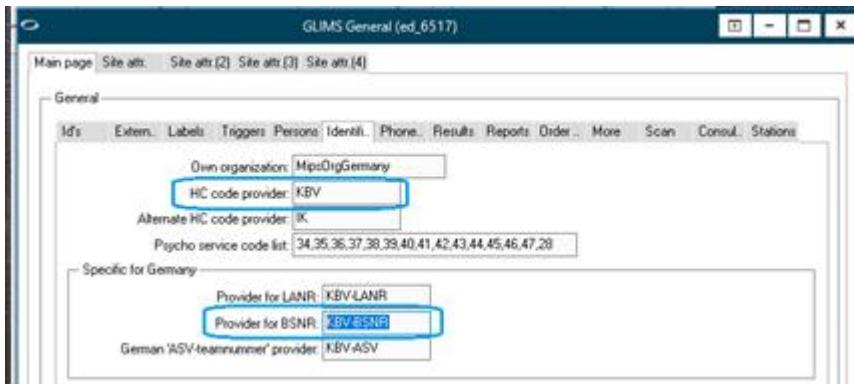
- KVDT check during KVDT export (and Order.CheckKVDT() MISPL)
 - including ICD and OMIM code check
 - including adapted SD AV and KT SD (existence check of Vertragsarztnummer, Fund VKNR and IK existence and validity check)
- ICD code entry
- OMIM-P & G code entry in **Property** editor (site attributes)
- TIKonnektor version retrieval during KVDT financial export

The bilx.pl file is available in the lib/ directory. It is not necessary to update progress.ini (the bilx.pl is loaded automatically).

Uniform KBV-BSNR identification provider usage (BILX_GKVDT-00551)

The KBV-BSNR provider, previously only used as identification source for BSNR for departments, is now also used as identification source for BSNR for issuers.

In the past, issuer BSNR were configured as Identification.Code with source = the **HC code provider** specified in the GLIMS general settings.



	Until now	As of now
HC code provider	Used for fund VKNR but also for BSNR of issuers Firm BSNR (KVDT file name)	Used for fund VKNR
Alternate ID provider	German IK	Unchanged
Provider for LANR	Used for LANR for issuers or executors LANR of Shipment destination	Unchanged
Provider for BSNR	Used for BSNR of (executing) departments 'Betriebsstättennummer' > departments Firm BSNR (KVDT file name)	BSNR of departments and issuers
Provider for ASV-Teamnummer	ASV-Teamnummer	Unchanged

Note

If, in the GLIMS configuration, the KBV-BSNR provider = HC code provider, nothing changes. In the other case, the source of the existing (issuer) BSNR identification codes needs to be converted.

On the introduction of a separate KBV-BSNR provider, the Order import (LDT) BSNR provider parameter needs to be updated.

Addendum to BILX_GKVDT-00543 (BILX_GKVDT-00554)

This modification serves as an addendum to the modification [BILX_GKVDT-00543](#).

For genetic exams, GLIMS allows for the retrieval of OMIM code information from XDT_507X results that are not linked to the genetic exam. Restriction: the order has **one or more** genetic exams.

Moreover, if the **XDT_5009** result is not linked to the genetic exam (approach plan) but the other XDT_507X results are linked to a genetic exam, then the XDT_5009 result value (without a link) is taken into account.

Prevent MISPL execution of Property output Value during result preview (GLIMS-13442)

Issue

The Property output Value field will run during the preview of results during order review or result overview. As a result, active MISPL code that was configured in the Property output Value field could perform actions that the customer was not expecting, such as updating database records or sending an email.

Configuration

Create a calculation procedure with a MISPL in the Property output Value field.

MISPL example

```
STRING Output;

SendMail("test@mips.be", "test@mips.be", "MAIL", "Mailing this", 1);
.Object.Person().SetMedicalRecord("DeterminationStatus", "1");
.Object.Person().SetAntibody("K", YES);

IF mips_calc_prop1.1 * mips_calc_prop1.2 < 0 THEN
    Output := "STOP";
ELSE
    Output := FractionalToString(mips_calc_prop1.1 + mips_calc_prop1.2, "%4.2f");
ENDIF;

Return Output;
```

Scenario

1. Create an order with the calculated result.
2. Enter a result.
3. Open the Order review browser.
4. Enable **Preview calculations**.
5. Browse through the results till you get to the order of step 1.
=> The 'active' MISPL was executed and the email was sent.

Solution

This issue has been corrected.

When the SendMail() function is used in the Property output **Value** field during a preview, the MISPL code will NOT be executed, and the user will see an information message explaining why no MISPL was run. Other MISPL functions will be executed during the preview, but their changes will NOT be saved.

Note

'Active' MISPL functions should be configured in the Property Triggers.

Prioritize already existing actions when scheduling a new request (GLIMS-13673)

Issue

An order was scheduled differently when multiple properties were requested at the same time or when these properties were requested at different times.

When multiple properties are requested at the same time, the scheduler will try to schedule them on the same action. However, when these properties were requested at different times, no priority was given to already existing actions, which resulted in an incorrect scheduling.

Configuration

Two properties PropA and PropB with two procedures:

- Procedure A on station A with PropA and PropB as outputs.
- Procedure B on station B with PropA and PropB as outputs.

This issue, which occurred since GLIMS 8.11, has been corrected.

Warning

The previous behaviour was incorrect. Customers having used the previous behaviour intentionally in their workflows must be aware that GLIMS now no longer behaves as before.

Generating an empty report should disable the 'Needs checking' flag (GLIMS-13803)

Issue

[GLIMS_RX-00576](#) (9.9.0) fixed the issue where the **Last output time** of a report was set during report generation even when the generated report was empty. However, this modification had as side effect that the **Needs checking** flag was not disabled when the generated report was empty.

Solution

This issue, which occurred since GLIMS 9.9, has been corrected.

Warning - backward incompatibility

This modification restores the behaviour of GLIMS 8.11: generating an empty report disables the **Needs checking** flag again.

Check previous sorts to sorting zones instead of sorting targets when trying to move an action ([GLIMS_ANLZ-01479](#))

Introduction

This modification fixes the problem where an action was moved incorrectly to another specimen because a previous sort to a certain sorting zone was not recognized.

Problem description

The description of the feature Move actions to another specimen mentions the following restriction, in a list of restrictions, that applies when moving actions during a sort query (i.e. distributor systems in slave mode):

If the root action delivers results, then the results are moved only if the root specimen was **not sorted (*) yet to a zone of that action** (action -> procedure -> sorting target -> zone).

(*) The definition of 'sorted' is

There was a sort result received from the sorter, or there was a sort instruction sent to the sorter for a zone not expecting a sort result. Sorting to error zones is not considered as actual sort. Sorting to an archive zone for actions delivering results is also not considered as actual sort.

However, due to changes applied in GLIMS 9.0, the behaviour of GLIMS was changed unintentionally by not taking into account the zones of an action as described above but rather by taking into account the targets.

Because different actions of different procedures cannot have the same sorting target, GLIMS incorrectly concluded that an action could be replaced by an action of another procedure and moved an action even though the targets of both procedures target the same zone whereas the action should not have been moved.

Because a new action was created on a specimen, it happened that GLIMS would initiate unnecessary sorting of the specimen.

Example

Configuration

- Procedure PROC_A with the property Test1 as output and the material Mat_X as input
 - Sorting targets:
 - To routine sorting zone SZ1
 - To archive zone ARCHIVE
 - **Allow replacement** enabled
- Procedure PROC_B with the property Test2 as output and the material Mat_X as input
 - Sorting targets:
 - To routine sorting zone SZ2
 - To archive zone ARCHIVE
 - **Allow replacement** enabled

Routine

When entering an order with the following requests:

1. Mat_X
 1. Test1
 2. Test2
2. Mat_X (without tests)

The order will have two specimens (Spmn1 and Spmn2) with all the tests scheduled on the first specimen Spmn1 and none on Spmn2.

When several, three for instance, sort queries take place for Spmn2, the expected outcome is:

1. GLIMS moves the actions from Spmn1 to Spmn2
2. The outcome of the three sort queries is:
 1. Sort to SZ1
 2. Sort to SZ2
 3. Sort to ARCHIVE

When sort queries take place for Spmn1, it should be sorted immediately to the ARCHIVE zone (there's no work left to be done). However, it happened that GLIMS would instruct to have Spmn1 sorted to SZ2 instead, which is not correct because the work for SZ1 is done.

Separate RequestedCode for microbiology procedure requested via panel should be made optional (GLIMS_BAC-01834)

Issue

The development that was done with [GLIMS_BAC-01718](#) (9.9.5), i.e. any microbiology procedure requested via a panel gets its own RequestedCode record, did have a number of side effects that were interfering with the workflow at some customers:

- In the order entry screen, the Request browser contained a lot more entries,
- The MISPL function Order.Attribute("RequestList") contained these additional entries, impacting any MISPL that uses this MISPL function,
- It was not clear from which panel requestable a microbiology procedure request originated,
- The billing logic was unable to determine if the microbiology procedure related items needed to be charged separately or not.

Solution

This issue, which occurred since GLIMS 9.9.5, has been corrected.

The addition of a new RequestedCode record per microbiology procedure requested via a panel has now been made optional. To this end, a new site attribute **Add requested code for structured reporting** has been added to the general settings ([Start > System management > GLIMS General](#)).

Warning - backward compatibility

This modification is NOT backward compatible with GLIMS 9.9.5 and GLIMS 9.9.6.

Note

Enabling this option will add an additional requested code for each microbiology procedure requested via a panel.

- The origin of the additional requested codes will be "Structured reporting".
- The additional requested codes
 - will have no impact on the Request browser in the order entry screen.
 - will not appear in the returned value of the Order.Attribute("RequestList") MISPL function.
 - will be charged on top of the panel in case the panel is set as to be charged.
- No link is available with the originally requested panel.

Allow partial billing for requests without original request definition (GLIMS_BILL-03864)

Issue

Partial billing of requests without original request definition was not possible as GLIMS always took the billing category of the original request definition.

Solution

This issue, which occurred since GLIMS 9, has been corrected.

GLIMS now uses the billing category of the detail request definition when the original request definition or its category is missing.

Warning

Prior to this modification, request definitions that did not have an original request definition were not taken into consideration during partial tariffication. This means that, if an order has request definitions without a reference to an original request definition, the amount after partial tariffication will be higher compared to the past.

For panel request definitions without original request definition, the billing information of the detailed panel request definition will first be checked. If not present, the billing information of panel members will be taken into account.

Take the department of the first panel member as BillingItem.ExecutingDepartment (GLIMS_BILL-03875)

This modification adapts tariffing so that the department of the first panel member (lowest seq no) is taken as BillingItem.ExecutingDepartment for panel members with different departments rather than the department of the last panel member.

Note

For panels with a billing code on the panel, the billing mark of a (non discontinued) request is taken.

It should not be possible to move blood selections in status 'Ready' directly to status 'Discontinued' when a blood bag in status 'Checked out' is checked (GLIMS_BTM-01219)

Issue

The logic of blood selection status transitions was changed with GLIMS BTM-00994 (9.8.4) and GLIMS BTM-00995 (9.9.0) so that a blood selection in status **Ready** with a linked blood bag in status **Checked out** could be moved to status **Discontinued** and the blood bag returned to status **Initial**.

This logic was undone in GLIMS_BTM-01041 (9.9.0) with the refactoring of the blood bag/selection status transitions, so the behaviour of GLIMS versions lower than 9.8.4 remained in GLIMS 9.9.0.

However, the majority of the GLIMS customers do not want this behaviour. The status of a blood bag and the related blood selection should NEVER be changed for a blood bag that has already left the lab in status **Checked out**. The disadvantage of tampering with the status of this blood bag is that the blood bag can no longer be traced.

Solution

This issue, which occurred since GLIMS 9.8.4, has been corrected: it is no longer possible to discontinue a blood selection with a linked blood bag in status **Checked out**.

Warning - backward compatibility

This modification is NOT compatible with GLIMS versions between 9.8.4 (included) and 9.9.0 (not included). Where it was previously possible to discontinue a blood selection, this will no longer be possible, and a warning will be displayed.

Naming of sequence variants should adhere to ClinVar standard + enable additions to site domain VariantClassification on REST service (GLIMS_GENX_LAB-00977)

Issues

- The naming of sequence variants did not adhere to the ClinVar standard:

Transcript

ProteinChange known	ProteinChange unknown
Transcript:cDNA/ProteinChange	Transcript:cDNA

No transcript

ProteinChange known	ProteinChange unknown
LocusName:cDNA/ProteinChange	LocusName:cDNA

- Extra enumerator values should be allowed at the end of the site domain VariantClassification on the REST interface (>5) to identify a variant classification coming from an external system. In addition, the variant classification drop-down list in the genetics result screen should contain the long value of the site domain entry instead of the number.

Solution

These issues, which occurred since GLIMS 9.9.0, have been corrected:

- The user will now be able to look for a sequence variant based on the locus name since the locus name will always be present in the name of the sequence variant:

Transcript

ProteinChange known	ProteinChange unknown
Transcript(LocusName):cDNA/ProteinChange	Transcript(LocusName):cDNA

No transcript

ProteinChange known	ProteinChange unknown
LocusName:cDNA/ProteinChange	LocusName:cDNA

- Extra enumerator values are now allowed at the end of the site domain VariantClassification on the REST interface to identify a variant classification coming from an external system. In addition, the variant classification drop-down list in the genetics result screen now contains the long value of the site domain entry instead of the number.

Sequence variants update via REST service must not change the locus (GLIMS_GENX_LAB-00982)

Problem

This modification fixes the following problem which occurred since GLIMS 9.9.0:

- A variant for locus "BRCA1" with **cDNA change** "C" and **Amino acid change** "P" is created via the REST service.
- GLIMS receives a new message for a different locus "FBN1" but with the same **cDNA change** "C" and **Amino acid change** "P".

In this scenario, the locus of the first created variant is updated. This behaviour is incorrect as variant results may already exist for that variant.

Solution

This solution is not backward compatible!

Since the locus name is different, the existing variant is now no longer updated but a new variant is created. Moreover, the **cDNA change** value in the database must be made unique: **the character "_" is now added to the value received from the REST service.**

The **cDNA change** field of the Variant search screen is now interpreted as "starts with". Previously, only variants were found where the **cDNA change** was an exact match with the value entered in the search screen. Currently, the new interpretation of this field is to show all sequence variants where the **cDNA change** starts with the entered string. This is necessary for the Variant search screen to be able to show variants that were stored with the **cDNA change** value that was appended with the **"_"**

character. Moreover, the **cDNA change** field is now visible in the **Variants** grid of the Variant search screen so that the difference between the variants is clearly visible.

The screenshot shows the GLIMS Variant search interface. At the top, there are search filters for Locus, Transcript, Genomic build, DNA change type, and Clinical classification. Below these are fields for cDNA change, Amino acid change, and LRG. There are two radio button options: Sequence variant (selected) and Copy number variant. The 'From' and 'To' fields are empty. On the right, there are 'Search' and 'Create...' buttons. The main area is titled 'Variants (5)' and contains a table with columns: Name, Transcript, Build, Locus, Clin. cl, Appro., cDNA, and Add. The 'cDNA' column for all rows is highlighted with a yellow background. The table data is as follows:

Name	Transcript	Build	Locus	Clin. cl	Appro.	cDNA	Add
BRCA1:A/P	?	?	BRCA1	3		A	
BRCA2:A/P	?	?	BRCA2	3		A_	
FBN1:A/_P	?	?	FBN1	3		A__	
BRCA3:A___P	?	?	BRCA3	3		A___	
NM_000138: aba	NM_0...	?	FBN1	3		aba	

To the right of the table is a 'Selected variants' panel with a 'Name' column and a 'Remove' button. At the bottom right of the search interface are 'OK' and 'Cancel' buttons.

Warning

The user must remove all trailing "_" characters from the **cDNA change** field via MISPL prior to reporting.

In the next structural GLIMS release, this workaround will be replaced with a solution that does not require the trailing "_".

Error when creating a microbiology report when the antibiogram result is discontinued and repeated (GLIMS_RX-00602)

Issue

It was impossible to create a report of a microbiology order when the antibiogram result was discontinued and repeated.

Scenario

1. Create an order for a Microbiology procedure.
2. Add an isolation and an antibiogram.
3. Add a result to the antibiogram.
4. Repeat the result of the antibiogram in the Results browser.
5. Generate an online report for this order.

=> An error is thrown: "*** No wb_Antibiogram record is available (91)"

This issue, which occurred since GLIMS 8.11, has been corrected.

Note

Antibiogram results that were discontinued and repeated before this modification will still cause issues.

Report the result status even when electronic reporting of the result value is suppressed (GLIMS_RX-00760)

This modification fixes a number of issues which have occurred since the implementation of GLIMS_RX-00725.

1. For discontinued empty results, the result status was no longer exported by default.

In this scenario, empty results were obtained via a result code that expands (via its **Expansion** field) to an empty text.

2. GLIMS should handle the case where an **Empty result** text is defined on the report template.

As of now:

1. A result status will be reported for discontinued results as well.
2. If the result value is the Empty result text value (because the result value cannot yet be reported as determined by the minimal result status), the result will be reported as Expected (external comment, availability information, etc. are omitted).
3. If the result value was emptied via the Content MISPL on the property classification node, the result status is still reported. Initial, Expected and Discontinued are reported as such. Available, Confirmed and Validated are exported as Expected.

Upgraded Mips.TelerikControls to v1.3.0 + Telerik controls to v2021.2.615.40 (MATE-07213)

This modification upgrades

- Mips.TelerikControls to v1.3.0
- Telerik controls to v2021.2.615.40

to fix several issues.

Mips.TelerikControls provides among others a Rich text editor based on the Telerik controls from Progress. This Rich text editor is used in the Genetics module.

Allow the user to show TIFF images with the .NET image viewer (MATE-07467)

Issue

Recent GLIMS versions tend to crash frequently while using a TIFF viewer during validation. Tests have shown that these crashes disappear when using the .NET image viewer.

Solution

The .NET image viewer will be enabled in the following cases:

- [Order -> View order document](#)
- [Result -> View image](#)

Note

All order / result image types must be images. The following image formats are supported:

- .tif
- .tiff
- .jpg
- .png
- .bmp

Orders

If the image format is .tiff or .tif:

1. Create a site attribute 'OrderViewImageUseNewTiffVW' (Logical) on gp_Site.
2. In MATE, set the site attribute 'OrderViewImageUseNewTiffVW' = YES.

If the image format is not only .tiff or .tif:

1. Create a site attribute 'OrderViewTiffFileExtension' (String) on gp_Site.
2. In MATE, set the site attribute 'OrderViewTiffFileExtension' = '.tif,.tiff,<your image format>'.

Results

If the image format is .tiff or .tif:

1. Create a site attribute 'ResultImageUseNewTiffVW' (Logical) on gp_Site.
2. In MATE, set the site attribute 'ResultImageUseNewTiffVW' = YES.

If the image format is not only .tiff or .tif:

1. Create a site attribute 'ResultTiffFileExtension' (String) on gp_Site.
2. In MATE, set the site attribute 'ResultTiffFileExtension' = '.tif,.tiff,<your image format>'.

Animals

Long names of animals could not be registered + issue with assignment of Object internal ID (GLIMS-13347)

Issues

When trying to create an animal with a long name, the following warnings were thrown:

- The length of 'Externalization' exceeds the maximum (80),
- The length of 'External Id' exceeds the maximum (40).

In addition, an issue was identified with the assignment of the Object internal ID. When creating an animal object, this value was not truncated to 60 characters, which caused issues when editing the animal attributes.

Solution

These issues have been corrected.

Note

This modification ONLY applies to newly created animal objects. This solution does NOT fix the Externalization, External IDs and Object internal IDs of existing animal objects.

Default Internal id for animals was not always unique (GLIMS-13780)

An error occurred when creating the 20th or higher animal for an owner due to the object internal id not being unique.

This issue has been corrected.

Application management

Check maximum number of characters during person import (GLIMS-13584)

Issue

When the person import file contained a line with data that exceeded the allowed maximum number of characters (65), the person import in GLIMS with an Oracle database could lead to an error that caused GLIMS to crash.

Solution

This issue, which occurred since GLIMS 8.11, has been corrected.

For any line in the person import file that contains data that exceeds the allowed maximum number of characters imposed by the database, a warning message will be displayed asking the user to continue or to cancel the import. If the user chooses to continue, the line that exceeds the allowed maximum number of characters is written to a rejection file ("*.rej") and the import program will continue with the next line.

Order dump function: include log entries for all tables within the order + dump order audit trail HTML file (GLIMS-13617)

This modification introduces the following changes to the Order dump function:

- Log entries are now created for all tables within the order, not just the Order table.

Note

Currently, this only works for the .json.raw file.

- The order audit trail HTML file is now dumped as well.

Anonymise the matriculation of the payment agreement record (GLIMS_ANO-00061)

When running the database anonymizer tool, the **Matriculation** of the **Payment agreement** will now be anonymized as well. Belgian and German matriculations are randomized taking into account the required length and checksum calculation. All other matriculations will be composed of 16 random digits.

Table export fields "Separator" and "File name style" were not remembered (MATE-07297)

When exporting a table, the **Separator** (**Comma**, **Semicolon**, **Tab**) and the **File name style** (**Table name**, **Table short name**) are normally restored from the user preferences. However, this was not done anymore and the user had to change these field values each time.

This issue has been corrected.

Increase maximum number of browser columns exportable to Excel from 100 to 256 columns for classic browsers (MATE_MSOF-00051)

The maximum number of browser columns exportable to Excel was limited to 100 columns for classic browsers.

This issue has been corrected: the maximum number of browser columns exportable to Excel has been increased to 256 columns for classic browsers.

Billing

MyCareNet insurability import: improved closure of payment agreements (Belgium) (BILX_CAREVXML-00042)

Issue

Due to a database restriction (end date \geq start date), overlapping payment agreements could not always be closed with their end date during MyCareNet insurability import. This issue typically occurred when the imported payment agreements were not chronologic. In this case, only the **Checked** check box of the previous payment agreement was disabled.

However, for the sake of clarity (visual) and to prevent users from reusing this closed payment agreement (security), an end date should also be filled in (end date = start date) in addition to disabling the **Checked** check box.

Solution

This issue has been corrected.

In addition to disabling the **Checked** check box of the payment agreement, GLIMS now also sets the previous payment agreement's end date = start date. This makes it clearer for the user that the payment agreement is closed and should not be reused.

MyCareNet insurability export: modified insurability period (BILX_CAREVXML-00047)

Issue

When using the MyCareNet Request XML function, GLIMS sent the start date of the oldest order as start date of the insurability period. However, because some clients bill on the specimen sampling time, the insurability period was invalid on the specimen sampling date, and the orders could not be billed.

Example

An order was received today but the specimen sampling time was yesterday. In this case, the insurability period was not valid for the specimen sampling time (yesterday) on which the client bills as GLIMS chose the order receipt date (today) as start date of the insurability period.

Up until now, the insurability period was

- based on the MIN - MAX order receipt date,
- calculated for the orders of all patients.

Solution

This issue has been corrected.

From now on, the insurability period is

- based on the MIN - MAX order receipt date AND object date,
- calculated on the orders per patient.

Note

The global insurability period is no longer logged, the insurability per patient is logged instead.

Updated export of financial data in the CPOWISH format (BILX_CPOWISH-00105)

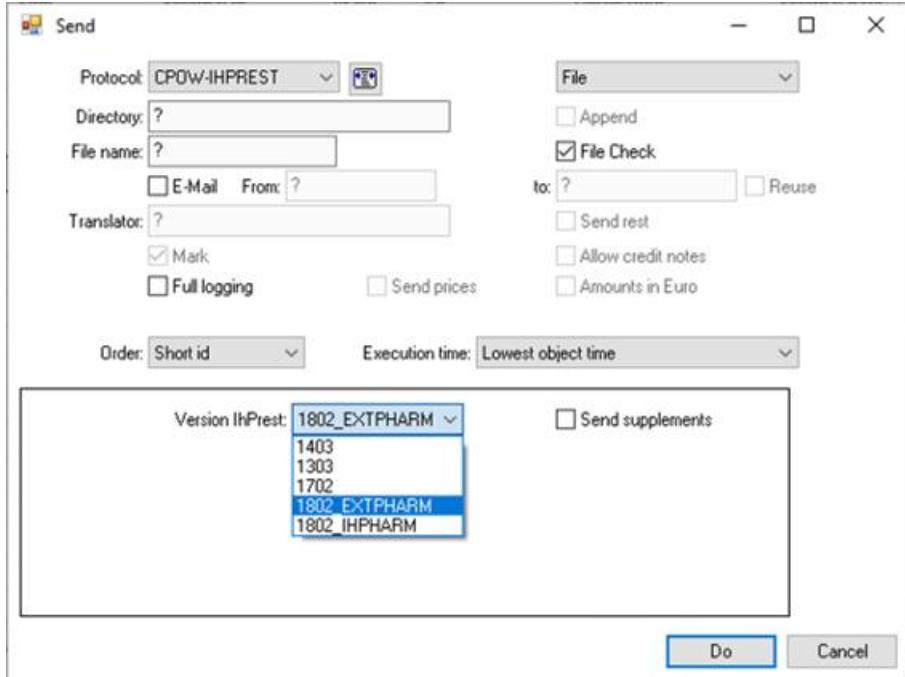
Introduction

This modification implements the changes that are listed below.

Fixed CPOWISH IHPREST version 1702 + added support for CPOWISH version 1802

This modification

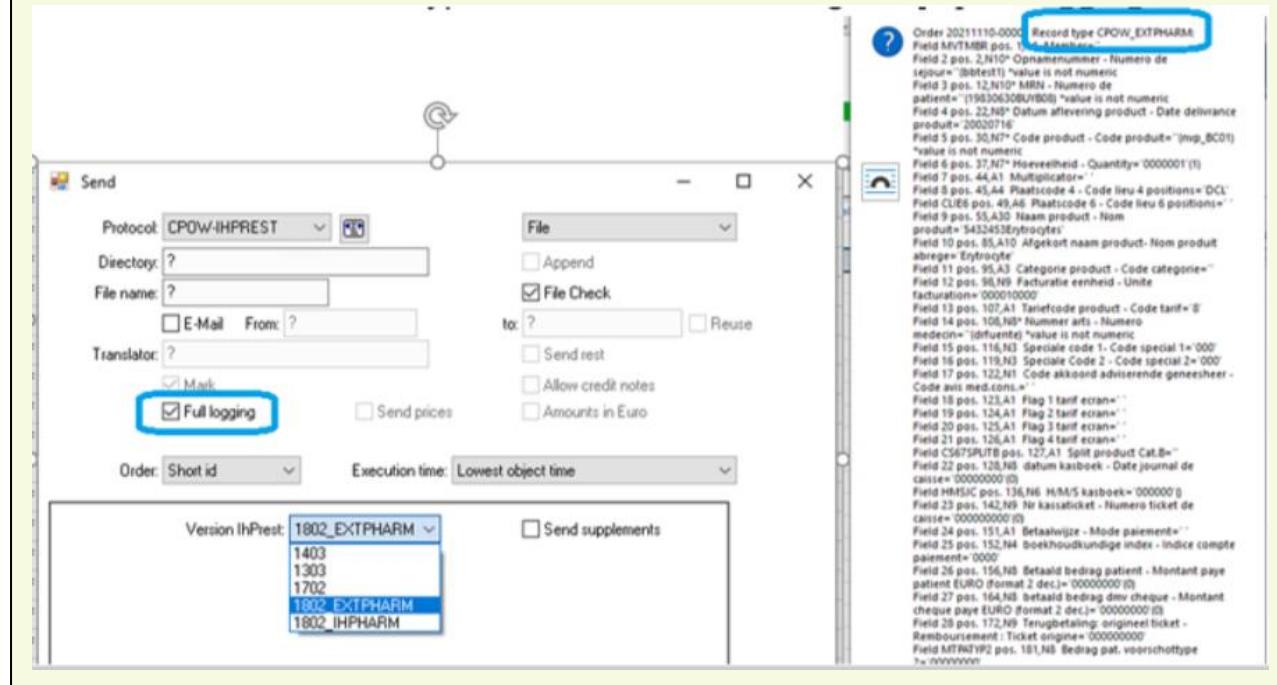
1. fixes version 1702 of the CPOWISH IHPREST export format to avoid that the output is empty when exporting billing items for blood bags.
2. adds support for new versions of the CPOWISH export format:
 - 1802 EXTPHARM
The GLIMS mapping remains unchanged, with the exception of 'Plaatscode' (CLIE4) which is now filled with BillingItem.CostLocation (previously not filled in).
The billing items that are linked to a blood bag are exported to a file named "blood_<filename>". Billing items that are not linked to a blood bag are not exported for 1802.
 - 1802 IHPHARM



Note

The optional BillingItem-based site function "Send_<RecordType>_Values" (CPOW_EXTPHARM_Values versus CPOW_IHPHARM_Values) is still applicable.

The record type is shown when **Full logging** is enabled in the FinancialShipment.Send screen.



Avoid blocking error when issuer is not a correspondent of type HC Provider

The export of financial data in the **CPOWISH** format failed when the issuer was not a HC Provider, even when the Send*Values site function filled the **Issuer** field.

This issue has been corrected. When the issuer is not a correspondent of type **HC Provider**, a warning log is generated instead of a blocking error.

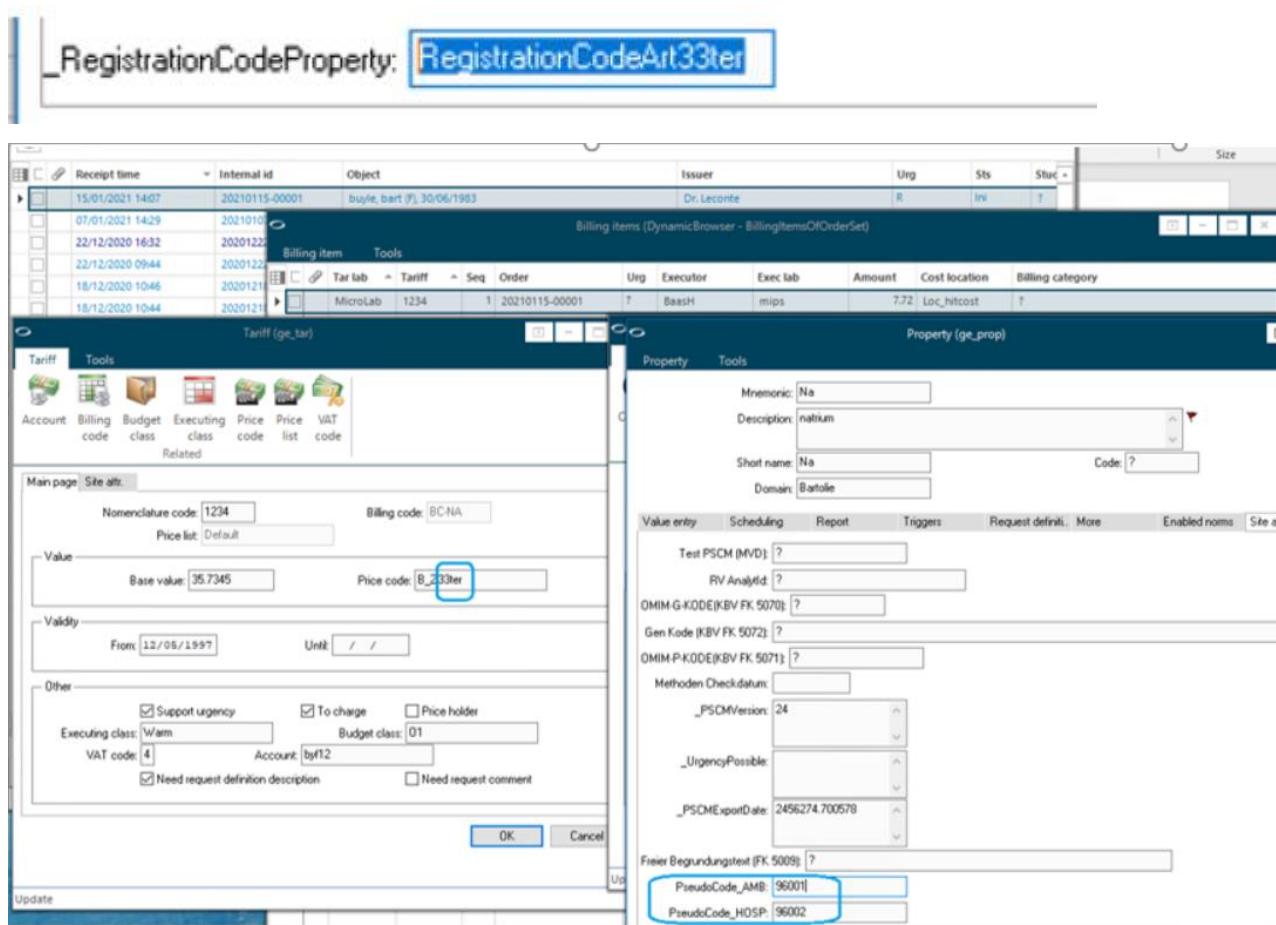
Support for Artikel33Ter in financial export formats CPOWISH ITPLAT and CPOWISH IHPREST

- When exporting financial data in the CPOWISH format, the PITTER registration code and the pseudo nomenclature code are now exported for Art33Ter codes.

Conversions:

Artikel33Ter billing items are assumed to have a Price code whose Mnemonic ends with "33ter" in GLIMS.

The (PITTER) registration code must be entered as a result value (of the property specified in the SpecificSite-based site attribute "_RegistrationCodeProperty" with Data type = Reference) as introduced by modification [GLIMS_BILL-03615](#).



The Pseudo nomenclature code can be configured on Property level, in the site attribute "PseudoCode_AMB" or "PseudoCode_HOSP", which site attribute is taken depends on the encounter type ([GLIMS_BILL-03812](#)).

- The CPOWISH ITPLAT format has been upgraded (from v1.10) to v1.11.

The export of financial data in CPOWISH ITPLAT format now fills

- LOT record, field 8 "VERS_ET" = v1.11
 - Detail record, new field 81 "QERM_DT" = PITTER registration code
 - Detail record, field 9 "Prestation relative/betrekkelijke verstrekking" = pseudo nomenclature code entered in the Property-based site attribute.
- For the export format CPOWISH IHPREST, version 1403 and 1702, the Artikel33Ter registration code and psuedo nomenclature code will be exported in existing fields:
 - FIELD 36 "prestation relative": fill with pseudo nomenclature code of Art33Ter: this field exists for all versions of IHPREST.

- FIELD 46 "Code implant" (PITTER registration code) : fill with registration code of Art33Ter: this is possible for IHPREST version 1403 and 1702.

Improvements and fixes ICD 10-GM Codierung (BILX_GKVDT-00550)

Introduction

Several issues with ICD codes, which can be entered using the **integrated or separate browsers** in the **Referral** pane of the order entry screen, have been resolved. The layout and formatting of a number of messages have been improved as well.

ICD-code check

Infektionsschutzgesetz checks did not depend on the data entered in the column Diagnosensicherheit. This column can be accessed in a separate browser, which can be opened from the referral tab page of the order entry screen. The ICD code check against the ICD-10-GM Stammdatei is now executed after the column has been filled out, because some ICD checks depend on that column.

Example

The P10-500 warning message should appear only when G or V is entered into the DS column.

Error messages

The titles of several error messages used to be 'Error' or 'Warning', now they have been translated to 'Fehler' or 'Warnung'.

For formatting purposes, an empty line has been added between the code and the text of the message.

The P10-460 error message and the P10-500 warning message have been updated.

Language errors in the P10-480 warning message have been corrected.

SD-VA-Verschlüsselungsanleitung

The SD-VA-Verschlüsselungsanleitung help function did not display the file name or the validity period. This info has been added now.

Verschlüsselungsanleitung (SD VA_1.0_74_tf+2022q1_nr+1.xml)

Gültigkeit SDVA= 2022-01-01..2022-12-31

The HTML layout was changed from a table into a hierachic structure.



Anleitung zur Verschlüsselung

H1 for HauptZweig

1. Was ist zu verschlüsseln?

H2 for HauptKapitel

1.1.1. Gesetzliche Bestimmungen

H3 for Kapitel

Das Gesetz verlangt sowohl im Rahmen der ambulanten als auch der stationären Versorgung die Verschlüsselung von Diagnosen auf Abrechnungsunterlagen und Arbeitsunfähigkeitsbescheinigungen (siehe §§ 295 und 301 SGB V), keinesfalls jedoch die Verschlüsselung auf Überweisungen, Krankenhauseinweisungen, Arztbriefen oder gar in der eigenen Patientendokumentation. Da bei der Verschlüsselung immer Informationen verdichtet werden und Einzelheiten verloren gehen, muss bei solchen Unterlagen stets der Klartext verwendet werden; aus Kollegialität kann natürlich zusätzlich zur Klartextangabe die ICD-Schlüsselnummer angegeben werden.

1.1.2. Diagnosen im Rahmen der Abrechnung

Auf den Abrechnungsunterlagen nach § 295 SGB V müssen Sie sich auf die Behandlungsdiagnosen beschränken. Behandlungsdiagnosen sind Diagnosen, für die im abzurechnenden Quartal eine Behandlung oder sonstige ärztliche Leistungen durchgeführt wurden.

1.1.3. Dauerdiagnosen und chronische Zustände

Dauerdiagnosen und chronische Zustände, die nicht im aktuellen Behandlungskontext stehen, dürfen zum Zwecke der Abrechnung nicht übermittelt werden: bei einem Patienten mit symptomatischer Gonarthrose dürfen Sie nicht zusätzlich die seit Jahren bekannte Penicillinallergie kodieren, wenn Sie nur Leistungen für die Gonarthrose abrechnen.

1.1.4. Kodievorgaben in der ambulanten Versorgung

Bei Kodierung in der ambulanten Versorgung sind die "Kodievorgaben nach § 295 Abs. 4 SGB V" anzuwenden.

1.1.5. Kodierung in der stationären Versorgung

Bei Kodierung der stationären Krankenhausbehandlung sind die Deutschen Kodierrichtlinien (DKR) in der jeweils gültigen Fassung zu berücksichtigen; in psychiatrischen und psychosomatischen Einrichtungen sind die Deutschen Kodierrichtlinien für die Psychiatrie/ Psychosomatik (DKR-Psych) heranzuziehen. Ebenso zu beachten sind die als Kodierregeln geltenden Entscheidungen des Schlichtungsausschusses auf Bundesebene nach § 19 KHG zur Klärung strittiger Kodier- und Abrechnungsfragen.

? Wie wird verschlüsselt?

Print

Close

Cancel

Note

In GLIMS 9.9.7 it is no longer necessary to add an extra line 2 <?xmlstylesheet type='text/xsl' href='VA.xsl'?> to the VA SD XML file.

ICD Stammdatei

Loading the ICD Stammdatei, which used to be loaded once per user session, for the first time took too much time. Since the XML file is now read only once and saved as a TMP file, loading is faster.

ICD SD files of future quarters will now be ignored and the 'Leistungstag' will now be used as the validity date. GLIMS used to take the latest ICD SD file with the highest year and quarter in the name.

If no new ICD SD file is available, older quarter ICD SD files are to be used. When it is added to the GLIMSBILLDAT directory, it will no longer be necessary to log in again. It will be reloaded automatically.

Note

It remains necessary to keep the original ICD XML file in the GLIMS BILLDAT directory.

KVDT export (Germany): Automatically fetch and export FK 0224 "Produkt-typeversion TI-Konnektor" per site (BILX_GKVDT-00560)

Content: [Context](#) - [Configuration](#) - [Export of your certificate](#) - [Import of your certificate in OpenEdge](#) - [Export of a financial shipment with GLIMS KVDT](#) - [Debugging](#)

Introduction

The field KVDT FK 0224 "Produktypversion des Konnektors" was already introduced in a previous modification, its value stored by the translator as the PaymentAgreement site attribute value for XDT_0224.

Recently (Q2-2021) a need arose to be able to use a specific router "TI Konnektor" (Telematikinfrastruktur Konnektor) and to export its "Produktypversion" (product type version) with GLIMS KVDT. This requirement is in accordance with the market specific requirement "KVDT Anforderung P2-66".

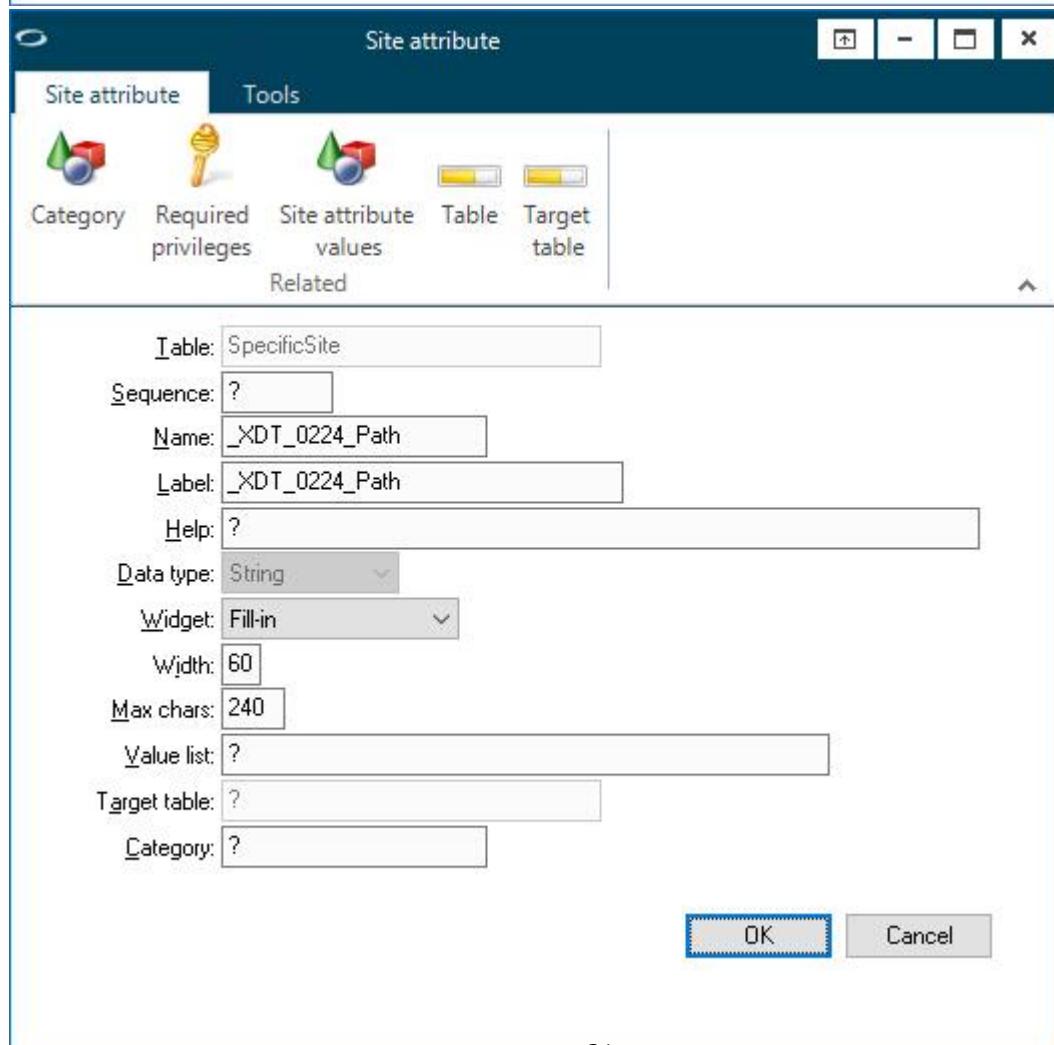
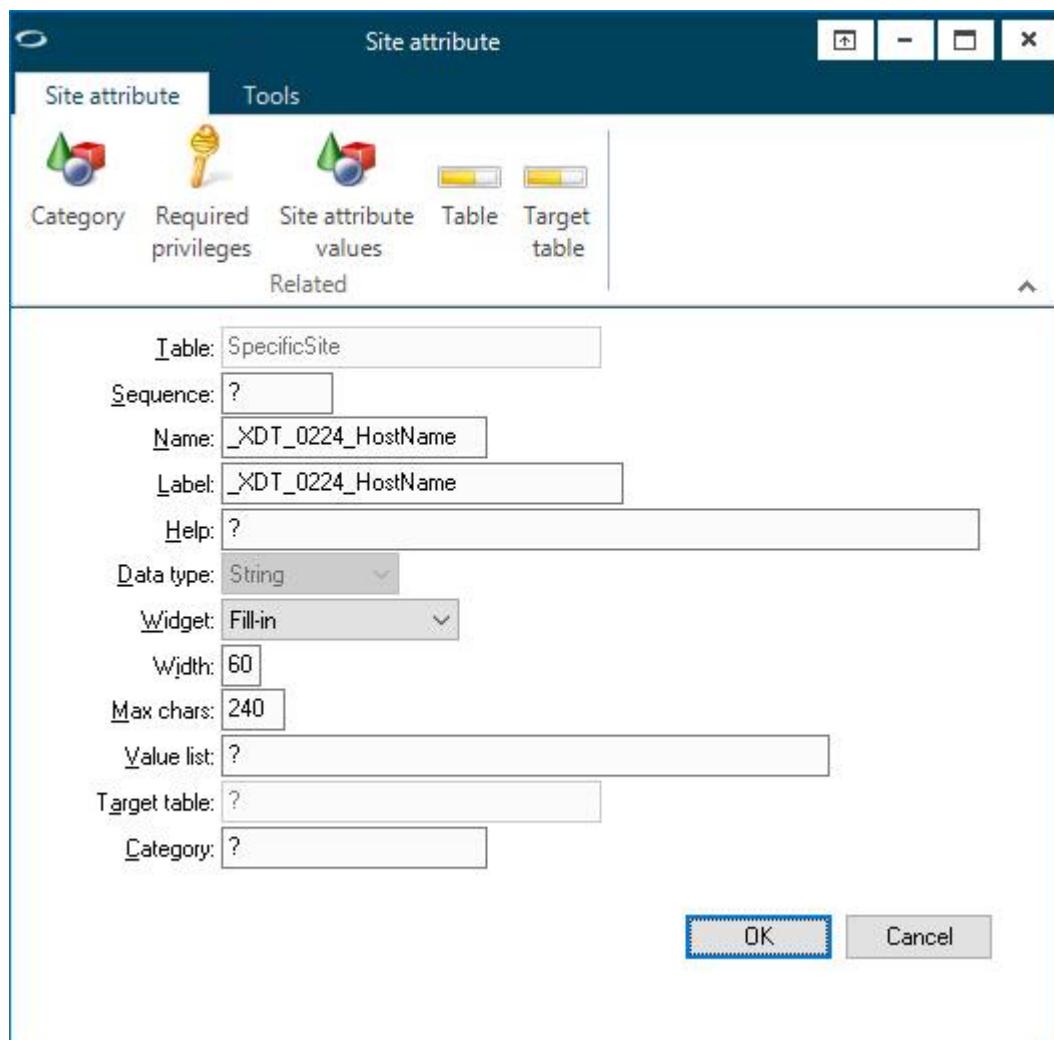
From now on, GLIMS will automatically fetch and store the value for "Produktypversion des Konnektors" in the GLIMS **XDT_0224** site attribute (on SpecificSite table, as a string of max. 20 characters).

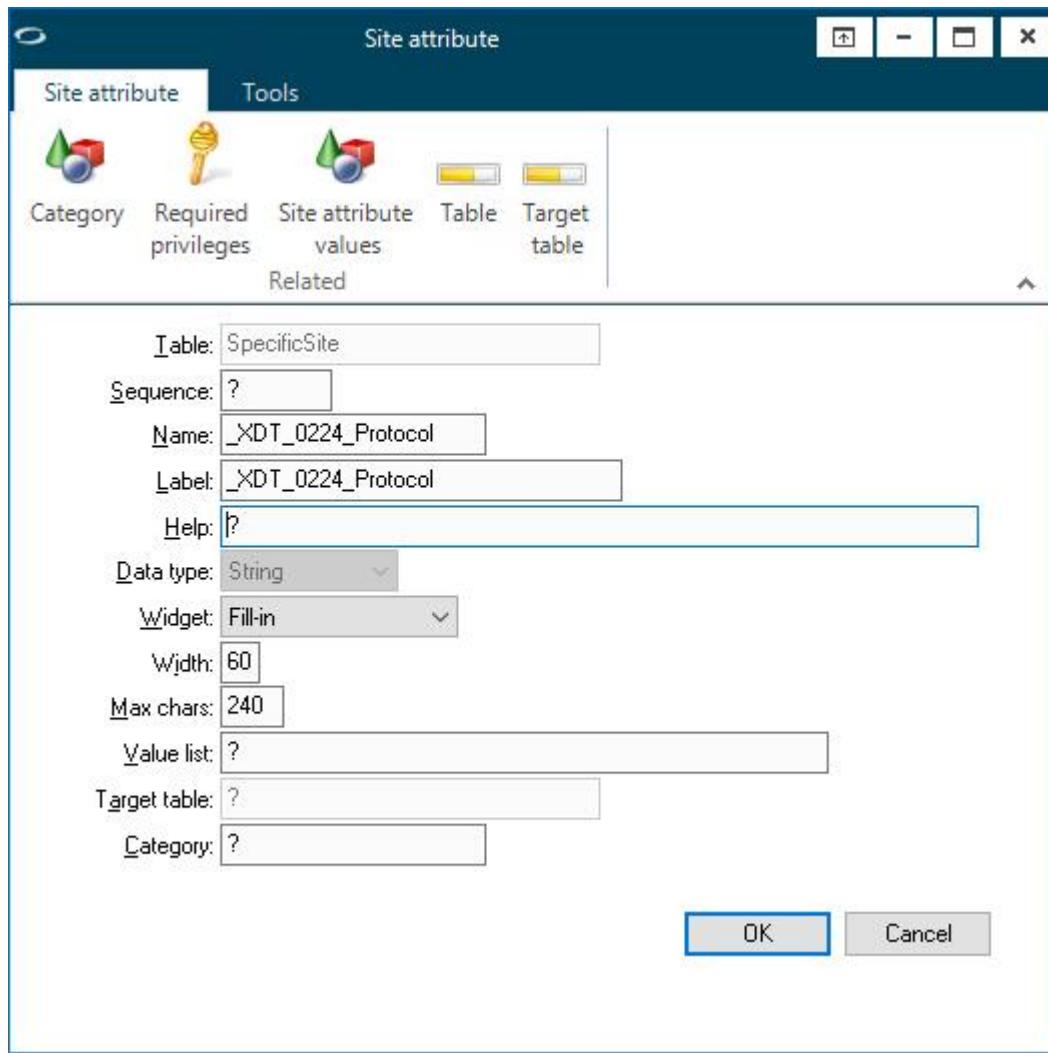
Both Windows and Linux environments are supported.

Configuration

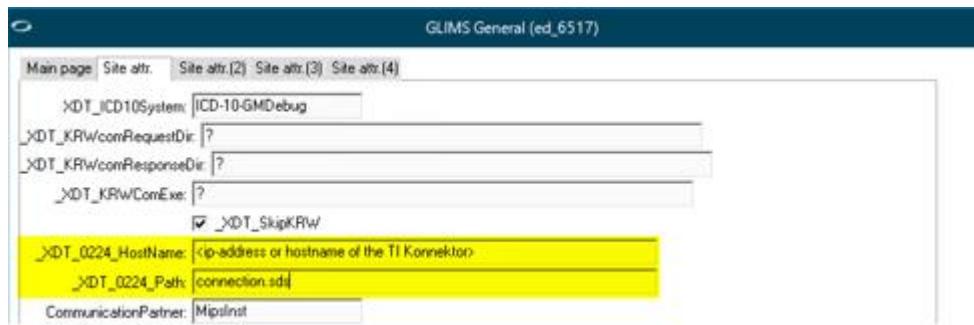
1. Define the protocol, hostname and path of the "TI Konnektor" as SpecificSite-based site attributes:

- _XDT_0224_Protocol
- _XDT_0224_HostName
- _XDT_0224_Path





2. Fill in the values for hostname and path of the "TI Konnekter" via **Start > System management > Customize > GLIMS General**.

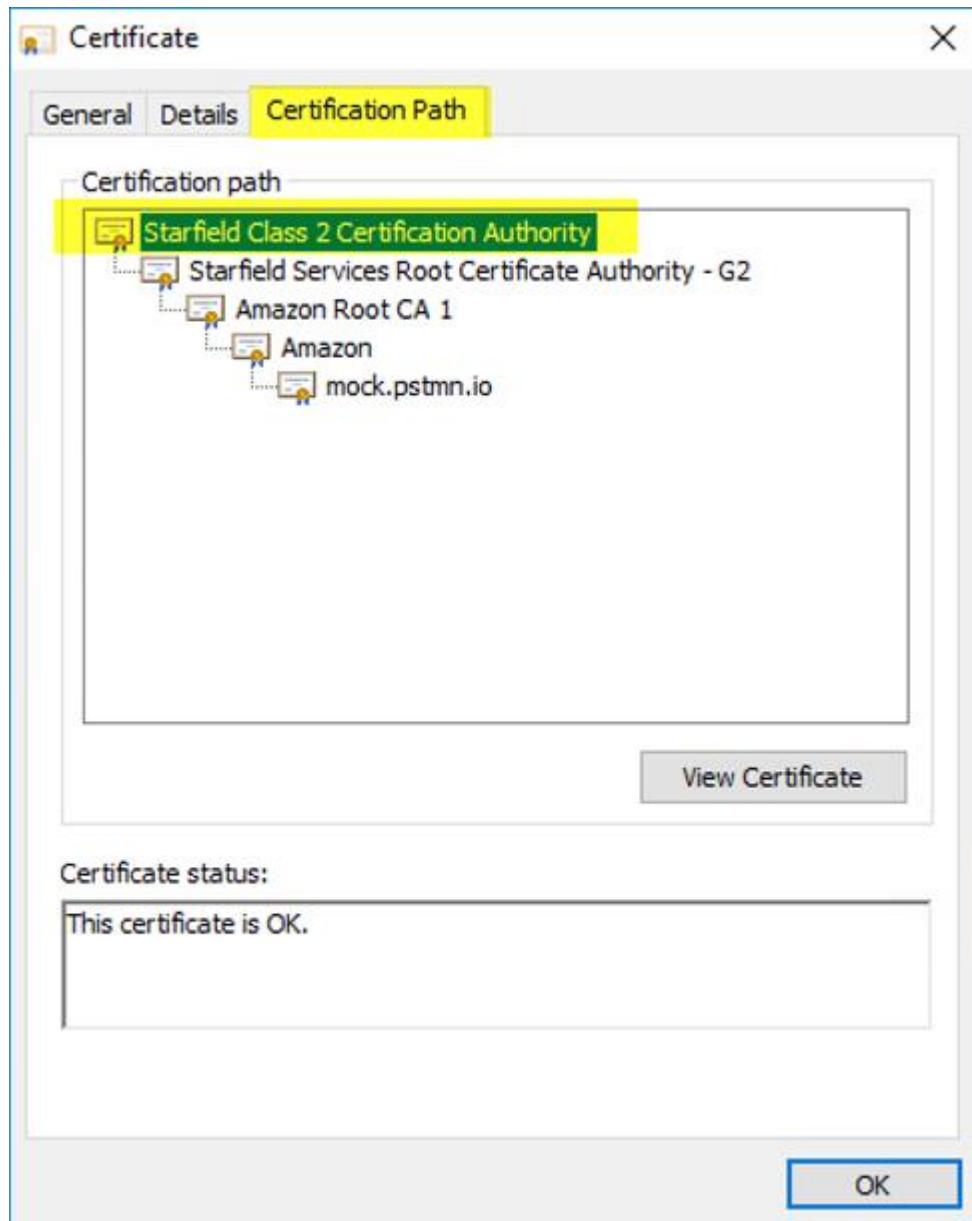


Export of your certificate

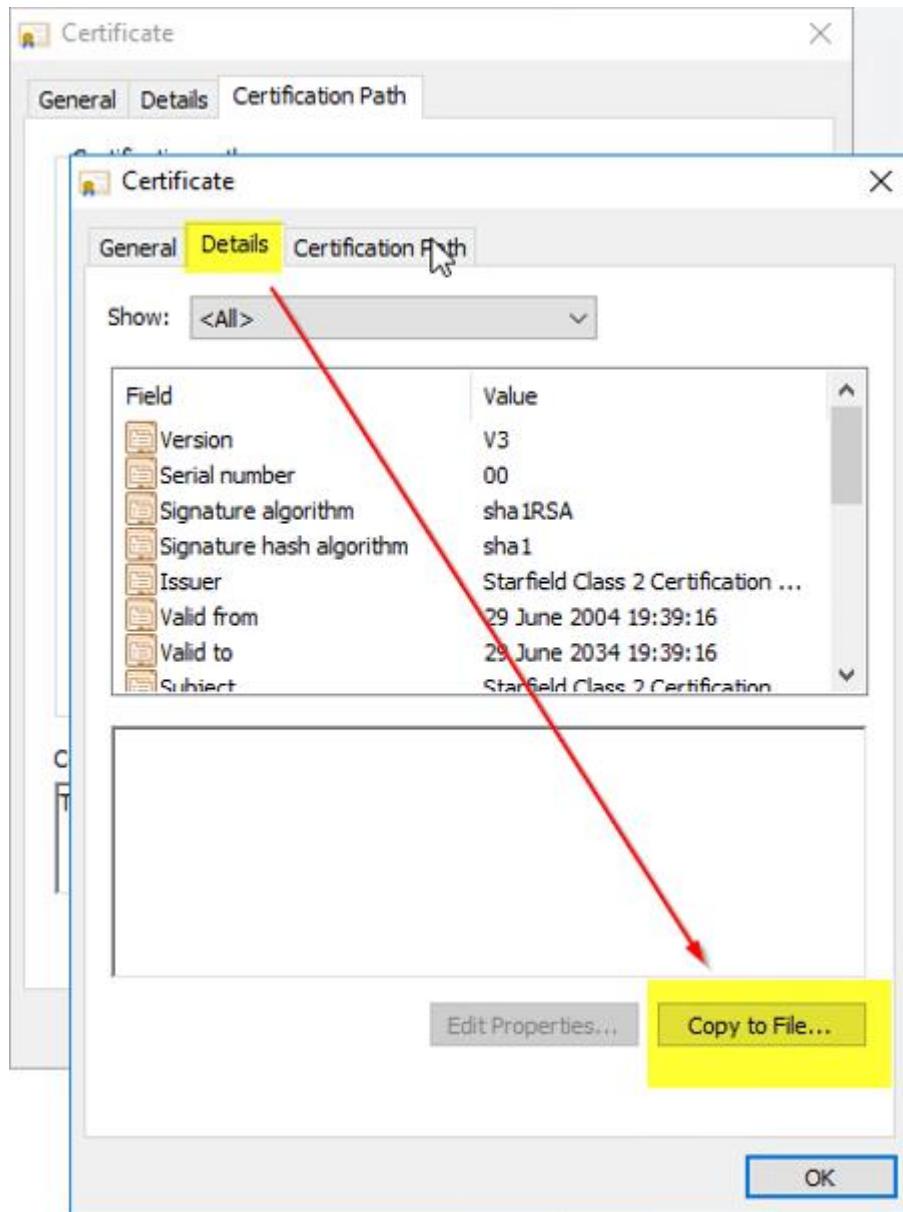
1. Open a web browser (Google Chrome) and navigate to the web server.
2. Press F12.
3. Click **View certificate**.

The screenshot shows the Chrome DevTools interface with the 'Security' tab selected. On the left, there's a sidebar with 'Overview' and a link to 'Reload to view details'. The main content area is titled 'Security overview' and displays a green lock icon, a blue information icon, and a yellow warning icon. A message states 'This page is secure (valid HTTPS)'. Below this, three items are listed: 'Certificate - valid and trusted' (with a 'View certificate' button highlighted by a yellow box), 'Connection - secure connection settings' (describing TLS 1.2, ECDHE_RSA with P-256, and AES_128_GCM), and 'Resources - all served securely' (stating that all resources are served securely).

4. In the **Certification Path** tab page, click [View Certificate](#).



5. Open the **Details** tab page and click **Copy to File...**



6. Click **Next**.



Welcome to the Certificate Export Wizard

This wizard helps you copy certificates, certificate trust lists and certificate revocation lists from a certificate store to your disk.

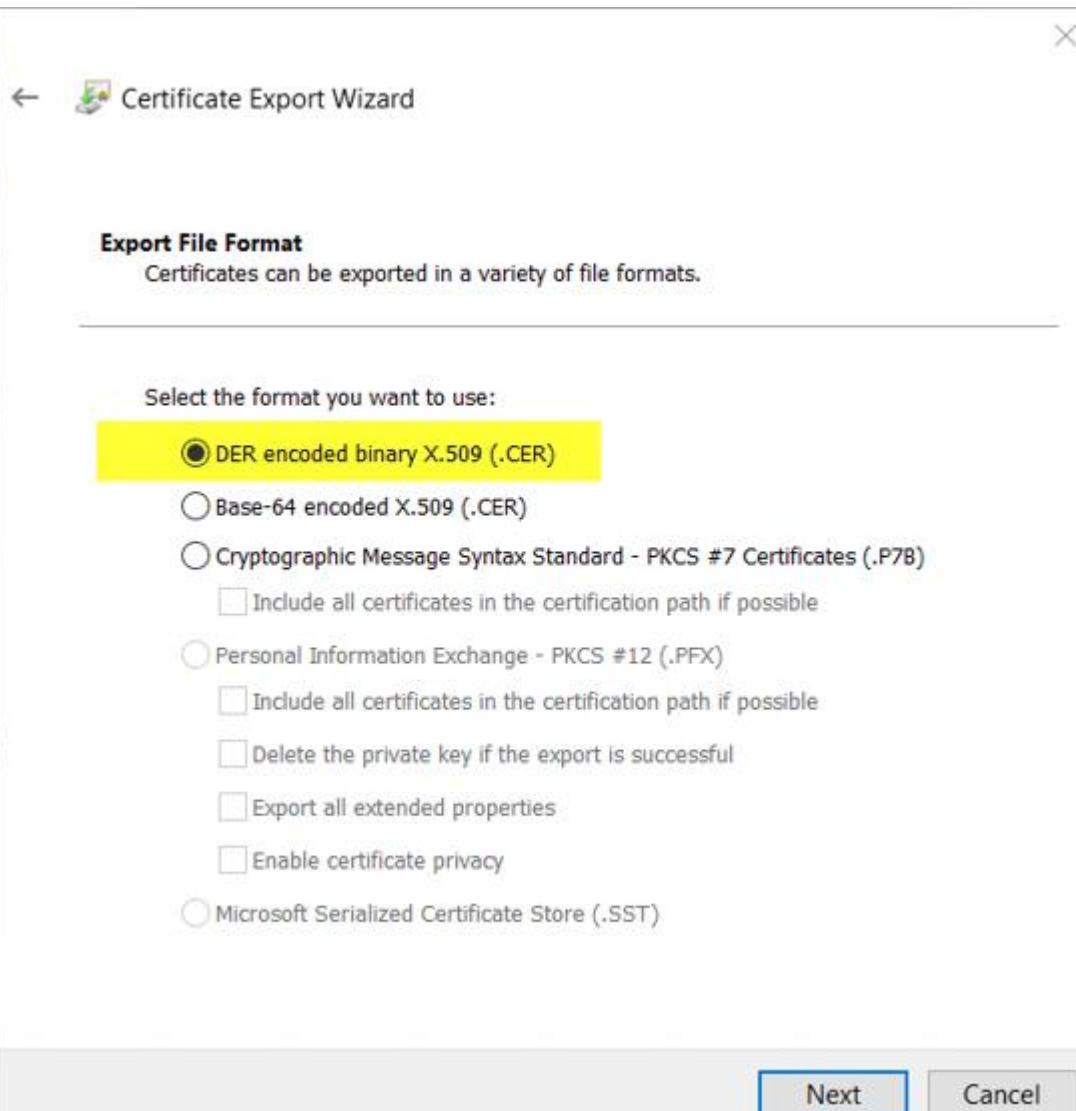
A certificate, which is issued by a certification authority, is a confirmation of your identity and contains information used to protect data or to establish secure network connections. A certificate store is the system area where certificates are kept.

To continue, click Next.

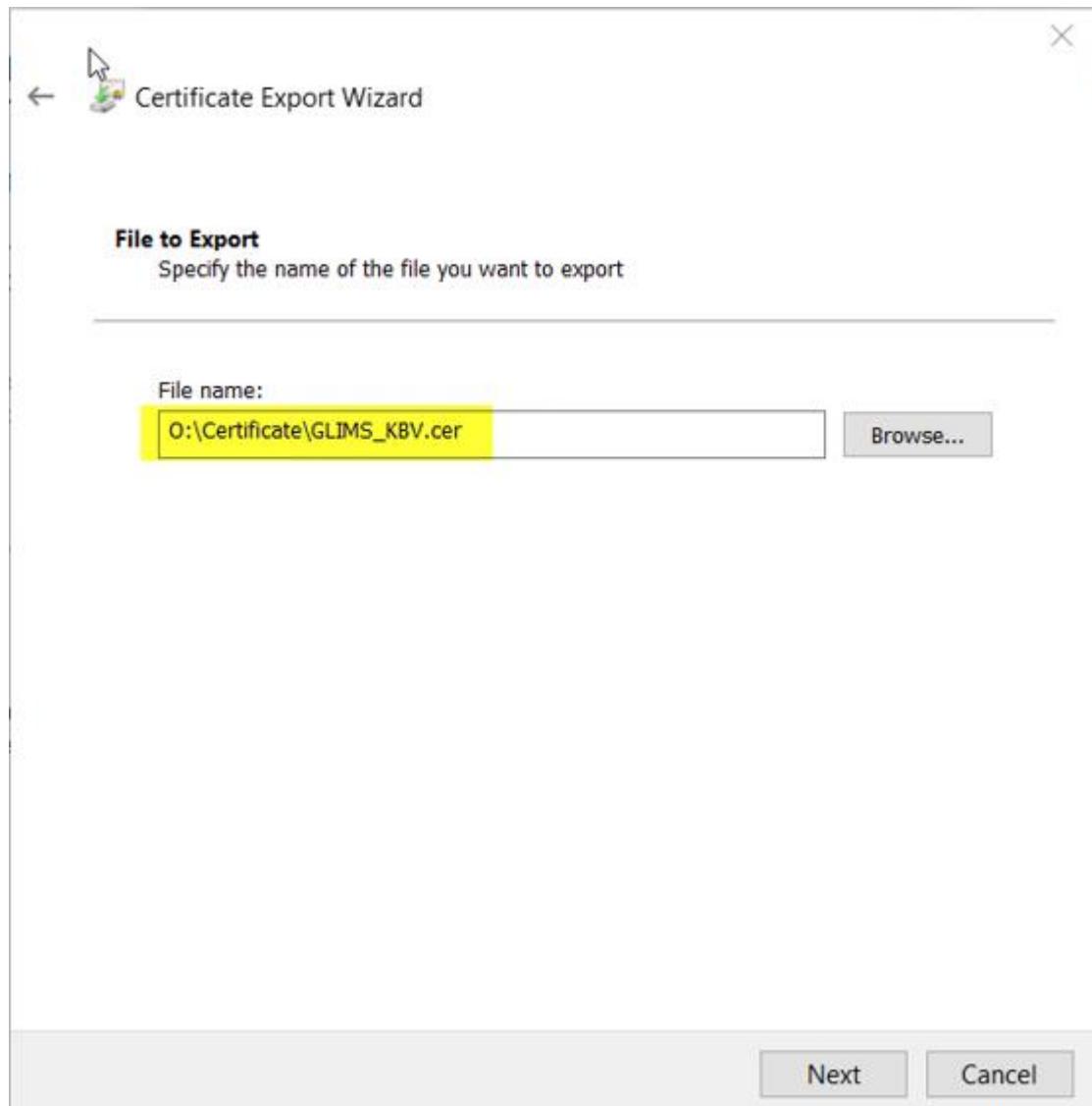
Next

Cancel

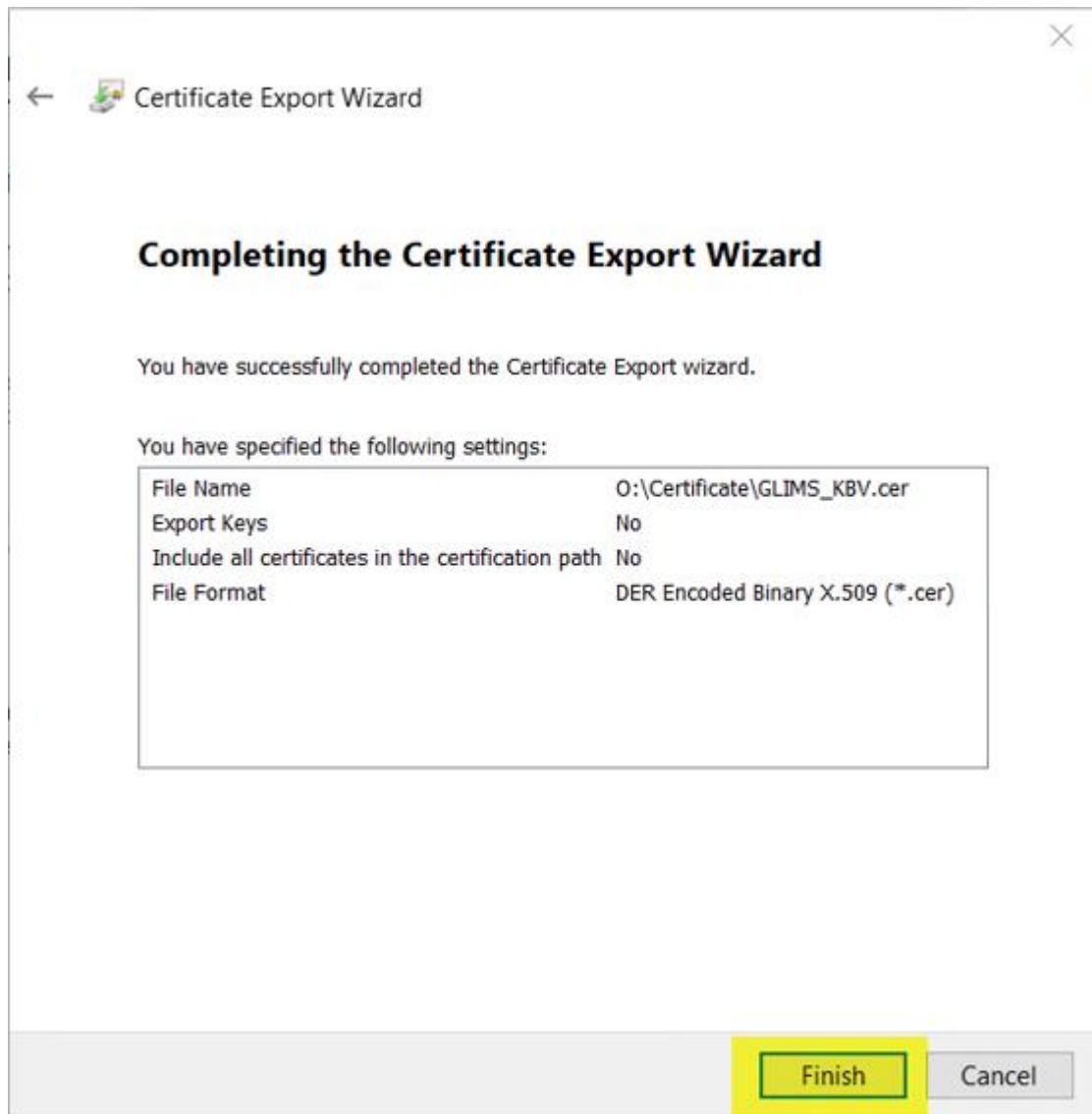
7. Select **DER encoded binary X.509**



8. Fill in a path and file name and click **Next**.



9. Click **Finish**.



Import of your certificate in OpenEdge

Open a proenv and execute the command "certutil -format DER -import Postman.cer" in the location where the certificate file is stored.

```
Proenv
proenv>certutil -format DER -import c:\Postman\GLIMS_KBV.cer
Importing trusted certificate to alias name: f387163d
proenv>_
```

You can check the folder C:\OpenEdge\117\DLC\certs for your certificate.

Export of a financial shipment with GLIMS KVDT

The site FK 0224 field value is exported in the KVDT BESA header (one FK 0224 is repeated per BSNR FK 0201). A value is not mandatory, no errors will occur if no value is specified.

Notes

- The previously used PaymentAgreement site attribute XDT_0224 is still checked (and preferred to this site value).
- For LG KVDT shipments: this same site value will be used, but only for the first (internal) BSNR.
- When a value for FK 0224 is provided, the automatic setting of FK 0226=1 does not happen any longer. The FK 0226(=1) can be configured per BSNR in the department (site attribute XDT_0226).

Debugging

Should problems occur while using the "TI Konnektor", Debug alert can be activated in GLIMS to log additional debug information. Send the financial shipment and consult the log type "TI Konnektor".

Financial export in German "KVDT" format: update Q1-2022 (BILX_GKVDT-00561)

The export of financial data in the German KVDT format (using the FinancialShipment.Send function) has been updated to support the changes (quarter 1, 2022) in KBV regulation.

GLIMS now sends a second FK 0225 field (per BSNR), followed by a FK 0226 field to indicate whether there is ePA and eRezept Unterstützung.

FK 0225=0 ('ePA')

FK 0226=0/1 ('ePA') Unterstützung 0=nein 1=ja

FK 0225=1 ('eRezept')

FK 0226=0 ('eRezept') Unterstützung = 0 (fixed): 'nein' for GLIMS

ePA Unterstützung can be configured via a SpecificSite-based, String-valued site attribute XDT_0226. If not configured, a question will be asked when starting the KVDT export in GLIMS ("ePA Unterstützung?").

eRezept is not used by GLIMS customers but can be configured in site attribute XDT_0226-eRezept (and given the value "1"). Default value is 0 (no eRezept Unterstützung).

Financial export in German "KVDT" format: update Q3-2022 (BILX_GKVDT-00577)

The export of financial data in the German KVDT format (using the FinancialShipment.Send function) has been updated to support the latest changes (quarter 3, 2022) in KBV regulation.

Financial export in "Infohos v2" format: support for version 2018 (BILX_INFOHOS2-00010)

The export of financial data in the **IH-2** (Infohos v2) format using the FinancialShipment.Send function has been updated to support version 2018.

Note

For blood bags, an update was provided through BILX_INFOHOS2-00008.

The conventions for storing the registration code for billing items related to art.33ter are identical to those described in GLIMS_BILL-03615:

- Art.33ter codes are recognized by their price code that ends with 33ter
- The registration code ('registratiecode') is entered as the result value of a dedicated property (SpecificSite)
- The 'pseudo nomenclatuurcode' ('nomenclatuur merker') is configurable on Property level (site attribute for encounter = AMB / encounter = HOSP).

In addition, the new field "Prestatie ID" is filled with the BillingItem.Id.

Note

A manually created, SpecificSite-based and Logical-valued site attribute "DisableInfohosVersion2018" allows customers to continue to use the previous Infohos format by setting the site attribute to Yes.

Site attribute (ge_satt)

Table: SpecificSite

Name: DisableInfohosVersion2018

Label: ?

Help: ?

Data type: Logical

Widget: Fill-in

Width: ?

Max chars: ?

Value list: ?

Target table: ?

Category: ?

OK Cancel

GLIMS General (ed_6517)

Main page Site attr. Site attr.(2) Site attr.(3) Site attr.(4)

DisableInfohosVersion2018: yes

Financial export in Xtenso format: support for orders without an encounter (BILX_TRIPLEP-00052)

Issue

The financial export in the Xtenso format failed on PIN (Field 1: 'Unique no') for orders without an encounter.

Solution

This issue has been corrected.

When an order has no encounter, the Financial shipment destination is used as source provider to find the PIN (valid at order receipt date).

Note

This modification only applies to the traditional Xtenso protocol 'TripleP' and not to the 'XTenso-L' protocol, because the 'XTenso-L' protocol needs the mandatory 'Field 2' with the encounter number.

Introduction of bilx plugin interface (GLIMS-13827)

This modification implements a plugin interface to check if the correct bilx.pl version is used.

For more information, see [MATE-07344](#).

Party internal id and name should be editable when choosing Party type 'spec' in order entry (GLIMS_BILL-03619)

An issue was reported where the user could not enter the internal id and name of the party in the **Billing** tab of the **Order entry** screen when the **Party type** was set to 'spec' (specific).

This issue has been corrected.

Financial export RIZIV (MyCareNet) format: log invoice doc no when an empty invoice is detected (Belgium) (GLIMS_BILL-03836)

Issue

When sending a financial shipment with the RIZIV (MyCareNet) protocol that contained an empty invoice or a credit note, an error message appeared: "No empty invoice(s) allowed ()". However, the error message did not contain the related invoice doc no, so the user did not know which invoice was empty.

Solution

This issue, which occurred since GLIMS 9.8, has been corrected:

- When an empty invoice is detected in the financial shipment for RIZIV export, the message now contains the doc no of the first 10 found empty invoices/credit notes.
- When a credit note is detected and the option **Allow credit note** is disabled, the user gets an error message like "No credit note(s) allowed (invoice 11910005)".

Send email from invoice (summary): also log the invoice (summary) document number in the error text (GLIMS_BILL-03853)

This modification fixes the issue where the document number was not being shown in the error text of the log entry when an invoice (summary) email could not be sent.

The issue occurred since GLIMS 9.9.x.

Note

The actual email arrival is not checked. Only some preliminary checks are performed, such as the email format. Undeliverable emails are usually returned as an email reply after a few minutes.

Avoid error during invoice summary creation (Oracle database) (GLIMS_BILL-03867)

When placing a credit note on an invoice summary with the site attribute "_AutoBalanceCreditInvs" (SpecificSite) enabled, the following errors occurred on an Oracle database:

"A mandatory field did not get value. (1444)"

"** b_Balance.Debit transaction is mandatory, but has unknown (?) value. (110)"

This issue, which occurred since GLIMS 9.9.6 ([GLIMS_BILL-03843](#)), has been corrected.

Avoid that tariffication of result fails when pathology examination is discontinued (GLIMS_BILL-03868)

Issue

Results with the same specimen as the pathology examination and the same executing department (= lab) are assumed to be pathology-related, and get the pathology examination responsible as billing item executor. However, if the pathology examination is discontinued, there is no result responsible and tariffication fails.

Solution

This issue has been corrected.

If a result has the same specimen as the pathology examination and the same executing department (= lab), it will only be considered as pathology-related when the pathology examination is not discontinued.

Fixed shortcomings in Financial shipment query browser by downgrading from .NET version to classic version (GLIMS_BILL-03879)

Issues

This modification fixes the following issues in the Financial shipment query browser:

- In contrast to the classic browser, the user was no longer able to sort on the **Total amount** column in the .NET browser.
- The user got an error when sorting on the **External Id** column.

Solution

These issues, which occurred since GLIMS 9, have been corrected: the sorting by **External id** and **Total amount** is restored by downgrading the Financial shipment query browser from the .NET version to the classic version.

Introduction of bilx.pl (MATE-07344)

In order to ease maintenance when billing regulations (e.g. for the German KBV) are changing, all logic related to these regulations will be put in one bilx.pl file that can be used for several versions of GLIMS (2023.1, 10.1, 10.0, 9.9, 9.8).

From now on, an extra bilx.pl file will be delivered for ease of maintenance of the GLIMS installation.

- The bilx.pl file is listed as a known plugin.
- The bilx.pl file needs to be installed in the lib folder.

Note

For GLIMS 10.1 and 2023.1, the bilx.pl file will be part of the installer program.

For corrective versions, the bilx.pl file will be delivered through the zip file. A manual update of the PROPATH might still be needed.

Blood transfusion

Antigens-antibody of person browser could only be used for 1 object and did not support editing (GLIMS_BTM-01185)

Issue

When started from an Object context, the Antigens-antibodies of person browser:

- could only be opened once,
- did not refresh when navigating to another object and,
- did not support editing.

Solution

This issue occurred since GLIMS 8.11.

The issue is solved upon upgrading GLIMS by an automatic conversion of tools and related records. GLIMS needs to be restarted after this conversion.

PokeCharacter(NOK_Message) was not taken into account in When checked out trigger MISPL and other trigger MISPLs (GLIMS_BTM-01199)

When using Blood product trigger MISPLs, the NOK message configured in the MISPL was not shown.

Example

For example, when using the following MISPL

```
PokeCharacter("NOK_Message", "The user should see this NOK message");
```

```
RETURN NO;
```

there was no dialog window shown with the text "The user should see this NOK message".

The PokeCharacter(NOK_Message) trigger MISPL was not taken into account in the following triggers that can be defined in the Blood product screen under the Triggers tab:

- [When selected](#)
- [When checked](#)
- [When checked out](#)
- [When administered](#)
- [When returned](#)
- [When expired](#)
- [When discontinued](#)
- [When wasted](#)
- [When department changed](#)

This issue, which occurred since GLIMS 9.9.0 (GLIMS_BTM-00929), has been corrected.

Internal id should not be calculated during initial read of blood file (GLIMS_BTM-01207)

Issue

When opening a blood bag file with 20 blood bags via [Start > Transfusion management > Entry > Read supplier diskette](#), the MISPL for calculating the Internal id was already run 20 times before the first blood bag was scanned. As a result, the first scanned blood bag got 21 as Internal id.

If the program was closed and reopened again, the Internal id MISPL ran again for 20 times. When scanning a second blood bag, it got 42 as Internal id.

Solution

This issue, which occurred since GLIMS 9.6.0, has been corrected. The first blood bag being scanned gets "1" as Internal id, the second scanned blood bag "2", ...

Note

The Internal id calculation is now part of the transaction. This means that upon scanning a blood bag that is rejected (e.g. because it is expired), the next successfully scanned blood bag will have a sequence number "+1" compared with the last successfully scanned blood bag.

Previously, a sequence was skipped, so GLIMS went from sequence number "1" towards sequence number "3" instead of sequence number "2".

Error handling/focus on manual blood bag scan was sometimes wrong (GLIMS_BTM-01211)

Issue

The cursor was not positioned in the correct field during manual blood bag scanning when the wrong fields were filled out or mandatory fields were not filled out.

This was especially the case when the fields were filled out during barcode scanning.

Scenario

1. External id was overwritten

1. Start blood bag scan.
2. Scan the following codes:

Example

```
=N00182105007531
&*0212441702
=<E8980V00
=>0212792359
=\93999999999918699
```

3. Click **OK** (ENTER or left mouse click).
4. Scan the following code:

Example

```
=%51E0
```

=> The external id is changed from '21050075' into '182105007531' because the calculation of the external id is repeated based upon the already calculated external Id and not the initial external id/barcode.

2. Focus was wrong

1. Start blood bag scan.
2. Scan the following codes:

Example

```
&*0212441702
=<E8980V00
=>0212792359
=\93999999999918699
=%51E0
```

3. Click **OK** (ENTER or left mouse click).

4. Scan the following code:

Example

```
=N00182105007531
```

=> No external id has been scanned. The internal id is calculated and returns an empty value, as expected. A message is shown to indicate that the internal id function returns "?". GLIMS should normally know that the **External id** field is responsible for this warning and set the focus to the **External id** field or to the barcode field (when using the barcode scanning), but it selects a random field instead.

This issue, which occurred since GLIMS 9.6.0 (GLIMS_BTM-00826), has been corrected.

Extra issues

During the testing of the first two scenarios, extra issues were found when using an expiration date in the past.

Scenario

1. Start blood bag scan.
2. Scan the following codes:

Example

```
=N00182105009531  
&*0212441702  
=<E8980V00  
&>0212792359  
=\|939999999999918699  
=%51E0
```

3. Click **OK** (ENTER or left mouse click).

=> A '** No b_BloodBag record is available. (91)' error is shown, followed by the message that the expiration date/time is in the past. Only the message about the expiration date/time in the past should be shown.

=> In addition, when using a left mouse click, the focus was not correct after the display of the error message.

These issues have been corrected.

Remember sorting in Blood selection browser (GLIMS_BTM-01215)

This modification fixes the issue where the sorting order and sort column of the Blood selection browser were not remembered.

The issue occurred since GLIMS 9.6.

Undo transfusion was not possible in a German GLIMS client (GLIMS_BTM-01223)

Issue

This modification fixes the issue where Undo transfusion was not possible in a German GLIMS client due to a comma in the translation. A warning message was shown and the blood bag status transition was inhibited even though the blood bag had the correct status.



Blutkonserven hat den falschen Status Transfundiert

OK

Help

Solution

This issue, which occurred since GLIMS 9.9, has been corrected: the comma was removed from the translation.

An empty error message was shown when trying to repeat a blood selection in status 'Ready' (GLIMS_BTM-01227)

This modification fixes the issue where an empty error message was shown when the user tried to repeat a blood selection in status 'Ready', which resulted in the blood selection not being repeated.

This issue, which occurred since GLIMS 9.9.0, has been corrected.

Fixed 'Mismatched parameters' error + incorrect license check when using Trix v2 (GLIMS_TRIX_NL-00005)

When using the context function [Show external info](#) on Object (Object.ShowExternalInfo()) for Trix v2

- a 'Mismatched parameters' error was shown,
- a license check was performed for Trix v3, while the "BTM NL TRIX INTERFACE" should only be checked for Trix v3, not Trix v2.

This issue, which occurred since GLIMS 9.9.6, has been corrected.

Note

When upgrading from GLIMS 9.9.5 or lower to GLIMS 9.9.7, the default Trix version is now Trix v2 instead of Trix v3.

Cell counter

Reintroduced status area for Cell counter (GLIMS-13716)

Issue

Since GLIMS 9, there is no longer a status area at the bottom of the main screen. This was problematic for the Cell counter, as this status area showed essential information.

Solution

This issue, which occurred since GLIMS 9, has been corrected.

The status area for the Cell counter has been reintroduced. It is now shown at the bottom of the Cell counter screen whereas in GLIMS 8 it was shown at the bottom of the main window.

Make sure that the right action is chosen when calling the cell counter from a result context (GLIMS_Diff-00045)

Issue

When a specimen has multiple cell counter actions, then the wrong action could be chosen when calling the cell counter from a result context.

Solution

This issue, which occurred since GLIMS 8.7, has been corrected:

- GLIMS will choose the right action to open the cell counter when started from a result context, if there is no ambiguity.
- If multiple actions are eligible, a warning message will be displayed: "Multiple counter actions on this specimen". Previously, GLIMS would choose an arbitrary action in this situation.
- In addition, GLIMS will only look for actions for the specimens of the focused result. It will NOT open the cell counter for actions of another specimen.

Coding systems

Specific import functionality for LOINC codes for Properties, Requestables, and Chapters (GLIMS-13393)

Introduction

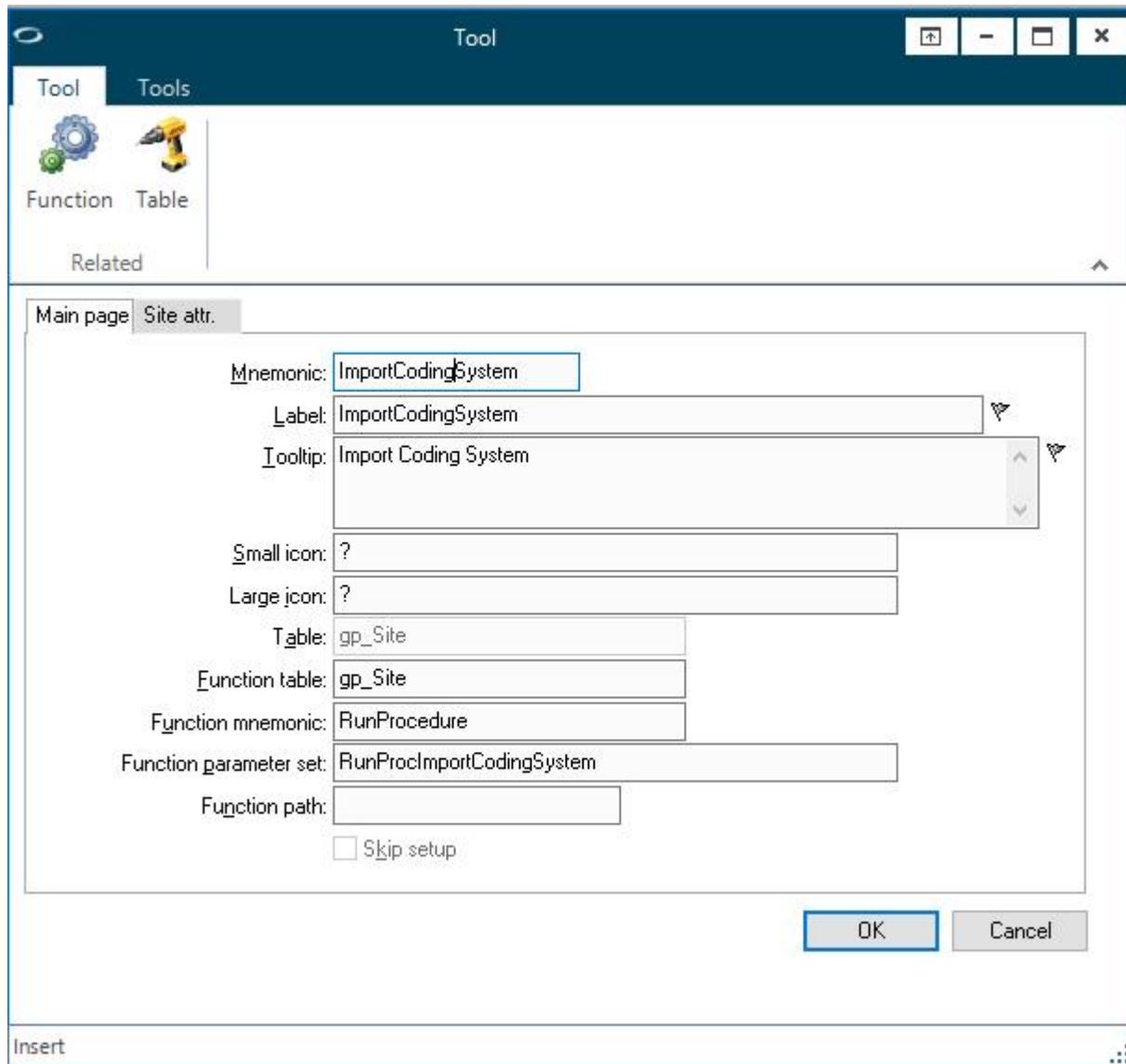
This modification introduces a specific import functionality for LOINC codes for Properties, Requestables, and Chapters (Property classification nodes).

Note

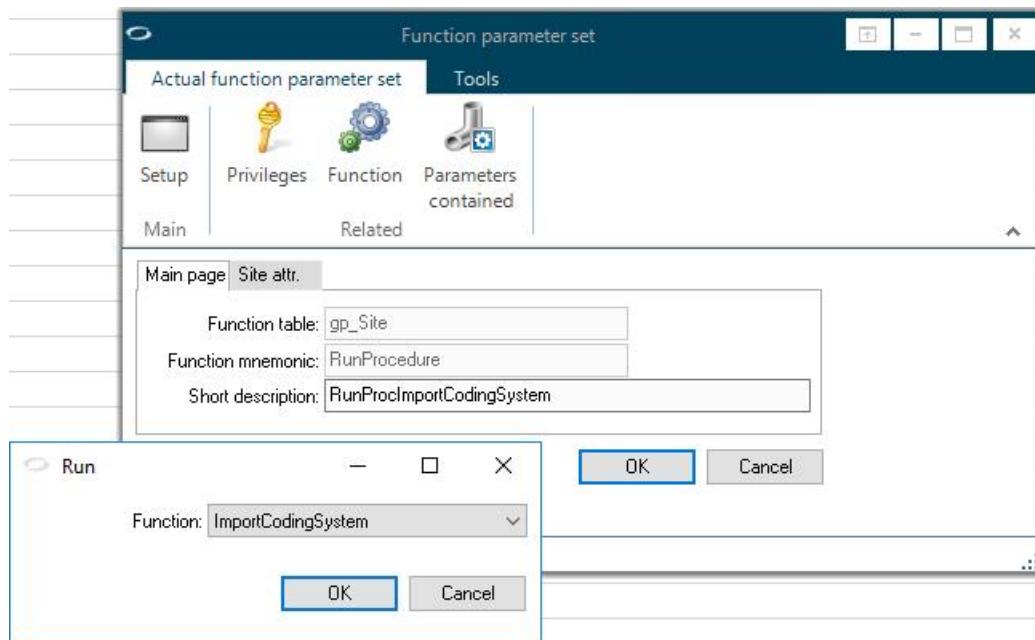
This function requires the GLIMS_LOINC license.

To access the functionality:

1. Create a tool with the RunProcedure function on gp_Site.



2. Create a parameter set with ImportCodingSystem as function.



Fields

Coding system

Coding system of which codes are to be imported.

File name

File with codes that need to be imported. Double-click to open the file selection dialog.

into

Table in which codes must be created. Possible choices: [Chapters](#), [Properties](#), [Requestables](#).

Character set

If the import file does not match the GLIMS character set, it is possible to specify another one.

Note

The name that you specify must be a valid code page available in the \$DLC/convmap.cp file (a binary file that contains all of the tables that Progress uses for character management). For more information please refer to the Progress 'System Administration Guide' that was provided along with your Progress license.

Delete existing codes

If enabled, all codes for the selected table/code set will be deleted before import.

Simulation mode

Executes the import function, but no changes are applied in the database.

Note

The [LOINC import overview browser](#) will not contain an **Import** button when in simulation mode.

Import files

The import files (.csv) should contain the following fields in the following order, separated by a semicolon (;):

Chapters

Chapter code;Chapter name;Subchapter code;Subchapter name;Code value;Code description

The chapter code should match the Id field of a Property classification node.

Properties

Property code;Property name;Property alias;Analysis type;Unit code;Unit name;Timing;Material code;Material name;Scale type;Method;Billing codes;Code value;Code description

The property code should match the property mnemonic.

Requestables

Request code;Request name;Request alias;Chapter code;Subchapter code;Material;Billing codes;Property code;Property name;Code value;Code description

The request code should match the mnemonic of a default property requestable or the mnemonic of a panel requestable.

LOINC import overview browser

After clicking **OK** in the [Import coding system configuration](#) screen, the **LOINC import overview** browser appears with the codes which will be imported.

LOINC import overview																							
Property		Tools																					
Data sheet Main		Results		Browse norms		Specific result codes		Conversions applicable		Billing code assignments		Assessment methods		Property outputs		Requestables		Classifications		Procedure data		Microbiology procedures	
Line	Code	Description	Record	Mnemonic	Property code	Prop	Prop	Unit code	Unit	Material code	Material na	Scale type	Time	Meth	Billing								
✓	280	value281	description281	✓	ut_MBProcs_pr_C...	ut_MBProcs_pr_C...				ut_root		Integer											
✓	281	value282	description282	✓	ut_MBProcs_pr_Re...					ut_root		Positive f...											
✓	282	value283	description283	✓	Na	Na		UnitTestUnit		Serum	Serum blood	Logical						Gr					
✓	283	value284	description284	✓	ut_prop_07156_1	ut_prop_07156_1		UnitTestUnit		ut_root		Logical											
✓	284	value285	description285	✓	ut_prop_07156_2	ut_prop_07156_2		UnitTestUnit		ut_root		Logical											
✓	285	value286	description286	✓	ut_prop_07156_3	ut_prop_07156_3		UnitTestUnit		ut_root		Logical											
✓	286	value287	description287	✓	ut_ordatmtpp_1	ut_ordatmtpp_1		UnitTestUnit		ut_ordatmtpp_1		Logical											
✓	287	value288	description288	✓	ut_ordatmtpp_2	ut_ordatmtpp_2		UnitTestUnit		ut_ordatmtpp_1		Logical											
✓	288	value289	description289	✓	ut_ordatmtpp_3	ut_ordatmtpp_3		UnitTestUnit		ut_ordatmtpp_1		Logical											
✓	289	value290	description290	✓	ut_propPerform17	ut_propPerform17		UnitTestUnit		ut_matPerform?		Logical											
✓	290	value291	description291	✓	ut_propVar_1	ut_propVar_1		UnitTestUnit		ut_MatWithVar_1	ut_MatWith...	Logical											
✓	291	value292	description292	✓	ut_propVar_2	ut_propVar_2		UnitTestUnit		ut_MatWithVar_1	ut_MatWith...	Logical											
✓	292	value293	description293	✓	ut_2003-0762HCT	ut_2003-0762HCT		UnitTestUnit		ut_2003-0762EDTA		Logical											
✓	293	value294	description294	✓	ut_2003-0762FOLE	ut_2003-0762FOLE		UnitTestUnit		ut_2003-0762EDTA		Logical											

Clicking **Import** will import the selected codes.

Clicking **Cancel** will close the LOINC import, without saving anything.

The **Record status** column can show three possible icons:

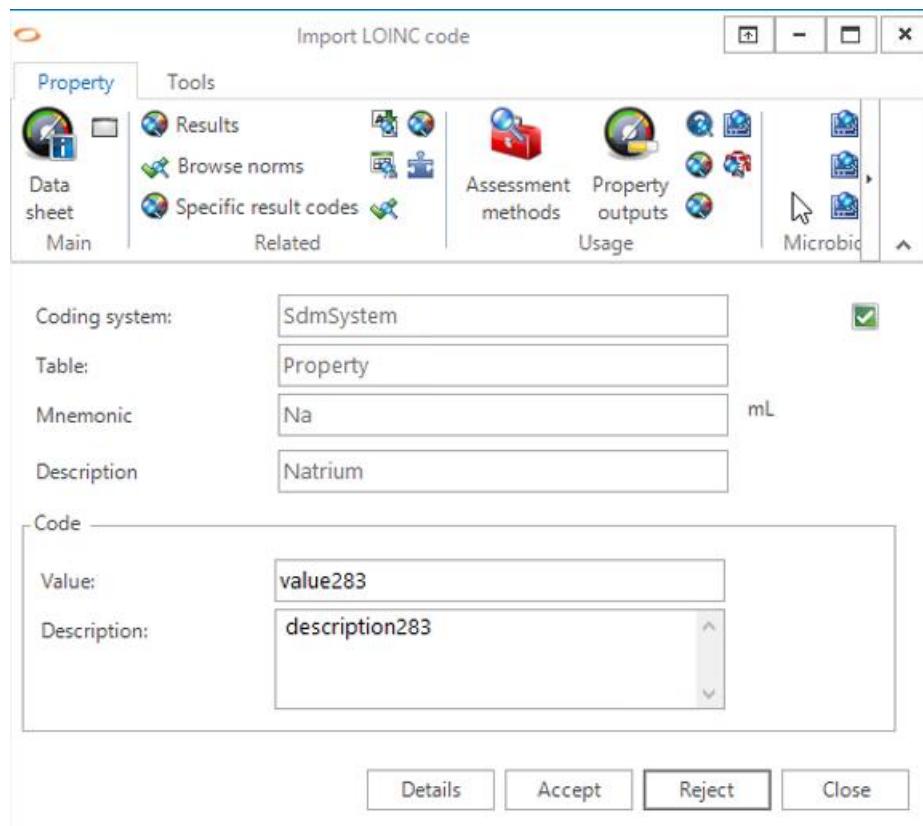
Icon	Description
	The import code could be matched with a GLIMS Property/Requestable/Property classification node.
	The requestable code value is not unique in the import file, or Delete existing codes is disabled and the code value is already being used for another requestable in the code set.
	The import code could not be matched with a GLIMS Property/Requestable/Property classification node.

It is possible to sort or filter on each column header.

It is also possible to filter by pressing Ctrl+F. This will add a filter row at the top where you can enter text for each column. Only rows which contain the text for that column will be displayed.

Import LOINC code screen

Selecting a row and pressing F6 or double-clicking will open the **Import LOINC code** screen.



It is possible to modify the **Value** and **Description** fields of this screen.

The **Details** button will open the editor of the matched Property/Requestable/Property classification node.

The **Accept** button will update the code value and description in the **LOINC import overview** browser and the next import code will be displayed in the **Import LOINC code** screen.

The **Reject** button will delete the current import code from the **LOINC import overview** browser and the next import code will be displayed in the **Import LOINC code** screen.

Specific export functionality for LOINC codes for Properties, Requestables, and Chapters (GLIMS-13396)

Introduction

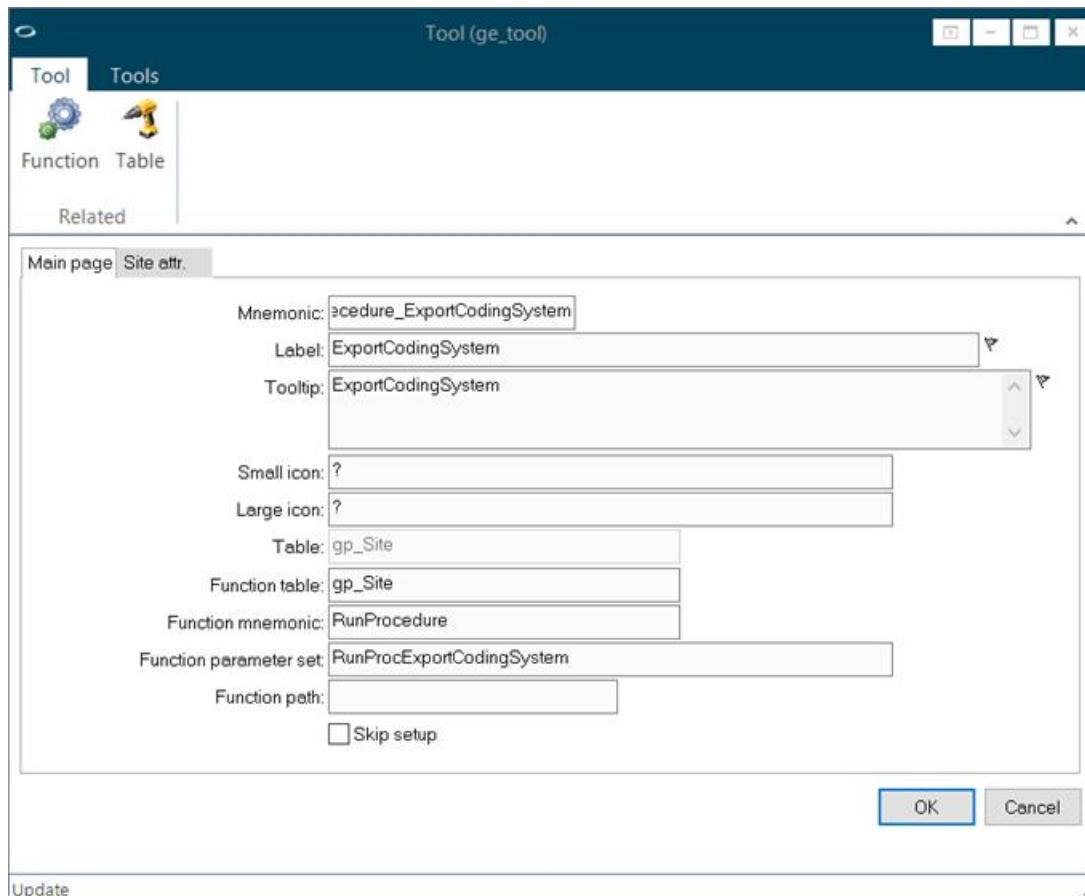
This modification introduces a specific export functionality for LOINC codes for Properties, Requestables, and Chapters.

Note

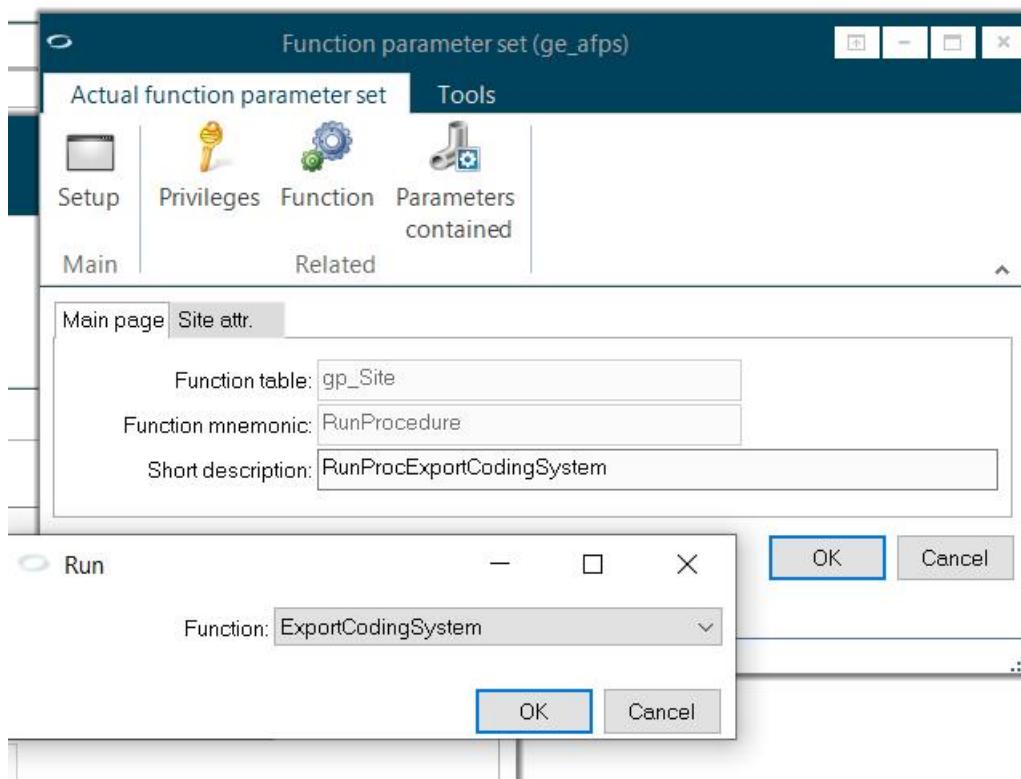
This function requires the GLIMS_LOINC license.

To access the functionality:

1. Create a tool with the RunProcedure function on gp_Site.

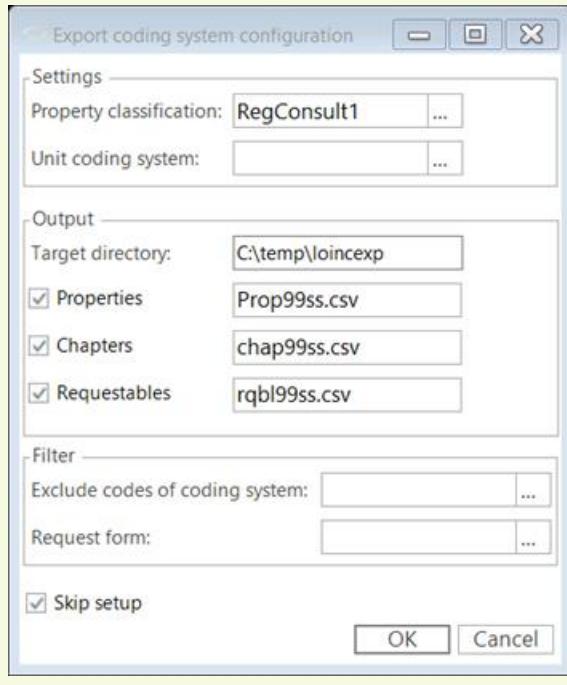


2. Create a parameter set with ExportCodingSystem as function.



Note

The **Export coding system configuration** screen contains a **Skip setup** tick box when run in setup mode. This will enable the SkipSetup for the ExportCodingSystem function as SkipSetup for the RunProcedure function is not working correctly.



Fields

Settings

Property classification

The property classification that will be used to export the properties/requestables. If <unknown>, the default property classification will be used.

Unit coding system

If specified, units will be exported using this coding system. If <unknown> or no Code set is found for table Unit, the Unit.Name must be used.

Output

Target directory

Directory where the exported data will be written to. If no target directory is specified, the GLIMS temp folder will be used by default.

Properties

Filename of the properties export file.

Chapters

Filename of the chapters export file.

Requestables

Filename of the requestables export file.

Filter

Exclude codes of coding system

Chapters, properties and requestables that already have a code in this coding system will not be exported.

Request form

Only requestables present in the selected request form will be exported.

Export files

The export files (.csv) contain the following fields in the following order, separated by a semicolon (;):

Chapters

Chapter code*;Chapter name;Subchapter code*;Subchapter name*

Properties

Property code;Property name;Property alias*;Analysis type*;Unit code*;Unit name*;Timing*;Material code*;Material name*;Scale type*;Method*;Billing codes*

Requestables

Request code;Request name;Request alias*;Chapter name*;Subchapter name*;Material*;Billing codes*;Property code;Property name

*: Optional

Note

The billing codes that are exported for the requestables and properties are the **Code** fields of the billing codes that are assigned to the requestable.

Note

The **Alias** column in the export file of the properties and requestables contains all codes that are currently assigned to the property or requestable in any coding system.

The syntax looks as follows:

CodingSystem1:CodeValue1 (Code description1),CodingSystem2: CodeValue2 (Code description2)

Communication

Use SpecificSite.Organization.Municipality.Country if no country is supplied in incoming URL message (GLIMS-13502)

When sending a URL message to a GLIMS service without specifying a country, the default country of the **Own organization** field in the GLIMS General settings ([Start > System management > Customize > GLIMS General > Identification tab](#)) was not used as a fallback when determining the municipality/postal code while loading the municipality message. As a result, a warning message was thrown in the service log and the loading of the municipality message failed. In addition, the municipality/postal code was not updated.

This issue, which occurred since GLIMS 8.4, has been corrected.

Ensure that the error count is increased for events that fail due to (internal/external) application errors (GLIMS-13766)

Issue

When an event could not be processed due to an internal or external application error, the **Processed** status was not set, as expected. However, the event's **Error count** was not increased.

Solution

This issue, which occurred since GLIMS 9.8, has been corrected.

- If an event cannot be processed due to an internal or external application error, the **Error count** will be increased.
- If an event cannot be processed due to a communication error, the **Error count** will NOT be increased.

Warning

This logic is ONLY applied for events where the Error threshold is specified.

If no Error threshold is set, the **Error count** is ALWAYS increased, including for communication errors.

Services crashed due to a memory leak while orders are created or updated (GLIMS-13943)

This modification fixes the issue where services crashed due to a memory leak while creating or updating orders.

This issue, which occurred since GLIMS 9.9.6, has been corrected.

Incorrect MB action selection during incoming isolation test result processing (GLIMS_ANLZ-01451)

When a specimen had more than one microbiology action in GLIMS, it was possible that GLIMS selected the incorrect MB action during result processing of an ASTM microbiology result message containing isolation tests, but no exact MB procedure code (or any other identification that helps GLIMS in finding the exact MB action of a specimen, when the specimen has more than 1 MB action in GLIMS).

This issue, which occurred since GLIMS 9.2, has been corrected.

Station option 'Minimal specimen status' should apply to the root specimen (GLIMS_ANLZ-01458)

Context

[GLIMS_ANLZ-01382](#) (9.9.0) introduced a new **Station** option **Minimal specimen status** to only select the actions of **Expected** (and already available) specimens during batch download (i.e. ALL-query).

Issue

The **Minimal specimen status** option of a **Station** only looked at the input specimen of any fetched action but not the root specimen.

This was unwanted behaviour for aliquots because the input specimen for tests scheduled on the aliquot looked at the status of the aliquot (or subspecimen), whereas it should receive the tests as soon as the root specimen becomes available.

This issue, which occurred since GLIMS 9.9.0, has been corrected.

Prevent translator service crash when processing a large set of microbiology synchronisation result events (GLIMS_ANLZ-01463)

The translator service could crash when processing microbiology synchronisation result events because the lock table and BI (Before Image) kept growing until all events were processed or an overflow occurred. This was due to the events being processed in a single transaction while the set of events to be processed was very large (several thousands).

This issue, which occurred since GLIMS 8.7.0, has been corrected.

Analyzer communication: codes of Material variable choice records were not taken into account when used in a coding system (GLIMS_ANLZ-01468)

Normally when a coding system is set on a station, it is expected to use the corresponding code of a record in the coding system instead of the mnemonic or name of a record. However, this was not the case for Material variable choice records when included in a Work order reply message (O.16.1.2 and, if required, in M-record "spmv" field M.5.1.1). The information was not coded in the message sent by GLIMS as it remained the GLIMS mnemonic instead of its coded equivalent.

This issue has been corrected.

Note

The behaviour can be heavily influenced by the way Specimen variables are configured on a station.

Specimen variables	Source body site	Work order message field Specimen source (O.16.1.2)	Work order message spmv M-segment Specimen variable choice (M.5.1.1)	Additional remark
Only source body site	?	Code of the material variable choice as defined in the coding system, but ONLY for the first specimen variable of a specimen.	/	In case a specimen can have multiple specimen variables, ONLY the first one will be reported. Make sure the selected choice is in the coding system.
Only source body site	Mnemonic of a material variable, e.g. "Colour".	Code of the material variable "Colour" as defined in the coding system.	/	
All	?	/	One "spmv" M-segment for each specimen variable having a value for which the coding system has a code for the material variable choice in the coding system. M.5.1.1 of each "spmv" M-Segment will have the code of that material variable choice corresponding with the specimen variable value.	
All	Mnemonic of a material variable, e.g. "Colour".	Code of the material variable "Colour" as defined in the coding system.	One "spmv" M-segment for each specimen variable having a value for which the coding system has a code for the material variable choice in the coding system.	

Specimen variables	Source body site	Work order message field Specimen source (O.16.1.2)	Work order message spmv M-segment Specimen variable choice (M.5.1.1)	Additional remark
			<p>M.5.1.1 of each "spmv" M-Segment will have the code of that material variable choice corresponding with the specimen variable value.</p> <p>M.5.1.2 Specimen variable choice value: the "Colour" specimen variable has the value SSBS (=Specimen Source Body Site).</p>	

Analyzer communication: all moved actions should be downloaded as cancelled tests when 'Send a moved test as cancelled test' is enabled (GLIMS_ANLZ-01474)

Issue

Not all moved actions were downloaded as cancelled tests when **Send a moved test as cancelled test** is enabled.

Configuration

- GLIMS General:
 - Enable **Send a moved test as cancelled test**.
- Station:
 - Enable **Move work of scanned specimen**.
 - Enable **Download finished tests**.
- Procedure:
 - Enable **Allow replacement**.
- A station connected to a concentrator and:
 - A_proc: A1, A2
 - A_2_proc: A13

Scenario

1. Request A1, A2 and A13 on Specimen A.
2. Request an extra identical Specimen A.
3. Send an ALL query on the concentrator.
-> All actions are downloaded on the first specimen.
4. Send a query on the second specimen on the analyzer.
-> All actions are moved to the second specimen.
5. Send an ALL query on the concentrator (with cancelled tests).
=> All new actions are downloaded on the new specimen. However, not all cancelled actions are downloaded as cancelled tests.

Solution

This issue, which occurred since GLIMS 9.5.3, has been corrected: all moved actions are now downloaded as cancelled tests.

Fix "Mark actions by download group" functionality (GLIMS_ANLZ-01477)

Context

An action (and its result outputs) that has been sent to a station in reply to an ASTM-query is marked in GLIMS via its Download status. An action can be marked as having been sent to:

1. a station
2. a download group

Issue

The download status no longer marked that an action was sent to a download group.

Solution

This issue, which occurred since GLIMS 9.6, has been corrected.

Include microbiology report properties of data type 'Culture' in LCSD export (GLIMS_CX-00029)

Issue

A reporting property of data type **Culture** of a microbiology procedure was not exported during LCSD export. As a result, the report subheader was not shown in the LCSD export for reporting properties of data type **Culture**.

Solution

This issue, which occurred since GLIMS 8.11, has been corrected.

GLIMS now exports the relation between a microbiology procedure and the report classification node of data type **Culture** that is the reporting property of the microbiology procedure.

Classify non-matching object as INFO message instead of ERROR message in service log file (GLIMS_OI-00846)

Issue

An ERROR message was logged to the service log file if a translator sent object info for order creation and no matching object could be found, even though the object could be created afterwards. Instead, this should be logged as an INFO message.

Solution

When GLIMS receives a message to create or update an order and the message contains object info, GLIMS will first try to find the order via the object.

If no object exists at this stage, GLIMS will no longer log this as ERROR message but as INFO message:

- First, an info message about the unknown correspondent is logged:

Example

```
*** INFO [Translator server] 2022-01-21 12:32:34.57
```

Unknown correspondent

- Followed by an info message that the test on the object succeeded:

Example

```
*** INFO [Translator server] 2022-01-13 08:51:21.06
```

Method 'Test' succeeded for object 'Object' ('Order.Object')

Note

A succeeded test does NOT mean that the object exists.

Furthermore, the meaning of the methods "Find" and "Test" for all correspondent-related message trunks is now different:

- "Find" will generate a WARNING or ERROR log if the correspondent cannot be found.
- "Test" will generate an INFO log if the correspondent cannot be found.

Except for the described scenario, all correspondent-related "Test" actions have been converted to "Find" actions.

Order internal filler codes generated in migrated v9 can overlap with previously generated filler codes from pre-migration v8 system (GLIMS_OI-00906)

Issue

In a migrated v9 system, the order internal filler codes (used in IHE-LTW communication) can overlap with the previously generated filler codes in the pre-migration v8 system, which will corrupt the communication with an external system that relies on these filler codes.

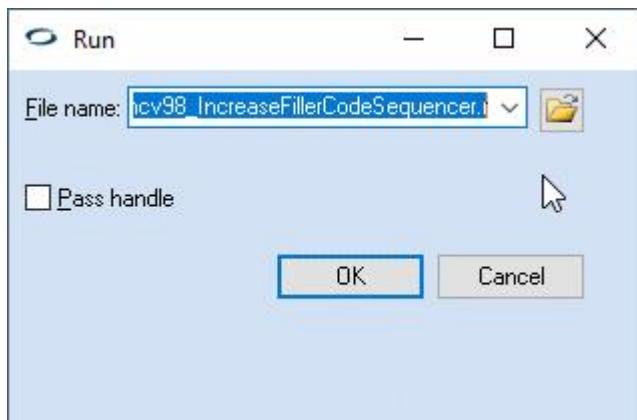
The filler codes generated in the RequestGroupList site attribute on a request in v8 were based on a different sequencer (code_Id) than the one used in v9 (rqsc_Id) for the filler codes generated on the new RequestedCode records. During a regular conversion from v8 to v9, the conversion scripts will guarantee that the sequencer in v9 is aligned with the one used in v8, meaning that it will start from the highest value that the sequencer had in v8. This ensures that the filler codes in v9 never overlap with the ones generated in v8.

However, when migrating to a clean v9 installation, none of the provided upgrade conversion scripts are run. This means that the rqsc_Id sequencer from v9 does not get aligned with the code_Id sequencer from v8, which will eventually cause the GLIMS v9 system to generate filler codes that are in the range of the filler codes already generated in the v8 system.

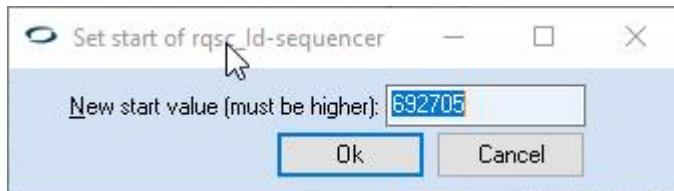
Solution

This issue, which occurred since GLIMS 9.3.0, has been corrected.

A manual script, **mcv98_IncreaseFillerCodeSequencer**, can be executed with a **Developer** role via **Development > 4GL > Run procedure**.



The script allows the user to provide a new start value for the rqsc_Id sequencer that is higher than the highest v8 filler code (see [below](#)). This will guarantee that no previously generated filler code from the v8 system is reused in the v9 system on a different request. The current value of the rqsc_Id sequencer in GLIMS is already filled in and will be lower than the value of the highest filler code generated in v8. A safety mechanism ensures that the user cannot provide any lower value than the one currently set.



Note

It is recommended to choose a slightly higher value than the highest v8 filler code (at least more than one higher) to make sure that there will be no overlap.

How to find the highest filler code in GLIMS v8?

To find the highest filler code in GLIMS v8:

1. Search the most recent order.
2. Open the last request (i.e. highest rqst_Id value).
3. Go to the RequestGroupList site attribute.
4. Take the value of the FillerOrderNumber.EntityIdentifier.

Example

```
<?xml version="1.0" ?>

<ObservationRequestList><ObservationRequest><PlacerOrderNumber><Entity
Identifier/><NameSpaceId/></PlacerOrderNumber><FillerOrderNumber><Enti
tyIdentifier>274527</EntityIdentifier><NameSpaceId/></FillerOrderNumbe
r><RequestCodeId>637493</RequestCodeId></ObservationRequest></Observat
ionRequestList>
```

Fixed trailing space in site attribute "_RunComparatorForKnownPIN" (GLIMS_PI-00378)

Issue

The site attribute "_RunComparatorForKnownPIN" on the SpecificSite table was introduced with a trailing space in its name (cfr. [GLIMS_PI-00369](#)), which caused the following issues:

- The user could get "unique constraint violated" errors when doing an upgrade on an Oracle database.
- Every functionality that depends on this site attribute being enabled did not work on Progress and Oracle databases.

Solution

This issue, which occurred since GLIMS 9.8.15, has been corrected: the script that automatically creates site attributes has been updated to ensure that the site attribute has no trailing space in its name anymore.

AutoMergeByPIN should be able to handle more than two person identifications (GLIMS_PI-00388)

Issue

AutoMergeByPIN could not merge two persons with multiple person identifications (PINs) due to the following error:
"Identification commit error: Specified 'Assigned to' does not exist"

Solution

This issue has been corrected: AutoMergeByPIN can now handle more than two person identifications.

Added KeepSeconds option to CreateSpecimenOrder MISPL function (GLIMS-13724)

When GLIMS received two subsequent POC messages in a time frame of one minute and these messages each contained a result for the same POC property and the same order but for a different specimen, the specimen linked to the first result was reused because GLIMS did not take into account the seconds part of the object time when executing the CreateSpecimenOrder MISPL function.

This issue, which occurred since GLIMS 9.6.0, has been corrected. It is now possible to add the KeepSeconds option to the RequestList parameter of the CreateSpecimenOrder MISPL function so that GLIMS takes the seconds into account for order and specimen creation.

MISPL example

```
CreateSpecimenOrder(?, "EDTA", "19140417BIAA07", ?, ?, ?, ?, "DEPN", "OneOrder-  
PerDay,OBJECTTIME:20220819115621,KeepSeconds");
```

Incorrect specimen sorting when actions were moved between specimens due to time fields having different precisions (GLIMS_ANLZ-01478)

Issue

When using the distributor in slave mode functionality in GLIMS to instruct a LAS station how to sort specimens in the laboratory, it was possible that GLIMS would instruct to sort a specimen a second time to a sorting zone it had already been sorted to before. The issue occurred due to the Action.CreationTime field being stored with a precision of milliseconds while the SpecimenSortAudit.Time field was being stored with a precision of seconds.

Solution

This issue, which occurred since GLIMS 9.0, has been corrected.

The SpecimenSortAudit records will now be tracked in milliseconds as well. To this end, new site attributes have been introduced on the SpecimenSortAudit (_TimeMs) and SpecimenAudit (_EventTimeMs) tables.

Consult registration

Register consult was opened minimized when it was closed minimized previously (GLIMS_CONSXT-00066)

This modification fixes the issue where the Register consult window was opened minimized when it was closed minimized previously.

This issue occurred since GLIMS 9.9.

Consultation

Order consultation query showed the wrong Order status option value when used in a tool (GLIMS-13341)

When the function Object.Orders() was called for setup on a tool, the wrong value for **Order status option** was displayed in the Active order consultation query screen.

This issue, which occurred since GLIMS 8.11, has been corrected.

Correspondents

Ranking MISPL disappears from Double patients query (GLIMS-13234)

The MISPL function defined in the **Ranking** field of the Double patients query of the **Lookalikes** browser was not being used or saved.

This issue, which occurred since GLIMS 9.8, has been corrected.

Log changes to 'Display last name' and 'Legal name' fields of person record and show them in Identity changes log (GLIMS-13335)

Changes to the **Display last name** and **Legal name** fields of a **Person** record were not being logged, and were therefore not shown in the Person identity changes log, which can be accessed from the **Order entry** screen.

This issue, which occurred since GLIMS 9.9, has been corrected.

Save the correspondent type in the correspondent search screen when the option "Save type" is enabled (GLIMS-13669)

This modification fixes the issue where the **Save type** option in the correspondent search screen, which is available on screens such as Register consult, did not save the correspondent type. When the user closed the screen and opened it again, the type was reverted back to ?.

The issue occurred since GLIMS 9.9.5.

Error when merging two persons when the incorrect person had one or more attachment records (MATE-07284)

When a record with attachments was deleted and the attachment folder was determined by the site function "AttachmentFolder" on the record's table, an error occurred. This was particularly problematic when merging two persons because it could prevent the entire merge process from proceeding if the incorrect person had one or more attachment records.

This issue, which occurred since GLIMS 9.0.0, has been corrected.

CyberTrack

REST users should be able to log in with LDAP password verification + improved logging for successful login of REST users using LDAP authentication (GLIMS_CBT-00320)

Issues

The login mechanism used by REST services did not take into account the LDAP authentication mechanism that is in place in GLIMS. In addition, CyberTrack users were considered and logged as "logged in" while only the user name had been evaluated and not the password.

Solution

These issues, which occurred since GLIMS 9.8, have been corrected:

- The REST service login mechanism now takes into account the password verification method specified in GLIMS.

Note

For CyberTrack API, the **API security level** configuration in GLIMS is still in place, and is evaluated first upon logging in. There have been no changes in this area. However, if the **API security level** is **User password**, the password verification method configured on the user is still used.

- A log entry is now only created upon successful login (user name and password verified).

Fixed errors that occurred when accessing CyberTrack via a REST API (GLIMS_CBT-00323)

A problem was reported where an error occurred when trying to access CyberTrack via a REST API which

- resulted in a blank screen and
- caused the error messages **Glims username and/or password combination is incorrect** or **LDAP Error Message: The user name or password is incorrect** to appear in the REST service/AppServer log files.

This issue, which occurred since GLIMS 9.8, has been corrected.

Adding a request for a pending order with a Before activation trigger gave the wrong internal id (GLIMS-13728)

Issue

When the user had a **Before activation** trigger MISPL configured in the **User options (Start > Tools > Set user preferences > Triggers)** to add a request (AddRequest()) to the order, explicitly requested specimens got the wrong internal id upon order activation. This issue only occurred when the specimen internal id MISPL used the order internal id to base its id on.

Solution

This issue, which occurred since GLIMS 9.9, has been corrected: the execution of the **Before activation** MISPL now happens before any updates to the order status.

Encounters

User was unable to select a closed encounter in order entry (GLIMS-13653)

This modification fixes the issue where the user was unable to select a closed encounter in order entry.

The issue occurred since GLIMS 9.9.

Allow electronic update of Stay start time when stay external id is provided + do not create a new stay (GLIMS_PI-00386)

When electronically updating the start time of a Stay record identified by its External id, GLIMS created a new Stay record on the same encounter rather than just updating the start time of the existing Stay record.

This issue, which occurred since GLIMS 8.9.0, has been corrected.

Epidemiology

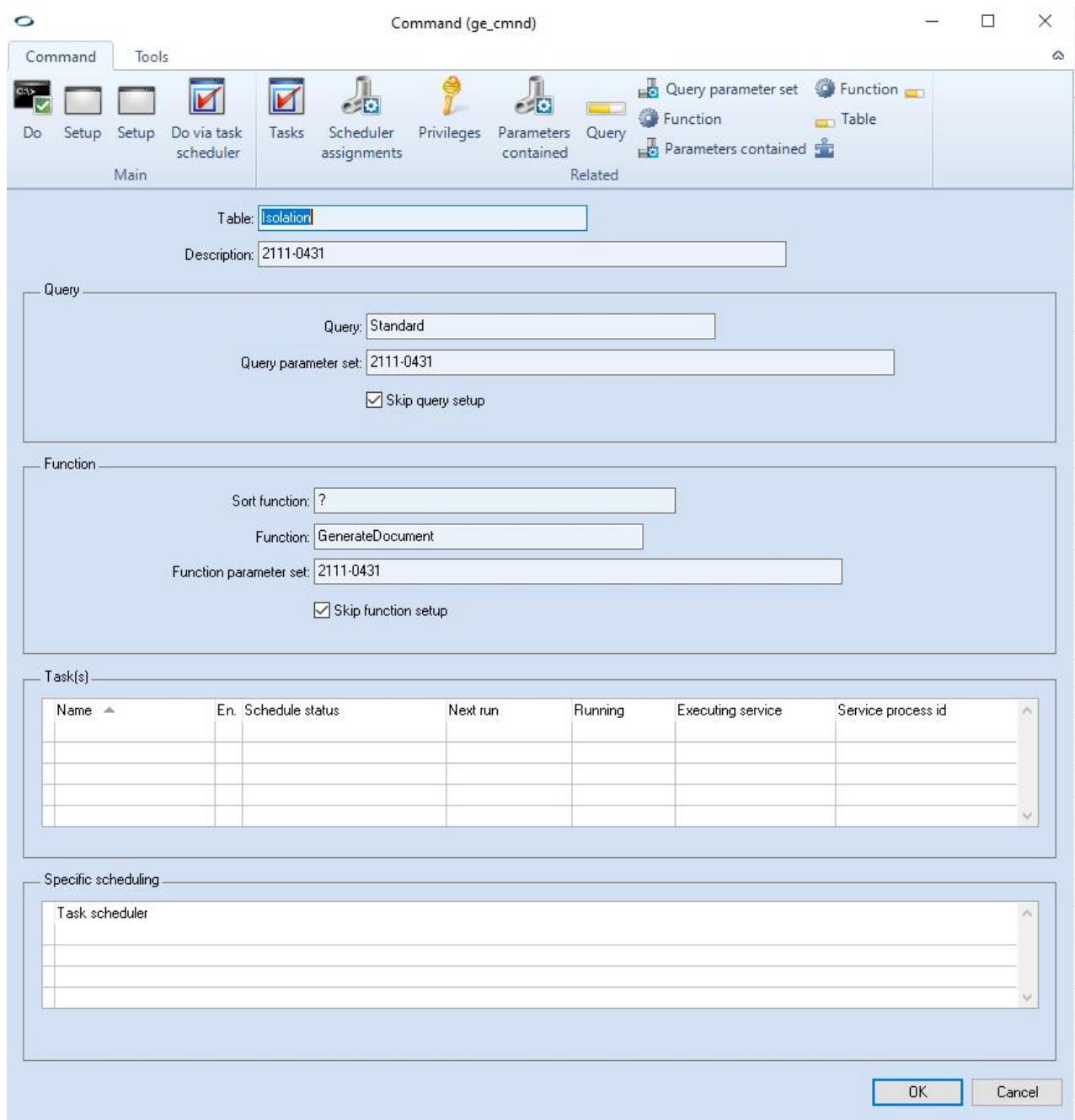
Person reference was missing from w_WorkIsolation in generate document function (GLIMS-13871)

Issue

The person reference was not available in the **Header**, **Body**, and **Footer** MISPL functions of the Generate isolation document screen. As a result, emails sent by the generate document function were empty.

Configuration

- Create a command for the table Isolation with a standard query parameter set and function GenerateDocument:



Isolation - query options

Sampling date from: This year ? to: Today ?

Doubles: Don't exclude doubles
 Exclude double...
 Only doubles...

Hosp. acquired: Yes No All

Material: ? 1st variable: ?

Type: ? Organism: ?

Appraisal: ? Severity: ?

Pos/Neg: Pos Neg All

Status: All (excl. discontinue) Only with antibiogram
 Only reportable Only officially reportable

Department: ? Modified within: ? days

Study Type: ? Study: ?

Resistance pattern: ?

Test pattern: ?

Patient: Residence type: H A All In ward(s): ?

Filter: ?

Storage criteria

Archiving status: ? Lab archive: ? Archive part: ?

Rack: ? Rack code pattern: ?

Rack usage pattern: ? Storage date from: ? To: ?

Expired only Reason pattern: ? Removal reason pattern: ?

OK Cancel

Generate isolation document

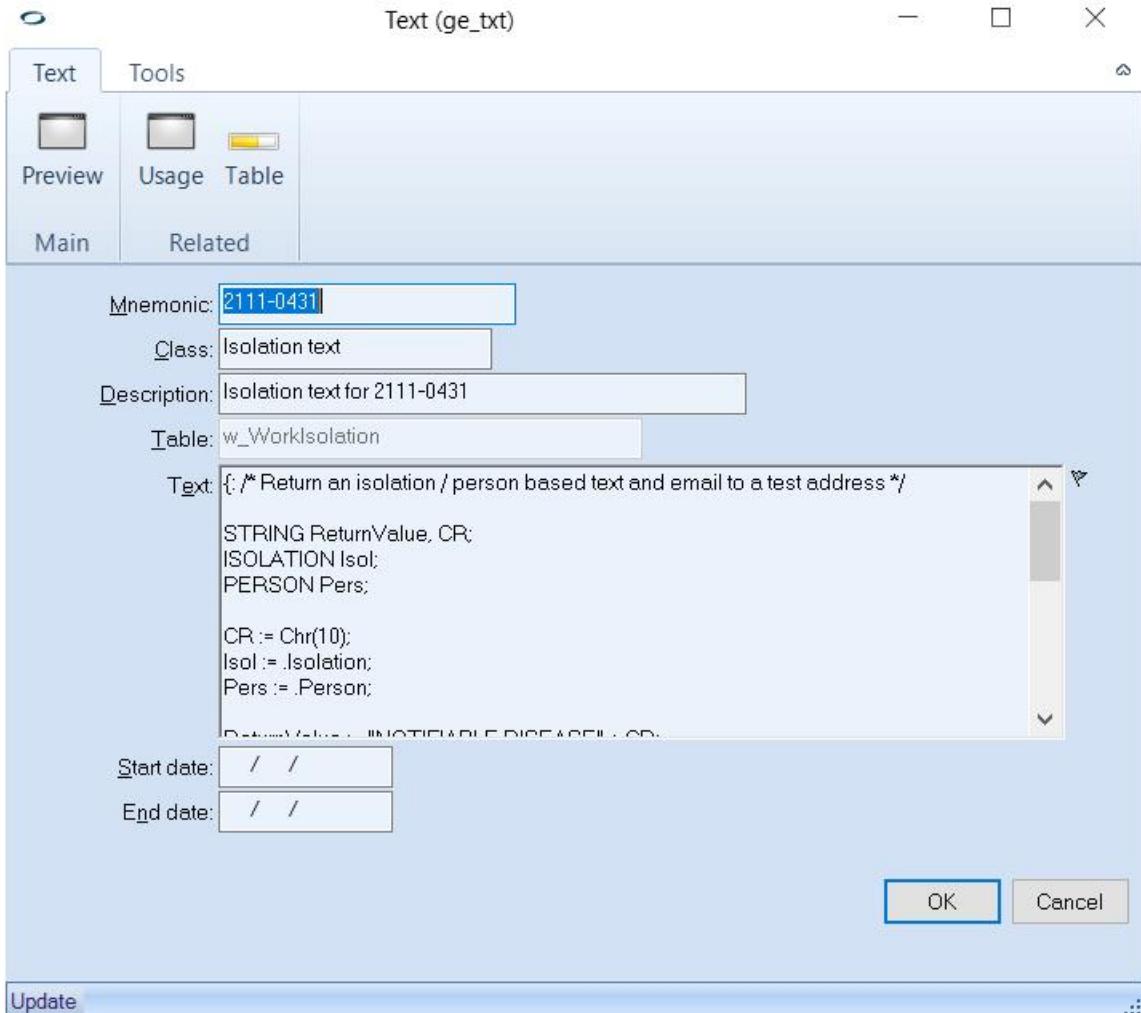
Type: Issuer Mark as reported

Header: ? Body: 2111-0431 Footer: ?

Page Height: 64 Printer: Notepad++

Preview Output to file

OK Cancel



Update

MISPL example

```
(: /* Return an isolation / person based text and email to a test address */

STRING ReturnValue, CR;
ISOLATION Isol;
PERSON Pers;

CR := Chr(10);
Isol := .Isolation;
Pers := .Person;

ReturnValue := "NOTIFIABLE DISEASE" + CR;
ReturnValue := ReturnValue + "Isolation found: " + IfKnownString(Isol.MicroOrganism.Name) + CR;
ReturnValue := ReturnValue + "Material : " + IfKnownString(Isol.Specimen.Material.Description()) + CR;
ReturnValue := ReturnValue + "Specimen : " + IfKnownString(Isol.Specimen.InternalId) + CR;
ReturnValue := ReturnValue + "Patient : " + Pers.Externalization + CR;
ReturnValue := ReturnValue + Fill("-",80);

SendMail(test1@mips.be, test1@mips.be,
        "***Isolation test** via generate document function", ReturnValue, MailPriority["Normal"]);

RETURN ReturnValue;
)
```

Solution

This issue, which occurred since GLIMS 9.9.0, has been corrected: emails sent by the generate document function are no longer empty.

Genetics

Adaptive XML export: improved rich text support (GLIMS_GENX_LAB-00652)

Issues

The following issues have been reported:

- The font size was bigger when printing a rich text via Jasper
- <custom> tags did not support rich text

Solution

These issues, which occurred since GLIMS 9.9.0, have been corrected:

- The font size is converted in pixels for:
 - The Property classification Content MISPL
 - Custom texts
- Custom texts containing rich texts will now be exported correctly.

Before

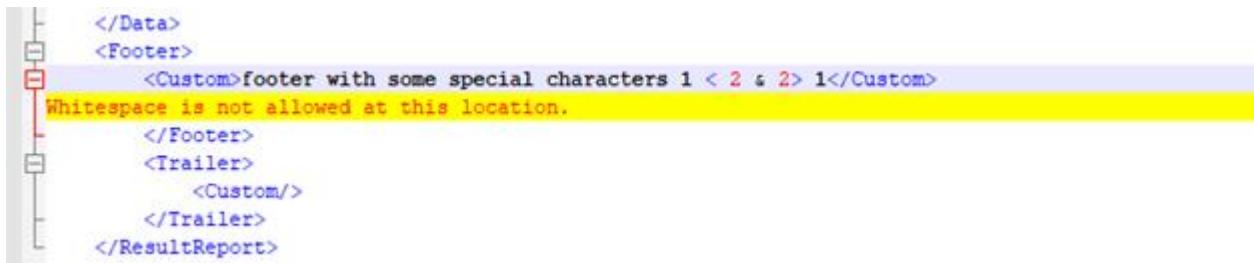
```
<Custom>
<!--HTML-->
<!DOCTYPE html PUBLIC "-//W3C//DTD XHTML 1.0 Transitional//EN" "http://www.w3.org/TR/xhtml1/DTD/xhtml1-transitional.dtd">
<html xmlns="http://www.w3.org/1999/xhtml">
  <head>
    <meta http-equiv="Content-Type" content="text/html; charset=utf-8"/>
    <title>Untitled</title>
  </head>
  <body>
    <p style="margin-top: 0px; margin-bottom: 0px; line-height: 1.15;">
      <span style="font-family: 'Arial'; font-style: Normal; font-weight: bold; font-size: 10pt;">Fixed header text</span>
      <span style="font-family: 'Arial'; font-style: Normal; font-weight: normal; font-size: 10pt;">
        ...
      </span>
    </p>
  </body>
</html>
</Custom>
```

After

```
<Custom><!--HTML--><!DOCTYPE html PUBLIC "-//W3C//DTD XHTML 1.0 Transitional//EN">
<html xmlns="http://www.w3.org/1999/xhtml"><head><meta http-equiv="Content-Type" content="text/html; charset=utf-8" /><title>Untitled</title></head><body><p style="margin-top: 0px; margin-bottom: 0px; line-height: 1.15;">
  <span style="font-family: 'Arial'; font-style: Normal; font-weight: bold; font-size: 10pt;">Fixed header text</span>
  <span style="font-family: 'Arial'; font-style: Normal; font-weight: normal; font-size: 10pt;">
    ...
  </span>
</p>
</body>
</html>
</Custom>
```

- Text containing XML unsafe characters (e.g. '<', '>') will now be escaped correctly.

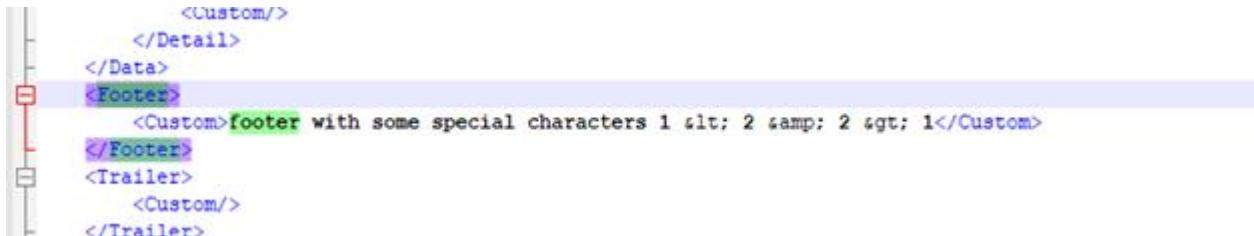
Before



A screenshot of a XML editor interface. A tree view on the left shows nodes for Data, Footer, Detail, and ResultReport. The Footer node has a child Custom tag. Inside the Custom tag, there is a string of text: "footer with some special characters 1 < 2 & 2> 1". A yellow box highlights this text, and a red error message "Whitespace is not allowed at this location." is displayed below it.

```
</Data>
<Footer>
  <Custom>footer with some special characters 1 < 2 & 2> 1</Custom>
  Whitespace is not allowed at this location.
</Footer>
<Detail>
<ResultReport>
```

After



A screenshot of the same XML editor after the fix. The tree view remains the same. The Custom tag now contains the escaped text: "<Custom>footer with some special characters 1 < 2 & 2 > 1</Custom>". The yellow highlight and error message are no longer present.

```
</Data>
<Footer>
  <Custom>footer with some special characters 1 &lt; 2 &amp; 2 &gt; 1</Custom>
</Footer>
<Detail>
<ResultReport>
```

Do not refresh Genetic exam screen when updating Genetic exam specific fields (GLIMS_GENX_LAB-00843)

Issue

Whenever the **Desired date**, **Urgency**, **Family** or **Comment** fields were updated in the Genetic exam screen, the whole screen refreshed itself completely. As a result, it took too long to complete those fields.

Solution

This issue, which occurred since GLIMS 9.9, has been corrected.

The fields/panes are refreshed instead of the whole screen.

Support for changing the object of a genetics order (GLIMS_GENX_LAB-00904)

Issue

Some results of an order for which the object had been changed were still linked to the old object. This could lead to errors like "No locus result found with id ..." when trying to access the results of that genetics order.

Scenario

1. Create a Genetics order.
2. Add a variant result to the order.
3. Send an object change object through communication.

Note

- This has to be sent from a reliable channel.
- The 'ForceUpdateObject' command needs to be added to the message.

=> The order is linked to the new Object but the variant result is still linked to the old object.

This issue, which occurred since GLIMS 9.9, has been corrected.

Genetics REST: aminoAcidChange field no longer required in Variant JSON + support for automatic gene region creation for sequence variants (GLIMS_GENX_LAB-00936)

Issues

1. The J_GENX_RI translator gives an error when the aminoAcidChange field is not specified in the input field as it is marked as a mandatory field.
2. When a sequence variant is created via the REST service, GLIMS passes the name of the locus. However, certain customers define their own gene regions on top of the ones that GLIMS imported via HGNC. As a result, it is possible that the locus does not exist and GLIMS returns an error.

Solution

These issues, which occurred since GLIMS 9.9.0, have been corrected:

1. The aminoAcidChange field is now removed from the list of mandatory fields, and not specifying the field will no longer result in a JSON import error.
2. GLIMS will now check to see if the locus name corresponds to a gene region. If this is the case, GLIMS will try to create that gene region on the fly.

Note

Loci of type 'Gene region' must adhere to the following naming format:
"Gene:GeneRegionTypeNumber"

E.g.: CFTR:Intron1, BRCA1:Exon3

GeneRegionType is one of the following entries (case sensitive!):

- Exon
- Intron
- 5'UTR
- 3'UTR
- Amplicon

If the user specifies a wrong GeneRegionType, an error message is shown and the variant is not created/updated.

Ask for justification if a validated result is updated with a result code (GLIMS_GENX_LAB-00939)

Issue

Validated results could be updated with a result code without any validation, which was a potential risk.

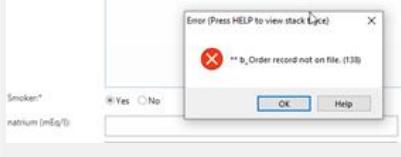
Scenario

1. Open a Genetic result screen with one or more validated rich text results.
2. Press CTRL+F on the result and select a result code.
=> The result code was saved, but no justification was asked, and the status of the result was still validated.

Solution

This issue, which occurred since GLIMS 9.9, has been corrected.

- This was an issue for:
 - Rich text results
 - Results that were configured to allow multiple result codes
- The result codes of numeric result properties will never be expanded (existing behaviour).
- Consult registration: visual change for numeric properties that are configured as strict:

Strict numeric properties in the consult registration	Behaviour before	Behaviour after
Enter result codes	An error is shown. 	The value is expanded. <ul style="list-style-type: none">• If the expanded value is numeric, the value is inserted.• If the expanded value is not numeric, the field is reset to '?' (*)
Enter field	The expected format is shown. natrium (mEq/l): 	The format is not shown. natrium (mEq/l): 

Fixed issues regarding image results (GLIMS_GENX_LAB-00952)

Issues

- The behaviour of an image result was different in the genetic result screen than in the advanced work list screen.
- The user was unable to open PDFs linked to an image result.

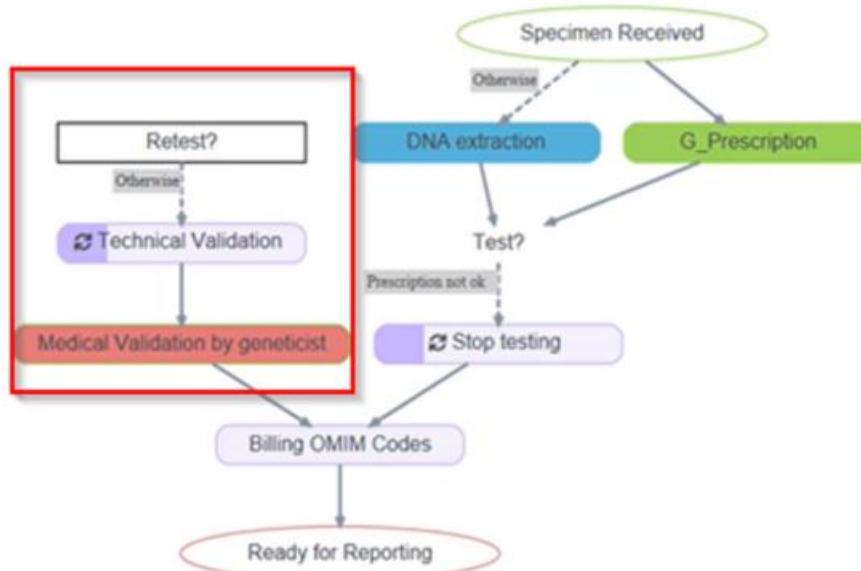
Solution

These issues, which occurred since GLIMS 9.9, have been corrected:

- Pressing F6 in the **Value** field of an image result in the advanced work list screen will now open the image viewer.
- The image viewer now includes a **Select** button that allows the user to select a file from the file system.
- In case a PDF is linked, the **Open** button in the image viewer is now also enabled to allow the user to open a PDF with the file system.

Approach plan: deleting a certain path resulted in an error + certain paths were no longer linked (GLIMS_GENX_LAB-00959)

Errors were shown during the execution of an approach plan, and certain paths were no longer linked, as shown in the image below:



This issue, which occurred since GLIMS 9.9.0, has been corrected.

Keep sorting in Work list action grid when selecting rows via check box (GLIMS_GENX_LAB-00967)

When the user had selected a column to sort on in the action grid of the Work list screen and a new action was selected upon clicking on its check box, the sorting was reverted to the default sorting.

This issue, which occurred since GLIMS 9.9.0, has been corrected.

Avoid variant records without actual sequence variant during sequence variant creation (GLIMS_GENX_LAB-00974)

Issue

When inserting a variant result in the result screen for a hybrid gene 'CFHR1|CFHR3', an invalid handle error appeared. The same error occurred when opening the result screen afterwards.

This error occurred due to a bug which caused a variant to be saved without an actual sequence variant. When trying to create a sequence variant with existing cDNA + protein change combination, the user got an error like '** SequenceVariant already exists with cDNA change "deletion" Amino acid change "p.0". (132)'.

When the user clicked **OK**, the creation of the sequence variant was reverted. However, the variant remained created and stored in the database.

Solution

This issue, which occurred since GLIMS 9.9.6, has been corrected.

When creating a sequence variant with an existing combination of cDNA change and amino acid change, the user receives a warning message and the variant is not created.

Example

Sequence Variant with provided combination of cDNA: 'abc' and Protein (Amino Acid) Change: 'def' already exists!

Avoid the creation of approach activity actions that are not linked to an approach activity ([GLIMS_GENX_LAB-00978](#))

This modification avoids that, during approach execution, an approach activity is started without first checking the transition (whether or not it evaluates to FALSE). Previously, this resulted in the creation of approach activity actions that ended up without a linked activity because the activity was deleted.

This issue, which occurred since 9.9.0, has been corrected.

Fixed crash when right-clicking on Approach activity action editor ([MATE-07272](#))

When right-clicking on the Approach activity action editor, GLIMS could crash due to the error "Encountered an input-blocking statement while executing a user-defined function or non-void method: 'TableGetSubtypeInfo' that is invalid within the current runtime context. (2780)".

No error message was displayed and GLIMS returned to the login screen.

This issue has been corrected.

Logistics Manager

Duration time was not shown in Duration column of Deliver packages screen (MATE-07264)

This modification fixes the issue where the duration time was not shown in the **Duration** column of the Deliver packages screen.

The issue has been corrected.

Microbiology

New report value was not recalculated after changing confirmed antibiotic result (GLIMS_BAC-01671)

Introduction

A problem was reported where the report value of an antibiotic result was not set, when after **Report value was changed after confirmation** was ticked, the result was confirmed.

This modification ensures that the **Antibiotic result** field **Report value was changed after confirmation** is no longer set when an antibiotic result is in status **Available** in order to avoid that, when the antibiotic result is confirmed, the RIS report value is not set.

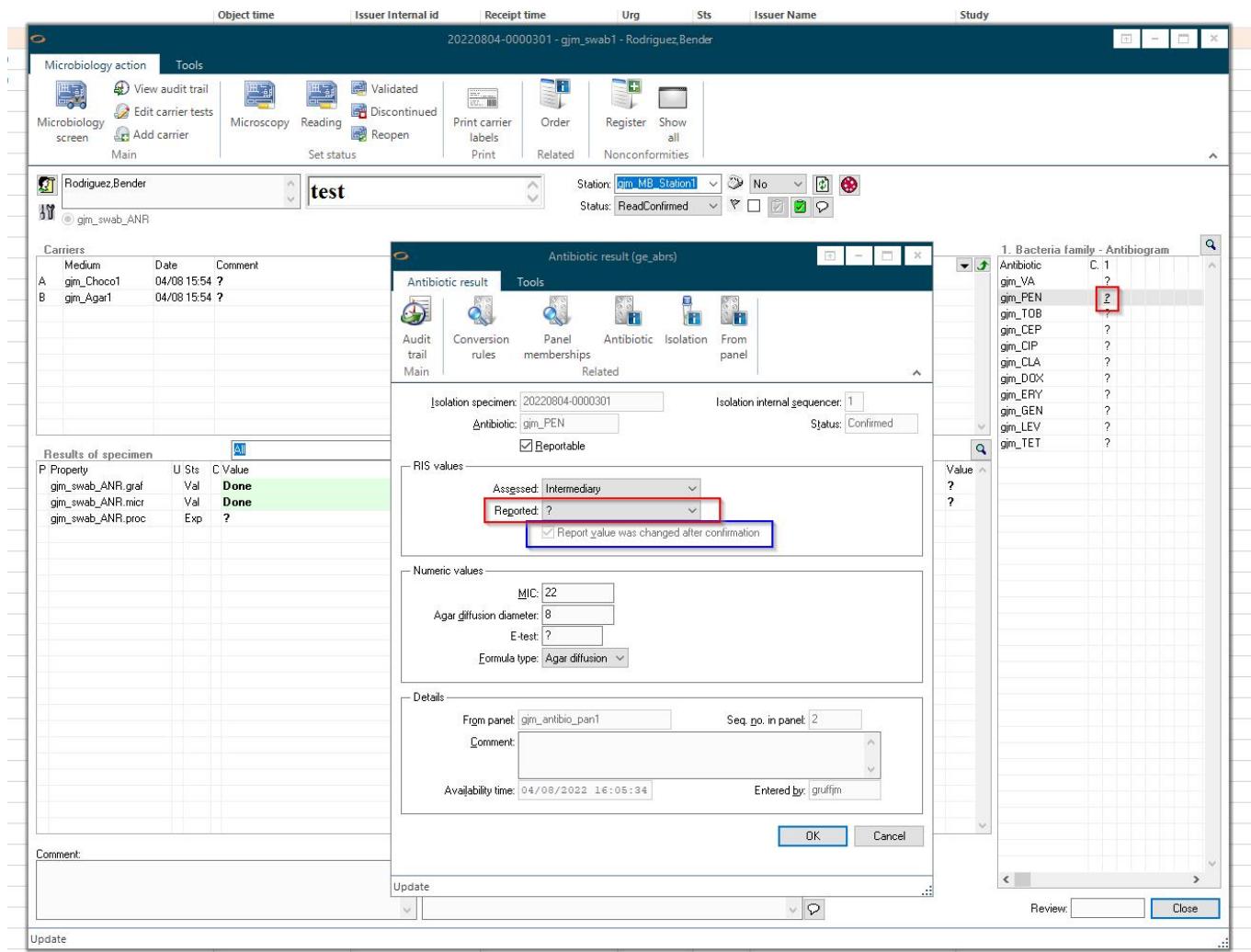
This problem, which occurred since GLIMS 9.8, has been corrected.

Scenario

1. Create an order with a MB action, carrier, isolation and antibiogram.
2. In the microbiology screen, add a MIC value to the Antibiotic result. It will display as "R".
3. Set the MB action status to ReadConfirmed or higher.
4. Open the editor of the Antibiotic result. Add an Agar diffusion value and change the Formula type.

The screenshot shows the GLIMS Microbiology application interface. The main window is titled 'Antibiotic result (ge_abrs)'. The top bar includes tabs for 'Antibiotic result' and 'Tools', along with various icons for audit trail, conversion rules, panel memberships, antibiotic, isolation, and from panel. Below the tabs, there are fields for 'Isolation specimen' (20220804-0000301), 'Antibiotic' (gin_PEN), and 'Status' (Available). A checkbox labeled 'Reportable' is checked. Under 'RIS values', the 'Assessed' dropdown is set to 'Intermediary' and the 'Reported' dropdown has a dropdown arrow. A checked checkbox labeled 'Report value was changed after confirmation' is highlighted with a blue border. Below this, there are numeric value fields for 'MIC' (22), 'Agar diffusion diameter' (8), and 'E-test' (?), and a dropdown for 'Formula type' (Agar diffusion). The right side of the screen displays a '1. Bacteria family - Antibiogram' grid with columns for Antibiotic and C. 1, showing several entries with question marks. At the bottom, there are 'OK' and 'Cancel' buttons, and a large 'Update' button at the very bottom left.

5. The Antibiotic result becomes "I", the status becomes "Available", and the "Report value was changed after confirmation" field remains set.



6. The MB action status is demoted to ReReading.

7. Confirm the MB action.

8. The antibiotic result status is Confirmed and the RIS report value is not set.

Automatically generated carrier tests should not have their dates filled in when a carrier is automatically added (GLIMS_BAC-01741)

Issues

- When a carrier was automatically added, the automatically generated carrier tests had their dates filled in while the dates should have been empty.
- It was possible to add a new carrier test value even when the previous value was not filled in yet. The date would then be set for the next day.
- There was an issue where carrier tests with different medium test templates would appear on the same line.

Configuration

- Configure two mediums: one with and one without a medium test and a medium test usage.

Solution

These issues, which occurred since GLIMS 9.8, have been corrected:

- Carrier tests that are automatically added will have an empty date, whereas carrier tests that are manually added will have today's date.
- If the previous value is empty, a warning will be displayed when the user tries to add a new carrier test value.
- Carrier tests with different medium test templates will not appear on the same line.

Fixed error during Isolation.DetermineInfection (GLIMS_BAC-01792)

This modification fixes the error that occurred during the Isolation.DetermineInfection function.

Example

Error while updating infections/cross infections/hosp.infections toward 'XXXX, X X (M), 05-02-1964 ': ifc_HospitalInfection changed by someone else.

The issue occurred since GLIMS 9.8.

Error when changing external comment in a MB action in status 'ReadConfirmed' or higher (GLIMS_BAC-01799)

Issue

An error occurred when the user changed the external comment in a MB action in status **ReadConfirmed** or higher:
"Invalid use of browse method SCREEN-VALUE. There are no selected rows. (382)"

Scenario

1. Create a microbiology order.
2. Open the MB work screen.
3. Add an isolation.
4. Add an appraisal to the isolation.
5. Set the status of the MB action to **ReadConfirmed** or higher.
6. Add an external comment to the isolation.

Note

Do not move the cursor out of the **E.Comm** field.

7. Press F6 to open the dynamic text editor.
8. Click **OK** to save and close the dynamic text editor.
=> The MB action status will be set back to **ReReading**. An error occurs and any changes to the external comment in the dynamic text editor will not be saved.

This issue, which occurred since GLIMS 9.8, has been corrected.

Show all 15 characters of antibiotic result mnemonic in antibiogram browsers in MB work screen (GLIMS_BAC-01803)

Only 12 characters of a 15-character mnemonic were shown in the antibiogram browser and the zoomed antibiogram screen in the MB work screen.

This issue, which occurred since GLIMS 9.8, has been corrected.

'Review date' in Microbiology action query did not function properly (GLIMS_BAC-01810)

Issue

This modification fixes the issue where the **Review date** field in the Microbiology action query did not function properly.

Scenario

1. Go to **Start > Microbiology > Browse actions.**
2. Leave the **Review date** field empty.
->The query returns x records.
3. Set the **Review date** field to 'Today'.
-> The query returns y records.
4. Leave the **Review date** field empty again.
-> The query returns y records instead of the x records as in step 2.

It was impossible to run commands using the Microbiology query on the Carrier table (GLIMS_BAC-01814)

This modification fixes the issue where it was impossible to run commands using the Microbiology query on the Carrier table.

Modified default status range in Microbiology action query (GLIMS_BAC-01818)

Issue

When selecting a **Range** for the **Status** in the Microbiology action query, the default status range was from **Initial** to **Closed**. However, this slowed down the query unnecessarily.

Solution

This issue, which occurred since GLIMS 9.8, has been corrected.

From now on, the default status range in the Microbiology action query is from **Initial** to **Ready**.

Microbiology procedures of different types linked to the same specimen were shown together in radio button list of microbiology work screen (GLIMS_BAC-01831)

When a specimen has multiple microbiology procedures of different types e.g. Germ and Virus, they were all shown together in the radio button list of the microbiology work screen.

This issue, which occurred since GLIMS 9.6, has been corrected.

Fixed errors on configuration of tools for microbiology screen synchronisation (GLIMS_MBSCRS-00002)

A problem was reported where errors were shown when configuring tools using the function RunProcedure and a function parameter set that refers to the function MicrobiologyScreenSync for the synchronisation of the microbiology screen.

The problem, which occurred since GLIMS 9.9, has been corrected.

Open .NET browser when inserting carrier in MB work screen (MATE-07178)

Inserting a carrier in the Microbiology work screen will now open a .NET browser as a work around for an OpenEdge bug.

Miscellaneous

Upgrade to V12 of TAJ social security web service (Hungary) (GLIMS-13528)

This modification upgrades the TAJ social security web service from V10 to V12.

Note

The TAJ V12 WSDL file must be entered in the own organization. Calling the V12 web service with the old WSDL file will result in errors such as:

- Secure Socket Layer (SSL) failure. error code 0: Unknown SSL error (9318).
- Connection failure for host jogviszony.neak.gov.hu port 443 transport HTTPS. (9407).
- Error sending Web Service Request: Fatal Error: connect operation failed (WinSock reported error=0) (11767).

Unix support

The TAJ interface can also be run on a Unix / Linux machine. To this end, a new site attribute, '_TajWSDLFileUnix', should be created on the Organization table that contains the path to the WSDL file on the Unix server.

Take into account HTML height for all browsers with externalization text on top of the browser (GLIMS-13575)

An issue was reported where the height of the externalization text on top of a browser did not always take the HTML height into account.

This issue, which occurred since GLIMS 9.0, has been corrected.

Diagnosis outline was not responding when using AppServer (GLIMS-13579)

This modification fixes the issue where the **Diagnosis outline** was not responding when using AppServer.

The issue occurred since GLIMS 9.9.

Memory leak when using tasks in the Task scheduler (GLIMS-13694)

This modification fixes the memory leak that occurred when using tasks in the Task scheduler.

Invalid handle error when closing a classic browser after fast-positioning (MATE-07196)

The user sometimes got an error message "Invalid handle. Not initialized or points to a deleted object. (3135)" when closing a classic browser after fast-positioning.

This issue has been corrected.

Insert dynamic text should insert formatted HTML instead of plain text where applicable (MATE-07216)

This modification fixes the issue where text was not inserted in the correct format when using the ribbon function **Dynamic text** in the **Insert** tab of the rich text editor.

This issue occurred since GLIMS 9.9.1 (MATE-06367).

Incorrect display of rich text when copy-pasting HTML text with diacritic characters in rich text editor (MATE-07220)

When copy-pasting HTML text with diacritic characters into a rich text editor, the characters were not displayed correctly in GLIMS.

This issue has been corrected.

Error when logging in with LDAP if logging was enabled (MATE-07318)

When logging in using LDAP, logging is disabled temporarily to avoid writing passwords to the clientlog.

Afterwards, logging was enabled again, but with a different logging level than before LDAP login. As a result, the clientlog, for example, only contained logging with level 1 instead of everything up to level 4.

This issue has been corrected.

Error when importing file via a command (MATE-07348)

When importing a file via a command, the user got the error "Cannot write message to log, as there is no log open (14332)" because GLIMS tried to write in a log file when no log file was specified.

This issue has been corrected.

Fix for System.ObjectDisposedException error that prevented users from logging in after a period of inactivity (MATE-07474)

This modification fixes the issue where the user got the error "System.ObjectDisposedException: Cannot access a disposed object." that prevented them from logging in after a period of inactivity.

Order entry

Fixed 'Request via root specimen' for panel requests during order entry (GLIMS-12764)

An issue was reported where the order entry option Request via root specimen was not applied correctly for panels. During order entry, requesting a panel without a root material and without first requesting a specimen resulted in the panel being added to the order despite the lack of a root specimen.

This issue, which occurred since GLIMS 9.8, has been corrected.

Material variable choice value was incorrectly used as discriminator (GLIMS-13498)

Issue

When entering a **Request** in the Order entry screen, the user can use the format <Request><Space><Discriminator OR Material variable choice>. However, when the value entered after the space was used for the material variable choice, GLIMS used the value for both the discriminator and the material variable choice.

Solution

This issue, which occurred since GLIMS 9.9, has been corrected.

GLIMS will now use the value entered after the space for either the discriminator OR the material variable choice, but not both.

Incorrect scheduling when adding properties to an existing order (GLIMS-13519)

Issue

When multiple requests (at least one request directly linked to the root specimen, and at least one that reuses an existing specimen) were added to an existing order, the requests added to the existing specimen were assigned the wrong root specimen.

Configuration

- Properties for secondary material (K bld LH3 S X).

Vlg Input	A	Procedure	Code	Vlg A	Vlg Output	A
?K_bld_LH3_S_X	X	K_DXC700_AN_LH3_bld	?	?X	?K_Ureum_EC_lhp	X
		K_DXC700_AN_NAF_bld	?	?X	?K_Urinezuur_EC_lhp	X
		K_DXC700_AN_SST4_bld	?	?X		
		K_DXC700_AN_UP_urine	?	?X		
		K_DXC700_AN_UV_urine	?	?X		
		K_DXC700_ALH3_S_BLD	?	?X		

- Properties with primary material (K bld LH3 P X) as procedure input.

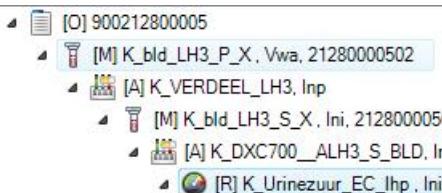
Station DXC700AU						
Vlg Input	A	Procedure	Code	Vlg A	Vlg Output	A
?K_bld_LH3_P_X	X	K_DXC700_AN_LH3_bld	?	?X	10_K_ALAT_EC_Ihp	X
		K_DXC700_AN_NAF_bld	?	?X	20_K_Albumine_EC_Ihp	X
		K_DXC700_AN_SST4_bld	?	?X	30_K_ALFO_EC_Ihp	X
		K_DXC700_AN_UP_urine	?	?X	40_K_Amylase_EC_Ihp	X
		K_DXC700_AN_UV_urine	?	?X	50_K_ASAT_EC_Ihp	X
		K_DXC700_ALH3_S_BLD	?	?X	60_K_Bili-EC_Ihp	X
					70_K_Bili-T_EC_Ihp	X

- Connection between primary and secondary materials.

Station Verdeelstation			
Vlg Input	A	Procedure	Code
?K_bld_LH3_P_X	X	K_VERDEEL_LH3	?
		K_VERDEEL_VD_UV_P	?
			?X
			?X
Vlg Output	A		
?K_bld_LH3_S_X	X		

Scenario

1. Request a property for a secondary material.



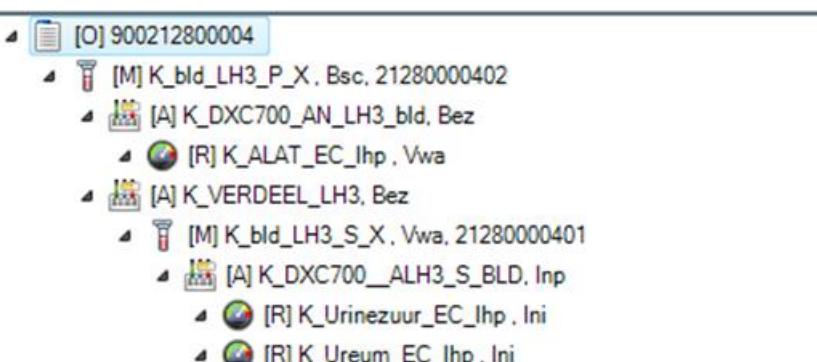
-> The result browser shows the correct root specimen id (21280000502) for the test result.

Moedermonster (Interne id)	Werkmonster (Interne id)	Bepaling	Waarde	Vlaggen	Aanv.	Status	Ref.waarde	Inleiding
21280000502	21280000501	Urinezuur	?	0	0	0	0	0

2. Add requests for another property of the secondary material and simultaneously for a property of the primary material.

Tp	Mnemonic	Beschrijving
R	K_ALAT_EC_Ihp	ALAT [GPT]
R	K_Ureum_EC_Ihp	Ureum
R	K_Urinezuur_EC_Ihp	Urinezuur

-> The outline looks normal, but the result browser shows the wrong root specimen id for the added test ("Ureum"). The parent specimen id should be 21280000402, not 21280000401.



Solution

This issue, which occurred since GLIMS 9.9, has been corrected.

Correspondent's Mobile phone and Email added to Order entry info window, when available (GLIMS-13643)

This modification shows the correspondent's **Mobile phone** and **Email** in the Order entry info window, if they are available.

Object time confirmation screen could not be cancelled (GLIMS-13776)

The object time confirmation screen of an order could not be cancelled because the lowest object time was always set, regardless of whether the user clicked **OK** or **Cancel**.

This issue, which occurred since GLIMS 9.6.6, has been corrected.

'Before creation or update' trigger was not executed when an existing order was updated via an electronic order message (GLIMS-13807)

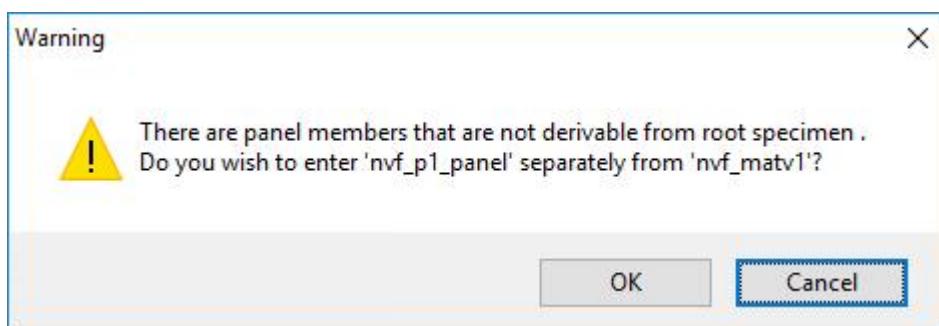
This modification fixes the issue where the Before creation or update trigger was not executed when an existing order was updated via an electronic order message.

This issue, which occurred since GLIMS 9.3, has been corrected.

Incorrect action scheduling when requesting panel with billing mark (GLIMS-13836)

A problem was reported where the derivability check of a panel member from a root specimen did not work correctly, when a panel was requested with a billing mark.

The problem, which occurred since GLIMS 9.8, has been fixed. When requesting a panel with members not derivable from the root specimen and specifying a billing mark for the panel request, a message appears.



Specimen variables pop-up appeared too often when 'Auto prompt on extra info' was enabled (GLIMS-13851)

This modification fixes the issue where the Specimen variables pop-up was incorrectly shown twice for the same specimen in order entry when Auto prompt on extra info was enabled.

The issue occurred since GLIMS 9.8.

Incorrect sampling time and result object time when using time discriminator with absolute and relative component (GLIMS-13856)

The sampling time and the result object time were incorrect when a time discriminator with an absolute and a relative component was used.

Example

A result requested with time discriminator 10:00+1d had an object time of 10:00 two days later rather than one day later.

This issue, which occurred since GLIMS 9.8, has been corrected.

Hide microbiology procedures in the order entry request grid when they are part of a panel (GLIMS-13924)

Microbiology procedures that are part of a panel are given their own request code. As a result, the request was shown separately from the panel in the order entry request grid. To avoid confusion, these microbiology procedures are now hidden in the request grid unless the **Details** tick box is ticked.

This issue, which occurred since GLIMS 9.9.6, has been corrected.

Added specimen sequence numbers to root specimens in order entry request grid (GLIMS-13927)

Issue

In the Order entry screen, the specimens for the order have a sequence number. This sequence number is shown in both the **Specimen** spinner and the specimen grid, but is not visible in the request grid.

Solution

To increase user friendliness, the same sequence number is now added next to the specimen request codes in the request grid. This way, users can easily distinguish multiple identical specimens in the same order.

The screenshot shows the GLIMS Order entry interface. At the top, there are two search bars: 'Request (5):' and 'Specimen (2):'. Below these are two grids:

- Request (5) Grid:** Shows five entries. The first two entries are highlighted with yellow boxes:
 - Tp:** S(2) Mnemonic: nrf_matv1 Description: nrf_matv1 Discr.: Time: 15:37 Date: 28/06/2022 Urg.: ?
 - Tp:** S(1) Mnemonic: nvp_micro_mat1 Description: Microbiology material Discr.: Time: 15:37 Date: 28/06/2022 Urg.: ?
- Specimen (2) Grid:** Shows two entries:
 - Mnemonic: nvp_micro_mat1-nvp_mic Description: Micro procedure Time: 15:37 Date: 28/06/2022 Urg.: ?
 - Mnemonic: + nvp_micro_panel2 Description: nvp_micro_panel2 Time: 15:37 Date: 28/06/2022 Urg.: ?

Order review

Order review locking did not take property classification into account (GLIMS-13604)

When multiple users performed order review (for validation) at the same time but used different property classifications, the visited orders by user A were not shown to user B (no property classification dependency), because the orders were locked by user A who was validating tests on the order.

This issue, which occurred since GLIMS 9.9.0 (and GLIMS 9.8.10), has been corrected.

Orders

Change of object time on a pending order with auto prompt results was not correct (GLIMS-13633)

When changing the object time of a pending order, the object time was not changed for auto prompt properties.

It was possible that 2 results were created (one on the previous time and one on the new time).

In addition, when the pending order contained specimens, the specimen internal id was not updated with the new order internal id based id.

This issue, which occurred since GLIMS 9.6.0, has been corrected.

Order completion time and order log were wrong when discontinuing an unvalidated result (GLIMS-13710)

When discontinuing the last unvalidated result of an order, the order is completed and a log entry is added. However, this log entry contained the wrong time stamp as it was taken from the order completion time (maximum time of the validated results) and did not appear in the correct chronological order in the audit trail.

This issue, which occurred since GLIMS 9.8, has been corrected.

Add scrollbars in Order to-do items Review screen (GLIMS-13736)

The Order to-do items **Review** screen had no scrollbars, so not all data could be shown if the header text contained many lines.

This issue, which occurred since GLIMS 9.8.0, has been corrected.

Prevent invalid result urgency value (0) during request activation (GLIMS-14012)

In a certain scenario related to discontinue-repeat, the results of an order got an invalid urgency value of 0. As a result, errors were raised when a report was generated for an order that contained such results.

This issue, which occurred since GLIMS 9.5, has been corrected.

Fix German version of order log (GLIMS-14028)

A problem was detected where the German version of the OrderEventValueList contained only 24 entries, whereas it contained 25 entries in all other languages. This caused an error message to appear, when the order log was opened.



Entry 25 is outside the range of list
Eingegeben,Vervollständigt,Erweitert,Abgerechnet,Geschlossen,Wieder
geöffnet,Archiviert,Unterbrochen,Eingefroren,Evaluiert,Objektzeit
geändert,Aktualisiert,Überprüft,Genehmigt,Nicht
genehmigt,Vorgesehen,Teilweise,Probezeit geändert,In Status
Vorgesehen zurück befördert,Aktiviert,Löschen von
Anforderungen,Befund hinzugefügt,Abrechnungsmarkierung
geändert,Nicht abgerechnet. (560)

OK

This problem has been corrected.

Urgency monitor is slow when a department filter is specified (GLIMS_Moni-00017)

This modification reapplies the correction that had been implemented in GLIMS 9.9.6 (GLIMS_MONI-00013) but was undone by another modification (GLIMS-13131 in 9.9.6).

Pathology

"Validate All" on Pathology exam should not validate results that are not visible in the Pathology work screen (GLIMS_Path-00383)

Issue

[GLIMS_Path_00379](#) introduced the functionality to validate all the results that are visible in the Pathology work screen. However, results that were invisible to the user were also validated.

Solution

This issue, which occurred since GLIMS 9.9, has been corrected: only results that are visible in the Pathology work screen are validated.

Phone list

"Only orders with Results" field was always visible when opening the PhoneList query browser via the Actual function parameter set Setup of the configured tool (GLIMS-13356)

When opening the PhoneList query browser via the Actual function parameter set Setup of the configured tool, the Only orders with Results field was always visible. It should only be visible when opening the screen via the [View type](#) "Outline".

In addition, the [View type](#) did not work as a pre-parameter and was always saved as a user preference.

These issues, which occurred since GLIMS 8, have been corrected.

Quality control

Avoid excessive growth of log file when executing 'Calculate median' in batch (GLIMS-13449)

When assessment methods have not been configured properly, and the context function **Calculate median** is executed in batch mode (e.g. while running a task), entries are added to the log file without timestamp about this incorrect configuration. However, this caused the log file to grow excessively. To avoid this excessive growth, these log entries are now no longer added.

Default file filter in file dialog of QC results import does not work as expected (GLIMS_QC-00902)

Issue

An issue was detected where the file dialog of the QC results import showed no files when the filter was set to **All files (*.*)**.

Scenario

1. Right-click on a QC population and choose **Import results**.
2. Double click on the **File name** field.
3. -> The file selector is opened with file filter **All files (*.*)** selected.
4. Navigate to a location where you know there is a txt file available.
5. -> No txt files are shown.
6. Change the filter to something else (e.g. **HTML files**).
7. Change the filter back to **All files (*.*)**.
8. -> The txt file is now visible.

This issue, which occurred since GLIMS 9, has been corrected. The file dialog now shows all files in the active directory (if any).

Support for resetting a Moving average QC population (GLIMS_QC-01011)

Issue

When using the moving average as a continuous analytical quality control tool, situations can arise where certain alarms need to be handled. If an alarm on the moving average was raised and handled (regardless of whether the alarm was correct or not), an alarm should no longer be generated on the moving average. However, it takes several measurements before an average result value returns to its 'normal' area. As a result, an unwanted situation arises where undesired alarms are generated. It should therefore be possible to reset the moving average.

Solution

It is now possible to reset the moving average for patient results via the contextual menu function **Reset moving average** of the assessment method of a Moving average QC population.

The reset will be done in two steps:

1. All QC results of the moving average QC population that are more recent than the given start time will be deleted.
2. The moving average will be recalculated from the given start time. This might not trigger the creation of new QC results if the number of patient results is insufficient.

Note

For GLIMS 9.9.7, the customer needs to create a tool (with **Function mnemonic = RunProcedure**) and add it to the menu of the table AssessmentMethod. In the function parameter setup, the function **ResetMovingAverage** needs to be selected.

The screenshot displays a software application window with three main components:

- Top Left:** A context menu is open over a folder named "AssessmentMethod". The menu items include: &QC, &Show all..., &Add to procedure, &Calculate median, Calculate &moving average, Reset moving average (which is highlighted with a blue selection bar), C&opy, A&dvanced, &Go to..., &Log, &Runs, La&boratory device, Co&py prepar.
- Middle Left:** A dialog box titled "Option" is open under the "Tools" tab. It shows a toolbar with icons for "Table" and "Tool". Below the toolbar, there are tabs for "Main page" and "Site attr.". The "Site attr." tab is active, displaying settings for a tool:
 - Table: AssessmentMethod
 - Tooltip: **Reset**
 - Label: Reset moving average
 - TTY accelerator: ?
 - Windows accelerator: ?

At the bottom of the dialog are "OK" and "Cancel" buttons.
- Bottom Left:** Another dialog box titled "Tool" is open under the "Tools" tab. It shows a toolbar with icons for "Function" and "Table". Below the toolbar, there are tabs for "Main page" and "Site attr.". The "Site attr." tab is active, displaying more detailed settings for the "Reset" tool:
 - Mnemonic: **Reset**
 - Label: Reset moving average
 - Tooltip: (empty text area)
 - Small icon: ?
 - Large icon: ?
 - Table: AssessmentMethod
 - Function table: AssessmentMethod
 - Function mnemonic: RunProcedure
 - Function parameter set: ResetMA
 - Function path: (empty text area)
 - Skip setup

At the bottom of the dialog are "OK" and "Cancel" buttons.

Warning

When the Moving average QC population, and thus the assessment method, are **Unreliable**, it is very likely that new patient results are registered. All of these patient results will be marked with the **Q** flag.

Resetting the Moving average QC population will NOT influence this flag. It is up to the user to take the necessary actions to process the flagged patient results.

Invalid handle error when closing QC evaluation period (GLIMS_QC-01012)

When a user created a tool on the table gp_Site to close a QC evaluation period, an invalid handle error was shown when starting the menu item that is linked to the configured tool.

This issue, which occurred since GLIMS 9.5.0, has been corrected.

Align behaviour of classic and advanced work list editor (GLIMS_QC-01020)

When the user entered a QC result in the advanced work list editor that was outside the boundaries of the QC population, the user wasn't prompted to accept the QC result. However, in the classic work list editor, the user can enter a comment and decide if the QC result should be accepted or not.

This issue, which occurred since GLIMS 9.9, has been corrected. The behaviour of the classic and advanced work list editor is now aligned.

Error when changing QC result value in advanced work list editor (GLIMS_QC-01033)

When changing the value of an available QC result in the advanced work list editor, the old result was discontinued and a new QC result was added. This changed the number of results of the QC population and caused the error "qcp_TotalCount updated by someone else".

This issue, which occurred since GLIMS 9.9, has been corrected.

Calculated values were not displayed correctly in QC populations browser (GLIMS_QC-01038)

An issue was reported where all QC populations in the QC populations browser displayed the same calculated values, such as **Bias (%)**, **Stand. Dev.**, **CV (%)**, ...

This issue, which occurred since GLIMS 9.9.0, has been corrected.

Allow Ctrl+F, double-click when modifying multiple results in incomplete results browser (GLIMS_QC-01039)

The user could no longer open the browser with choices and result codes by pressing Ctrl+F or double-clicking in the **Value** field of the Multi-result update screen when modifying multiple results in the incomplete results browser.

This issue, which occurred since GLIMS 9.8.16, has been corrected.

Statistical QC population values were calculated incorrectly (GLIMS_QC-01053)

This modification fixes the issue where the statistical QC population values, such as the mean and deviation, were calculated incorrectly.

This issue, which occurred since GLIMS 9.9, has been corrected.

Report Builder

Difference between standard and adaptive XML export of microbiology reports generated by GLIMS Report Builder service (GLIMS_ARep-00309)

Issue

There was a difference between the standard and the adaptive XML export of microbiology reports generated by the GLIMS Report Builder service:

Standard XML export	Adaptive XML export
A report with Minimal result status = "Validated" but with an action with a preliminary answer did NOT display the preliminary answer.	A report with Minimal result status = "Validated" but with an action with a preliminary answer did display the microbiology culture / reporting property with the preliminary negative answer.

Solution

This issue, which occurred since GLIMS 9.6, has been corrected: the preliminary negative answer is NOT displayed on either the standard or adaptive XML report when the minimal result status is not met.

Result discriminator was displayed both as Discriminator tag and as part of the Description tag for Report Builder XML reports (GLIMS_ARep-00321)

This modification fixes the issue where the result discriminator was displayed both as Discriminator tag and as part of the Description tag for Report Builder XML reports.

This issue, which occurred since GLIMS 9.8, has been corrected: the result discriminator is only shown as Discriminator tag.

Strip ASCII codes incompatible with XML specification (GLIMS_ARep-00325)

This modification ensures consistent behaviour in the application during XML file generation via a GLIMS Report Builder service and XML file parsing in order to avoid issues with ASCII codes with a decimal value below 32.

Support for Report Builder attached reports of file type 'RTF' (GLIMS_ARep-00332)

This modification allows the user to generate Glims Report Builder attached reports as file type 'RTF'.

Note

Only the Glims Report Builder generator will support attached reports of file type 'RTF'.

- If **Save as PDF** is enabled in the report template and RTF is selected, only PDFs will be generated.
- If **Save as PDF** is disabled and RTF is selected, RTF reports will be generated.

Note

For GLIMS 9.9.7, a manual conversion script, mcv_99_SetReportTemplateSaveAsPDF.r, is used to ensure all reports will continue to have the **Save as PDF** check box enabled by default for all report templates. The user can disable the check box afterwards and change the file type to RTF.

Update Jasper example template to make use of the HTML component (GLIMS_ARep-00337)

[MATE_JRBS-00112](#) extended the MIPS Report Builder library with a set of classes to render rich texts in HTML format on reports.

This modification, GLIMS_ARep-00337, updates the SingleOrderReport Jasper example template so that it makes use of the HTML component.

Support for Report Builder attached reports of file type 'RTF' (MATE-07280)

This modification adds support for Report Builder attached reports of file type 'RTF'.

For more information, see [GLIMS_ARep-00332](#).

Provide classes to render rich text on Report Builder reports (MATE_JRBS-00112)

For GLIMS Genetics, MIPS developed a rich text editor, which stores the data in HTML format. Naturally, such rich texts will also be included in result reports. Unfortunately, the JasperReports library has only limited support for printing HTML documents, lacking support for most notably tables and images.

This modification, MATE_JRBS-00112, extended the MIPS Report Builder library with a set of classes to render rich texts in HTML format on reports. The documentation provides the necessary background information, as well as a step-by-step guide on how to use these classes.

Report Builder did not apply all printer settings (MATE_RB-00236)

This modification fixes the issue where the Printer configuration settings **Media tray = Large capacity** and **Printer sides = Single-sided** were not passed correctly to the Report Builder service and were ignored.

Update the mips-reportbuilder library to version 1.9.2 (MATE_RB-00242)

The Report Builder component within the application has been updated to version 1.9.2. For more information, see [MATE_JRBS-00112](#).

Reports

E-mail reports generated in batch did not contain any results (GLIMS-13194)

An issue was reported where e-mail reports generated by a task scheduler service did not contain any results when access profile based shielding was enabled. The results were displayed if the reports were generated manually. This issue, which occurred since GLIMS 9.8, has been corrected.

Report incorrectly showed a negative answer (GLIMS-13413)

If a microbiology procedure with a microbiology action with an isolation in status 'ReadConfirmed' had negative answers set, the negative answer was displayed on the report rather than the empty result text ('To follow') set on the report template when generating a text report with minimal result status = **Validated**.

This issue, which occurred since GLIMS 9.8.0 (GLIMS_BAC-01127), has been corrected.

Reporting norms not correct for Lab - Lab results (GLIMS-13624)

Result reporting norms sent by Lab - Lab communication were not shown on reports. Instead, the norms of the property were reported.

This issue, which occurred since GLIMS 9.9, has been corrected.

Error when generating a blood product report after changing the printer (GLIMS-13686)

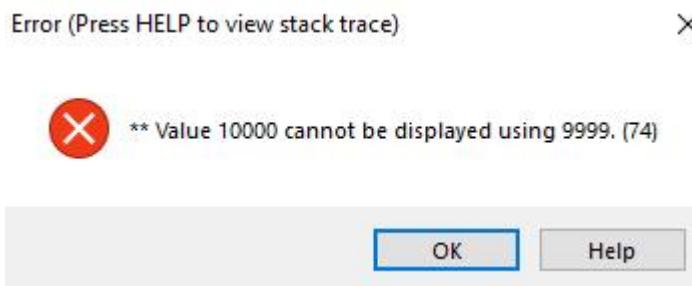
When changing the printer in the **Blood product report** screen and generating the report, an error occurred and GLIMS crashed.

This issue, which occurred since GLIMS 8.8.10, has been corrected.

Fixed reporting issue when referring to classification node with sequence number over 9999 (GLIMS-13811)

A problem was reported where an error occurred when the user wanted to generate an online report for an order containing a property linked to a property classification node with a sequence number higher than 9999 and that had **Repeat per specimen** ticked.

The following error message appeared: '** Value 10000 cannot be displayed using 9999. (74)'.



The problem, which occurred since GLIMS 8, has been corrected. Sequence numbers are now supported up to 6 digits.

Results were not always reported (GLIMS-13861)

This modification fixes the issue where results were not always reported due to the **Needs checking** flag of the report being set incorrectly.

The issue occurred since GLIMS 9.9.4.

Review endless page behaviour during report layout building (MATE-07374)

This modification restores the original solution to deal with endless pages during layout building as it was before MATE-06925 to avoid loss of the property classification node options **Page break before/Page break after**. The layout building is used for several flat reports used in non Jasper reports such as work lists, billing document printing, etc.

However, the original improvement of MATE-06925 regarding the length limitation is kept: avoid page skips after approximately 100 000 pages.

Results

Reusable result added via MISPL (.AddRequest) could not be reused (GLIMS-13536)

Issue

When a reusable result was added via MISPL (.AddRequest) during order entry, GLIMS did not ask the user to reuse the result.

Configuration

1. Create a property <prop1> with **Time (in days) that a result can be reused** ≥ 1 day.
2. Set the following order entry options:
 - **Allow to reuse results from previous orders** = YES.
 - **Allow to reuse specimens from previous orders** = YES.
 - **After creation or update** trigger MISPL that adds a request on property <prop2>:

Example

```
.AddRequest("<prop2>", ?, ?);  
RETURN TRUE;
```

Scenario

1. Create an order and request property <prop1>.
2. Create another order for the same object and request <prop2>.
=> GLIMS does not ask the user to reuse the result. A new result is created for order 2, whereas the result of order 1 should be reused.

This issue, which occurred since GLIMS 9.3.0, has been corrected.

Error when generating electronic reports after recalculating the result responsibles (GLIMS-13690)

Issue

An error occurred when generating electronic reports after recalculating the result responsibles.

Scenario

1. Login with a user.
2. Create an order with a request (e.g. WBC).
3. Enter a result.
4. Validate the result.
5. Create a report.
=> The report is generated.
6. Login with another user.
7. Update the result of the same order.
8. Validate the result.
9. Right-click on the order and choose **Recalculate result responsibles**.
10. Try to generate the report again.
=> The report generation failed.

This issue, which occurred since GLIMS 9.9, has been corrected.

Avoid truncation of long string results when selecting records via Tools tab (GLIMS-13743)

Issue

If the focus was on a cell of an updateable result browser that contained a long string result value that did not fit in the cell, the result value was truncated permanently when records were selected via the **Tools** tab.

Solution

This issue, which occurred since GLIMS 9.0, has been corrected.

The modification applies to the following result browsers:

- Order review browser
- Specimen review browser
- Confirm by action browser
- Station run result browser

Make sure that the raw value of results on numeric properties with an empty unit does not get a trailing space (GLIMS-13815)

When a result is created on a numeric property with an empty **Unit** (blank field, not '?'), the raw value of the result got a trailing space at the end.

This issue, which occurred since GLIMS 9.8.4/9.9.0, has been corrected.

Performance issue in Extended result query when filtering on Workplace and Classification (GLIMS-13894)

This modification fixes the issue where the Extended result query was slow when filtering on **Workplace** and **Classification**.

Security

User without update privileges should not be allowed to save a protected function parameter set (GLIMS-13540)

An issue was reported where a user without the necessary update privilege for the bt_ActualFunctionParameter table was still able to update a protected function parameter set via the **Save parameters** button when using the Process by identifier function.

This issue, which occurred since GLIMS 9.9, has been corrected. The **Save parameters** button in the **Process by identifier** screen is now disabled for users without the required privileges for the bt_ActualFunctionParameter table.

Fixed error in Users browser options in German GLIMS clients (MATE-07378)

Issue

When the user clicked on the Options button (**Enabled** = yes) in the **Users** browser (**Start > System management > Security > Users**), the following error appeared:

"** Input value: ja should be ja/nein. (87)"

The issue occurred due to a redundant space in the translation.

Solution

This issue, which occurred since GLIMS 9.9.6, has been corrected: the redundant space has been removed from the translation.

Specimens

Specimen AfterConfirm trigger called twice upon specimen availability confirmation (GLIMS-13376)

The specimen AfterConfirm trigger was called twice for the same specimen when confirming its availability.

This issue, which occurred since GLIMS 9.9, has been corrected.

Do not take into account results of sub specimens based on paired specimens for the calculation of the order lowest object time (GLIMS-13383)

Issue

Although the order lowest object time did not change, the order log showed a change of the order lowest object time from the current time to a time in the past (of the paired specimen) and back to the current time.

Configuration

- Create a procedure with a material input (MIPS_Mat8) and property output (MIPS_Prop8).
- Create a procedure with a material input (MIPS_Mat8) and material output (MIPS_Mat8_Sub).
- Create a procedure with a material input (MIPS_Mat8_Sub) and property output (MIPS_Prop8_Sub).
- Create a procedure with a material input (MIPS_Mat8_Sub) and property output (MIPS_Prop8_Sub2).

Scenario

1. Create a first order for a given person.
2. Request MIPS_Mat8 and MIPS_Prop8 for e.g. 01/07/2022 06:00.
3. Confirm the availability of the specimen.
4. Create a second order for the same person.
5. Request MIPS_Mat8 and MIPS_Prop8 for e.g. 14/07/2022 12:00.
6. Confirm the availability of the specimen.
7. Create a third order for the same person.
8. Request MIPS_Mat8 and MIPS_Prop8 for the current time.
9. Save the order.
10. Reopen the order.
11. Request the paired specimen of 14/07.
12. Request MIPS_Prop8_Sub on this paired specimen.
13. Save the order.
14. Reopen the order.
15. Add a request (**Right-click > Requests > Add request**) for MIPS_Prop8_Sub2 on the sub material MIPS_Mat8_Sub.
16. Save the order.
17. Reopen the order.
18. Request the paired specimen of 01/07.
19. Save the order.
20. Open the order log.

Solution

This issue, which occurred since GLIMS 9.6.0, has already been corrected through GLIMS-10999 (9.9.1) and GLIMS-13090 (9.9.6).

Fixed 'Cycle detected in procedure' error during specimen confirmation (GLIMS-13570)

Issue

This modification fixes the "Cycle detected in procedure" error that occurred during specimen confirmation and prevented the user from changing the specimen status to **Available**.

Configuration

- Material with minimal required volume and maximal volume.
- Three properties A, B, and C.
- Procedure with the material as input and the three properties as output.
- AddRequest function on the second property output.

Example

```
if .Order().IsRequested("2109-1011A", FALSE) then  
    .SpecimenInput().Specimen.AddRequest("2109-1011C", FALSE, ?);  
endif;
```

Scenario

1. Request property A and B in order entry.
2. Confirm the availability of the specimen.

Selecting a paired specimen during order entry was slow (GLIMS-13608)

This modification fixes the issue where it took too long for the Specimen browser to open when selecting a paired specimen during order entry.

Incorrect specimen status when specimen was scanned in a non-executing department (GLIMS-13649)

Issue

A specimen was scanned in department A and reached status **Available** although the Confirm specimen on scan field was set to 'Per user department'. As a result, technicians in the executing department B could assume that the specimen was already in the lab when it was not.

Solution

This issue, which occurred since GLIMS 9.9, has been corrected:

- When the **Confirm specimen on scan** field is set to 'Always', the specimen becomes **Available** regardless of the department/lab.
- When the **Confirm specimen on scan** field is set to 'Per user department' or 'Per user laboratory site', the specimen should NOT become **Available** when scanned in another department/lab.

"Cycle in procedure calls" error after confirming the availability of a specimen (GLIMS-13657)

Issue

A "Cycle in procedure calls" error occurred when confirming the availability of a specimen.

Configuration

- Material M1
- Properties P1 and P2
- Availability trigger of P1:
 - RETURN .CascadeRequest("P2");

- Procedure PC1:
 - Inputmaterial M1, Minimal size 50
 - Property output P1, Consumption 50, Value: Return "1";
- Procedure PC2:
 - Inputmaterial M1
 - Property output P2, Consumption 20

Scenario

1. Request property P1 in order entry and create the order.
2. Open the Specimens of order browser for the new order.
3. Confirm the availability of the specimen.
=> A "cycle in procedure calls" error occurred.

This issue, which occurred since GLIMS 9.9, has been corrected.

Specimen review screen updated result value with '*' after adding comment (GLIMS-13698)

The Specimen review screen shows a '*' in the **Value** cell to indicate that there is a comment. However, in some cases, GLIMS considered the '*' as part of the result value and the result value was saved with the '*'.

This issue, which occurred since GLIMS 9.8, has been corrected.

Use the correct internal id to search specimens received via electronic messages (GLIMS-14007)

Issue

The user would get an error "b_Specimen not found" when processing an order via electronic messages due to an issue with the saving of the internal id.

Scenario

1. Create an order in GLIMS that contains at least two specimens.
2. Update the times of the specimens via electronic messages.
-> The second message fails with a "Specimen with internal ID <xyz> already exists" error.

Solution

This issue, which occurred since GLIMS 9.3, has been corrected: GLIMS now uses the correct internal id to search specimens received via electronic messages.

Note

The error "b_Specimen not found" will no longer be shown for new orders. However, existing orders where this error occurred are considered corrupt and CANNOT be fixed.

Specimen archive scan: next rack position was not incremented + error when scan station had no associated archive (GLIMS_SERO-00194)

When archiving specimens via the specimen scan program, the following issues occurred when the scan station had no associated archive:

- The next rack position was not incremented.
- An error "No b_Archive record is available" was shown.

These issues, which occurred since GLIMS 9.9, have been corrected.

Stock management

Fixed calculation of packing unit conversion factor (GLIMS_STCK-00633)

When selecting a purchase order in the **Check in** screen that contained products that had already been checked out, a "The second argument to MOD must be positive" error could occur due to the packing unit conversion factor being set to 0.

This issue, which occurred since GLIMS 9.9.0, has been corrected.

Support sorting of most columns of Purchase order (.NET) browser + remember sort column and order (GLIMS_STCK-00646)

Issue

The **Purchase order** browser could only be sorted on **Doc no** (ascending only) and **Sts**. In addition, the sort column was not remembered.

Solution

This issue, which occurred since GLIMS 9.9.0, has been corrected:

- The **Purchase order** browser now supports sorting on all columns, except the **Internal comment** and **External comment** columns.
- The sort column and order are now remembered.

System management

Avoid error during execution of assessment method/code set conversion procedure that stops the conversion procedure (GLIMS-13555)

Issue

If a coding system is linked to multiple stations, an error occurred when the conversion procedure tried to delete a coding system record that is linked to several stations. This error prevented the conversion procedure from continuing.

Solution

This issue, which occurred since GLIMS 9.0, has been corrected.

The conversion procedure will only delete the coding system when processing the last station linked to this coding system.

Removed redundant lock statements in various v8 - v9 conversion procedures (GLIMS-13847)

Exclusive locks were used for the entirety of transactions in one of the conversion routines, with only a small section of the conversion requiring them. As a result, many locks could be held, eventually maxing out the start-up parameter "Use Lock Table Entries (-L)" and causing an error.

This issue, which occurred when upgrading from an older GLIMS version to version 9 or higher, has been corrected.

Improved performance of attachment category conversion (GLIMS-13976)

Issue

If the database contains a huge number of site attribute values of table "gp_Attachment" and attribute "_Category", the database conversion could take a very long time.

Solution

This issue occurred when upgrading from an older GLIMS version to version 9 or higher.

The conversion of site attribute values of table "gp_Attachment" and attribute "_Category" has been moved to the post-conversion phase. In addition, the performance of this conversion has been improved.

Stricter version check for Oracle databases (MATE-07485)

After the upgrade of an Oracle database to a higher GLIMS version, it was still possible to connect to the database with an older version of GLIMS. As a result of this connection, the schema version of the database was downgraded to the one of the older connected GLIMS version. When the user subsequently tried to launch a GLIMS instance on the correct version, GLIMS would try to start the automatic database upgrade procedure again.

This issue has been corrected.

User interface

Prevent ribbon item from assigning itself as parent (MATE-07257)

Issue

An issue was reported where users could no longer connect to GLIMS due to an incorrect ribbon item configuration: the ribbon item had a parent that pointed to itself.

Solution

This issue has been corrected.

When configuring a ribbon item and setting the parent equal to itself, a warning message will appear and it will not be possible to save the record.

Restore original info box size when releasing the left mouse button outside the info box (MATE-07419)

This modification ensures that the informational text box that is shown at the bottom of certain browser screens (for instance: Result overview on Object) returns to its original size when moving the mouse pointer outside the text box and releasing the left mouse button.

Previously, the text box kept its enlarged size causing the last row in the browser to be hidden.

Work lists

Mismatched number of parameters when specifying LAS station in work list query (GLIMS-13593)

This modification fixes the issue where the user got a mismatched number of parameters error when specifying a LAS station in the work list query.

Cancel button did not work in work list generation screen (GLIMS-13752)

A problem was reported where the **Cancel** button did not work in the work list generation screen.

When a user wanted to create a work list from a work list template, but then tried to exit the work list generation screen by clicking **Cancel**, the work list was still generated.

This problem, which occurred since GLIMS 9.9.0, has been corrected.

Make "Too many lines per row" message in work list clearer (MATE-07332)

When there were too many row lines in a work list, GLIMS showed an "Unable to display: too many lines per row" error message. However, this message did not contain any information on how to solve this issue. This modification makes this error message clearer:

"Unable to display: too many lines per row. Please set the value of the "Line" field of the work list template items to a smaller value."

Version 9.9.6

Important modifications

Financial export in "HPRIM XML" format: "prestataire" = BillingItem.Executor (BILX_HPRIMXML-00066)

In previous versions

The export of financial data (using the FinancialShipment.Send function) in the **HPRIM XML** format exported the billing item executor (identification code) as "prestataire". For supplements (billing items without a linked request/result), the head of the executing lab was exported.

However, for "prélèvements", the Order.Sampler (or Specimen.Sampler) needs to be exported.

As of now

GLIMS exports the billing item executor as "prestataire" for supplements as well. The correct executor of a supplement can be defined in the Policy's **Supplement list** site function ("...,Code\Executor=X"). For "prélèvements", the executor will be the Order.Sampler (or Specimen.Sampler).

Example

```
STRING Ret;  
Ret := "";  
IF .LinkedOrder(1).Sampler <> ? THEN  
    Ret := Ret + "AMI\Executor=" + .LinkedOrder(1).Sampler.Mnemonic;  
ENDIF;  
Return (Ret);
```

Note

For supplements, the executing department will be the BillingItem.ExecutingDepartment (if specified in the **Supplement list** site function; for instance: "...,Code\Executor=X,\ExecutingDepartment=Y"). If not specified, the Order.Department will be used or the BillingItem.ExecutingLab (as before).

Option to recalculate person externalization values when manually converting the Person-based site attributes _LegalName and DisplayName (GLIMS-13250)

Introduction

The modification [GLIMS-11350](#) introduced the following Person-related fields, thus replacing the site attributes "DisplayName" and "_LegalName" on the Person table:

Display last name

Last name used by the person.

Legal name

Person's name as indicated in national registers.

Customers upgrading to GLIMS 9.9 and having used at least one of the two sites attributes "DisplayName" and "_LegalName" in their previous GLIMS version need to execute a conversion procedure. During this conversion procedure, triggers were executed by default : the person externalization MISPL - triggered by the Person record being updated - was executed.

Option to recalculate person externalization values

Triggers are now no longer executed by default. When executing the conversion script mcv99_PersonLegalNameDisplayLastName.r (**Start -> Development -> 4GL -> Run procedure**), the option **Recalculate person externalisation values** is now available, allowing the user to decide on the execution of the triggers.

This option is disabled by default.

Notes

- Choosing not to have the person externalization values recalculated will improve the performance of the conversion procedure.
- Choosing to have the person externalization values recalculated only makes sense if the person externalization MISPL has been adapted to take into account the new database fields (Person.prsn_DisplayName and/or Person.prsn_LegalName).

Undo GLIMS_BILL-03069 + optional balancing of a credited invoice summary (GLIMS_BILL-03843)

This modification undoes the changed interpretation of InvoiceSummary.UnbalancedAmount introduced in [GLIMS 9.9.2](#).

Therefore, the **Unbalanced amount** is now again calculated as follows: InvoiceSummary.UnbalancedAmount = InvoiceSummary.TotalAmount - Sum of amounts of linked **Balance** records.

In addition, GLIMS now provides the automatic balancing of a credited invoice summary with the debit invoice summary. Once a credit invoice is put on a credit invoice summary, this credit (or negative amount) invoice summary is balanced with the original invoice summary.

This feature is optional and can be enabled per site by setting the SpecificSite-based, Logical-valued site attribute `_AutoBalanceCreditInvs` to TRUE.

```
InvoiceSummary <- Invoice 1
    <- Invoice 2 <- Invoice Item 2.1 -> CreditNote(amount) C1 -> (C) InvoiceSummary
        <- Invoice Item 2.2 -> (C1)
    <- Invoice Item 2.1

    [<- <Balance> -> Payment P1]
    [<- <Balance> -> Credit InvoiceSummary]
```

Approach transitions: take Seq. no. into account when starting new activities (GLIMS_GENX_LAB-00824)

In previous versions

Initially, the Genetics module was designed to only take into account the **Seq. no.** of outgoing transitions of activities of type **Router**.

As a consequence, the outcome of the configurations below was identical: the DNA specimen was created first (because the transition had been created first). The configured sequence number was not taken into account.



As of now

The **Seq. no.** of outgoing transitions of normal activities is now taken into account as well.

Option to check panel member derivability from the specimen during electronic order entry (GLIMS_OI-00879)

Context

During manual order entry, when the user tries to explicitly request a panel on a specimen/material and one of the panel members cannot be derived from that specimen/material, a warning message appears. The user can then decide to cancel or to request the panel separately (meaning: not on that specimen/material).

However, during electronic order entry, the panel is requested on the specimen/material, regardless of the derivability of its members.

New feature

The new option **Check panel member derivability from material** (implemented as a site attribute) is now available in the GLIMS General settings. By default, the option is disabled (to guarantee backward compatibility). It allows the user to enable the additional check on panel member derivability for electronic order entry as well.

Enabling this new option will have GLIMS execute an additional check on the derivability of all panel members from the material of the specimen when requesting a panel on a specific specimen. GLIMS will only schedule the member requests on the specimen when all panel members can be derived from the material of the specimen.

This issue occurred since [GLIMS 9.9.4](#).

Option to evaluate 'Person comparator' MISPL function before reusing an existing Person record based on its identification (GLIMS_PI-00369)

The feature introduced in GLIMS 9.9.5 via the modification [GLIMS_PI-00356](#) has been made optional. Therefore, the new option **Run person comparator when found by PIN** (implemented as a site attribute) is now available in the GLIMS General settings. By default, this new option is disabled (to guarantee backward compatibility).

Enabling this new option will have GLIMS execute an additional check on the (best matching target) person record (found via the provided identifications) by running the **Person comparator** MISPL function ([Start > System management > Customize > GLIMS General > Main page > Persons](#)) to ensure that the correct person was found.

Validating the pathology work screen did not validate all the results in the work screen (GLIMS_Path-00379)

The pathology work screen shows all the results that are requested for the specimens contained in the order in which the pathology examination is requested as well. However, validating the pathology work screen only validated the results requested for the specimen linked to the pathology examination.

This behaviour has been changed on customer request: validating the pathology work screen now validates all the results that are visible in the work screen.

Actions

Incorrect action status when an available result is moved to an action with status Ready (GLIMS-13418)

An issue was detected where the status of an action whose results had already been confirmed was not downgraded when an available result was moved to it.

This issue has been corrected.

Application management

Fixed errors that occurred when purging patients (GLIMS-12862)

When erasing a large number of patients, the linked log entry records were not deleted. Then, errors occurred because of the growing number of log entry records. This issue has been corrected.

Fixed "read audit" logging for orders (GLIMS-13213)

An issue was reported where Read audit logging (log type **Read audit Order**) did not work correctly for orders when navigating to an order in an order browser, opening the result browser for this order (right click > **Requests > Results**) and navigating to another order while the result browser was still open.

This issue, which occurred since GLIMS 9.8.11, has been corrected.

Add @ to the names of newly created records in an anonymized database (GLIMS_ANO-00068)

When creating new records for any of the tables below in an anonymized database, the name fields are now automatically suffixed with the @ symbol. This ensures consistency with the rest of the anonymized records. If the user already added the @ symbol manually, it will not be added again.

- Person
- Correspondent
- Contact
- User
- Hospital Employee
- Health Care provider

Billing

Improvements for the option "Eliminate Versandpauschale" (BILX_GKVDT-00420)

Introduction

This modification amends the way the option Eliminate Versandpauschale works.

Changes

This option now works as follows:

1. It deletes the 40100 invoice item(s) if there is a OI-II in the Behandlungsfall=quarter (in fact shipment),
2. For orders with both 40100 and 40120, it deletes 40120 (in case the 40100 has not been deleted by step 1),
3. Only one 40100 is kept per quarter.

It is now possible to have more than one 40120 within the same "Fall".

Configuration

The OI-II billing codes must be configured as members of a billing code group with mnemonic "OI-II". If no such billing code group is found, an error is logged and the deletion is skipped.

Additional logging

The credited (or deleted) invoice items 40100 or 40120 are also logged under log type "KBV Eliminate superfluous 'Kostenpauschale'". The total number of credited records is logged with one of the following reasons:

The screenshot shows a software interface for managing financial shipments. A specific log entry is highlighted, showing the creation time (08/08/2019 15:57) and type (KBV Eliminate superfluous 'Kostenpauschale'). The log message indicates the process was GLIMS 9.9.0 build 1 (beta 04/07/2019 16:34); User: 'barb'. Below the main log table, a detailed log entry table is shown with columns: Seq, S, Chk, and Description. The description for row 20/I states: 'Order intId 20190808-00007: Removing/Crediting invoice item 40100 while got (billing code of group) OI-II in same quarter'. Another row shows a check for superfluous 'Kostenpauschalen' (40100, 40120).

Seq	S	Chk	Description
20	I	✓	Credited 1 superfluous 'Kostenpauschale', deleted 0 items
10	I		Order intId 20190808-00007: Removing/Crediting invoice item 40100 while got (billing code of group) OI-II in same quarter

Note

The Pauschale elimination during Send KVDT can credit (or remove) not allowed codes, but will not replace codes. This means that, during tariffication of order(s)/patient without OI-II, it is recommended to add a 40120 together with the 40100 code (if the patient should get a future order in that quarter with OI-II, the 40120 is no longer allowed – only a 40100).

Support for ICD-10-GM code entry (BILX_GKVDT-00529)

Introduction

A previous modification already enabled users to enter ICD-10-GM codes (format "Code1/DS/SL,Code2/DS,...") via a site attribute ("Akut und Behandlungsdiagnosen") in the **Referral** tab page of the order entry screen.

A more user-friendly way of entering ICD-10 codes is now available in the form of

1. an integrated browser "Akut und Behandlungsdiagnosen" in the **Referral** tab page of the order entry screen.
 2. a separate browser containing all the ICD-10 GM codes of the KBV's ICD-10-GM-Stammdaten. This browser can be opened from the **Referral** tab page.
 3. the possibility to see the "Anleitung zur Verschlüsselung" (VA Stammdaten).

Integrated browser in order entry screen

A new integrated browser **Akut und Behandlungsdiagnosen** is available in the **Referral** tab page of the order entry screen.

The user can enter codes directly in the integrated browser or by selecting them via the lookup browser (see below). The required checks are carried out for the entered codes.

Note

- Only existing ICD-10-GM codes can be entered.
 - The "DS" column needs to have a value for each entered code.

ICD-10-GM codes lookup browser

The official list of ICD-10-GM codes is automatically loaded into memory from the KBV's ICD-10-GM-Stammdatei (GLIMS BILLDAT directory).

Notes

- The name of the loaded Stammdatei file is shown at the top of the browser.
 - The function to manually import ICD-Stammdatei is now redundant.

Browser filter options

The screenshot shows a software interface for selecting ICD-10-GM codes. At the top, there is a title bar with the text "ICD 10 GM - Patient: ?" and a red box labeled "Browser filter options". Below the title bar is a dropdown menu set to "alle". A red arrow points from the "Browser filter options" label to the search field in the filter dialog.

The main area displays a table titled "ICD SD (icd_24_74_tf+2022q1.xml)". The columns include: Kode, Kapitel, Gruppe, Bezeichnung, Abrechenbar, Geschlechtsbezug, FehlerArt, Untere Altersgrenze, U, Obere Altersgrenze, U, AlterFehlerArt, S selten in M-Europa, Mitinhalt, Notation, Keine, Dauerdiagn., IISG MeldePflicht, IISG Abrechnung, Besonderh, and Arztgruppe. The table lists various ICD-10 codes under chapter A00, such as A00.1 Infektiöse Darmkrankheiten (Cholera) and A00.9 Infekt.

Below the table is a search bar with the placeholder "Suche in Bezeichnung" and a dropdown for "Geschlecht alle". Further down are dropdowns for "Notationskennzeichen alle" and "Arztgruppe alle". A red arrow points from the "Kapitel alle" dropdown to the "Kapitel" column in the table.

At the bottom of the interface, there is a section titled "Selected diagnosis codes (and conflicts/warnings)" with a table header: Kode, Bezeichnung, IISG MeldePflicht DS, SL Erläuterung, Ausnahmetatbestand, Warnung, and Fehler. A red arrow points from the "Selektierte Kodes" button to the "Selektierte Kodes" dropdown at the bottom left.

Buttons for "OK" and "Cancel" are located at the bottom right.

- Kapitel
- Suche in Bezeichnung
- Geschlecht (proposed as initial filter criterion)
- Notationskennzeichen
- Arztgruppe

ICD code selection

ICD-10-GM codes in the browser can be selected by pressing the space bar, the Enter or Return key or double clicking. The required checks are carried out for the selected codes.

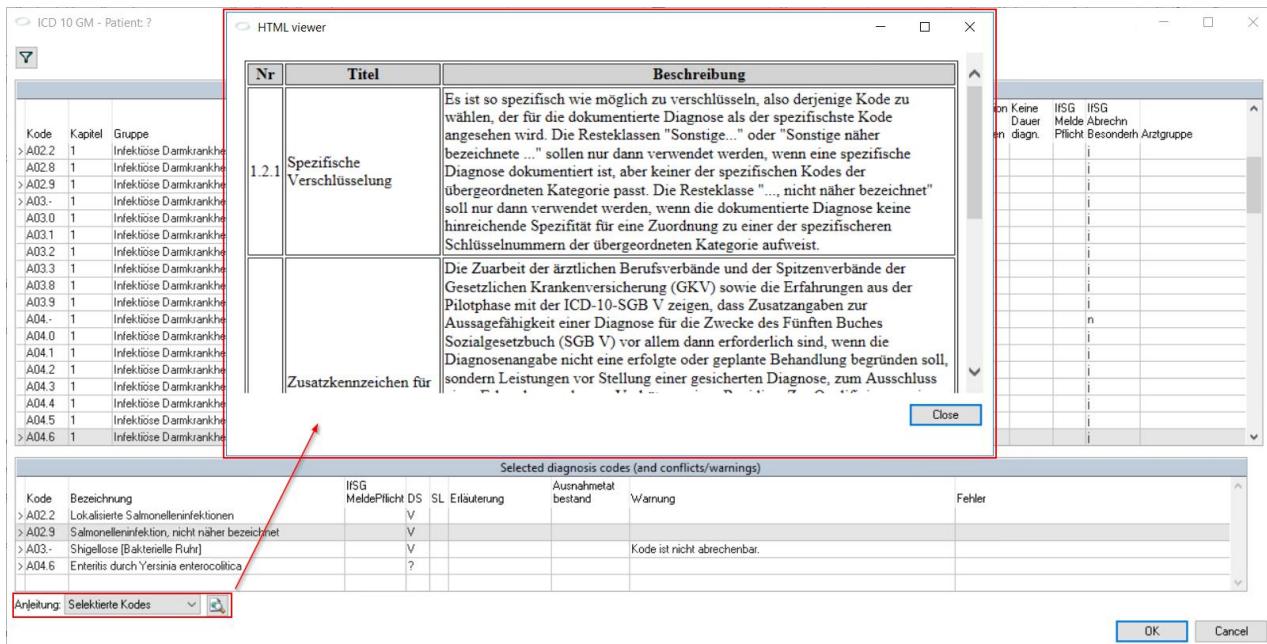
Clicking the **OK** button at the bottom of the screen will enter the selected codes in the **Referral** tab page's integrated browser.

Note

The "DS" column needs to have a value for each selected code. Double clicking in the cell allows the user to select a value from the list of possible values.

Anleitung zur Verschlüsselung

The Kapitelnummer, Titel and Beschreibung can be displayed in HTML format. The possible values of the **Anleitung** field are: **Gesamthafte Anzeige, Änderungen, Selektierte Kodes, 1 ICD Kode**.



Note

The current (2021) ICD Stammdatei file does not yet contain <verschluesselungsanleitung_ref V=xxxxxxxx> but the global help can already be used by putting the VA 2022 file in the GLIMS BILLDAT directory.

Other changes

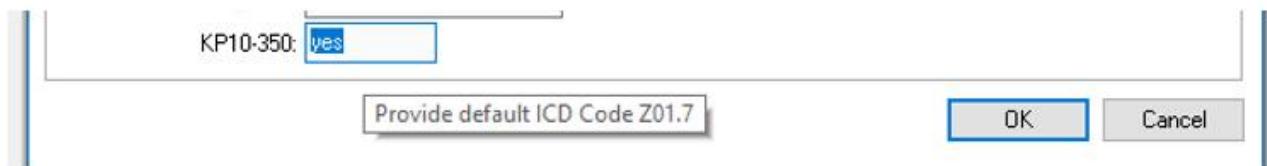
Dauerdiagnose

Dauerdiagnose is still not supported. KVDT Field FK 3673 (instead of FK 6001).

Default (Laboruntersuchung) ICD code Z01.7 (G)

In accordance with KP10-350, the default ICD code Z01.7 G can be proposed (Diagnosesicherheit G is proposed but can be changed).

This functionality can be enabled via the site attribute that can be accessed via **Start > System management > Customize > GLIMS billing**.



The KVDT export already supported this default code but now it is visible before the export as well.

Ausnahmetatbestand (new in GLIMS)

For ICD codes with failing "Geschlechtsbezug" (patient sex is m/w but does not match the ICD SD Expected Sex) and "Fehlertyp" m (in ICD SD), one can accept the ICD code by providing an "Ausnahmetatbestand" (text).

During the KVDT export, this value will be sent in field FK 6008 (for "Akutdiagnosen").

The ICD code (and DMP & WOP) can now be entered for new orders

In the past, those fields were not updatable in the **Referral** page during order entry.

Financial export in German "KVDT" format: export OMIM-G & P codes for GOP 11517 (BILX_GKVDT-00472)

The export of financial data in the German KVDT format (using the FinancialShipment.Send function) has been updated as follows:

1. GLIMS now exports the OMIM-G and OMIM-P codes (configured on the property) for GNR (Tariff.NomenclatureCode) 11517 as well.
2. For GNR with an optional OMIM-P code, the OMIM-P code is now only exported when configured on the property (can be an actual OMIM-P code or 99999). Note that, while the OMIM-P code is optional for GOP 19421, 19451, 19452, regel 847 will issue a warning when the code is not specified.
3. The implementation of regel 772 and 773 has been improved to avoid that they are erroneously considered as met.

Avoid duplicate records in OMIM code browser (**BILX_GKVDT-00478**)

This modification fixes the issue where the OMIM code browser showed duplicate records. This issue occurred since GLIMS 9.9.

Financial export in German "KVDT" format: update Q3-2021 (**BILX_GKVDT-00504**)

The export of financial data in the German KVDT format (using the FinancialShipment.Send function) has been updated to support the changes (quarter 3, 2021) in KBV regulation.

KVDT export (Germany): Automatically fetch and export FK 0224 "Produkttypversion TI-Konnektor" per site (**BILX_GKVDT-00525**)

Content: [Context](#) - [Configuration](#) - [Export of your certificate](#) - [Import of your certificate in OpenEdge](#) - [Export of a financial shipment with GLIMS KVDT](#) - [Debugging](#)

Introduction

The field KVDT FK 0224 "Produkttypversion des Konnektors" was already introduced in a previous modification, its value stored by the translator as the PaymentAgreement site attribute value for XDT_0224.

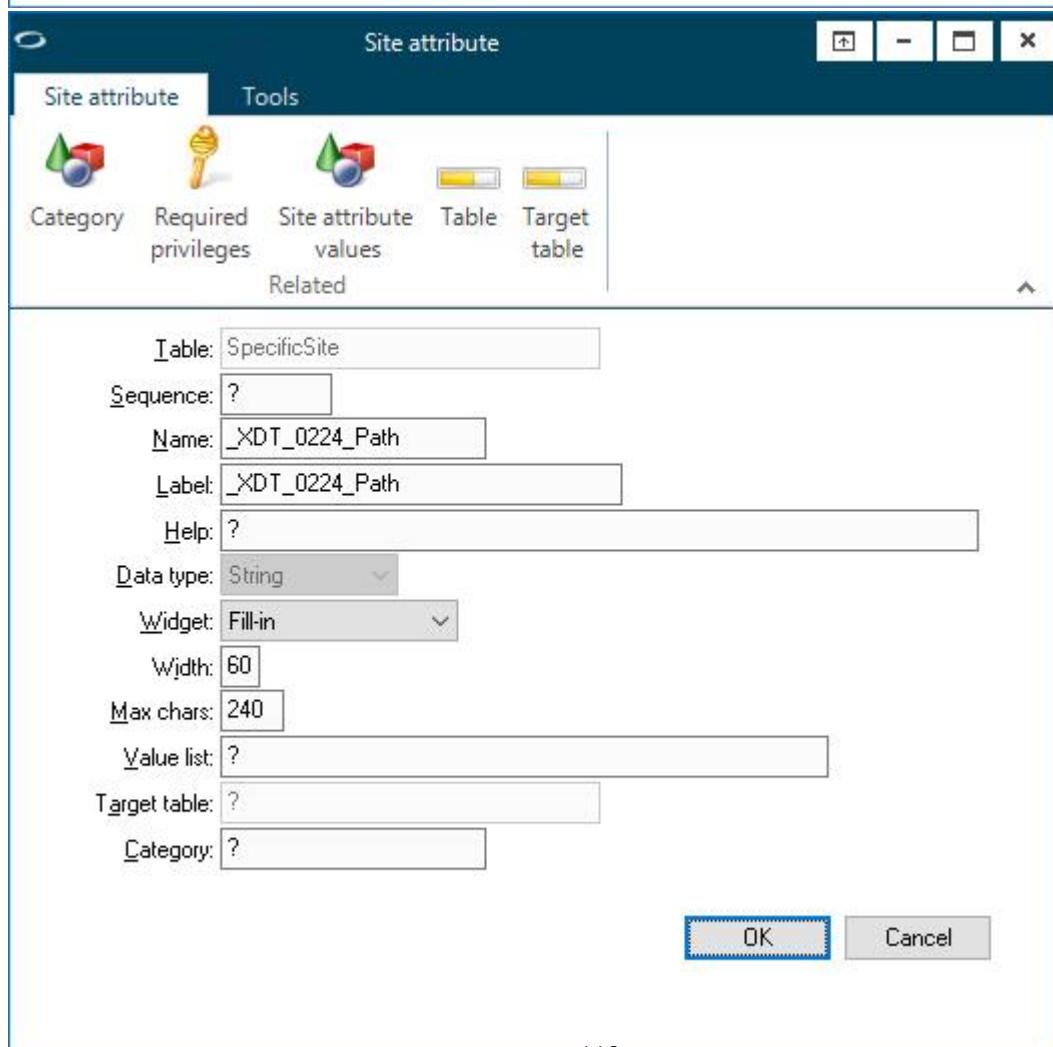
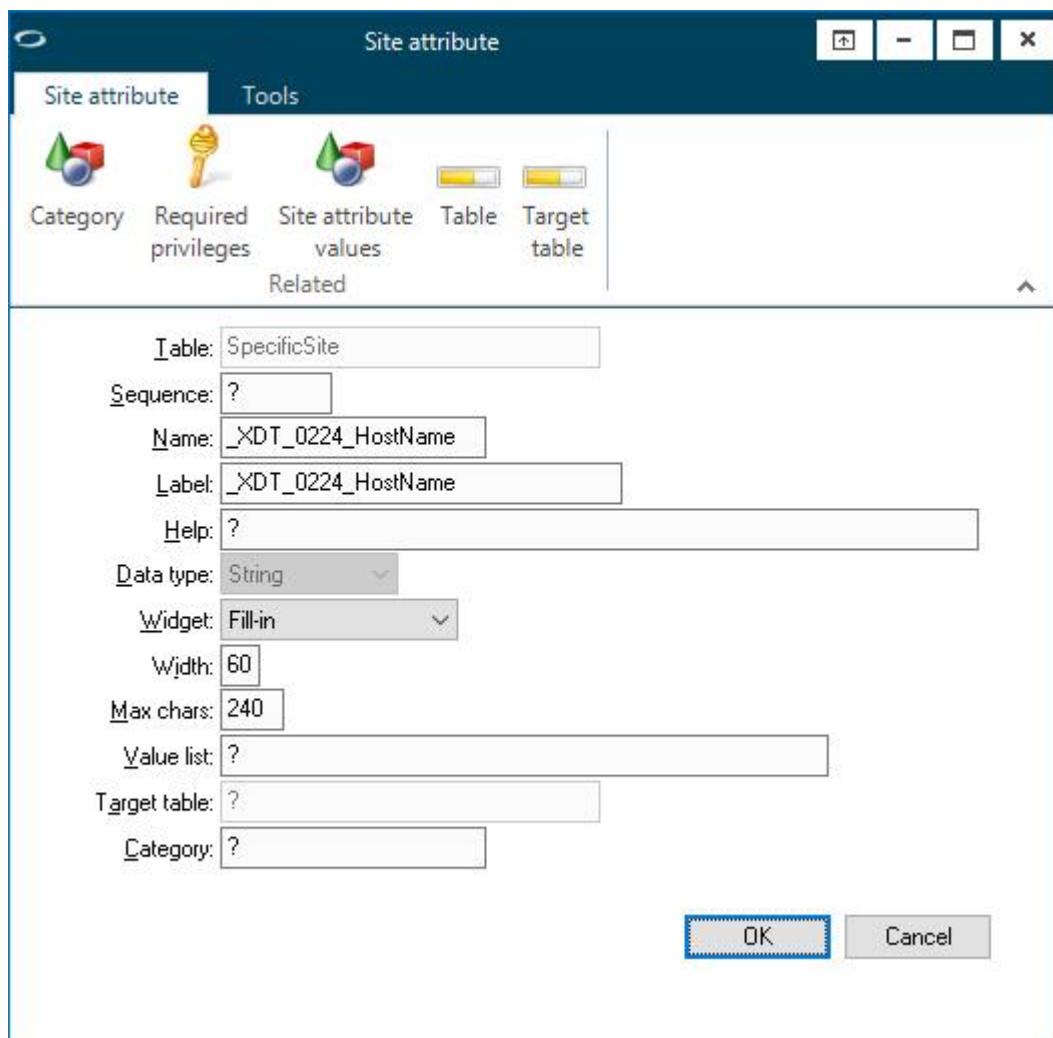
Recently (Q2-2021) a need arose to be able to use a specific router "TI Konnektor" (Telematikinfrastruktur Konnektor) and to export its "Produkttypversion" (product type version) with GLIMS KVDT. This requirement is in accordance with the market specific requirement "KVDT Anforderung P2-66".

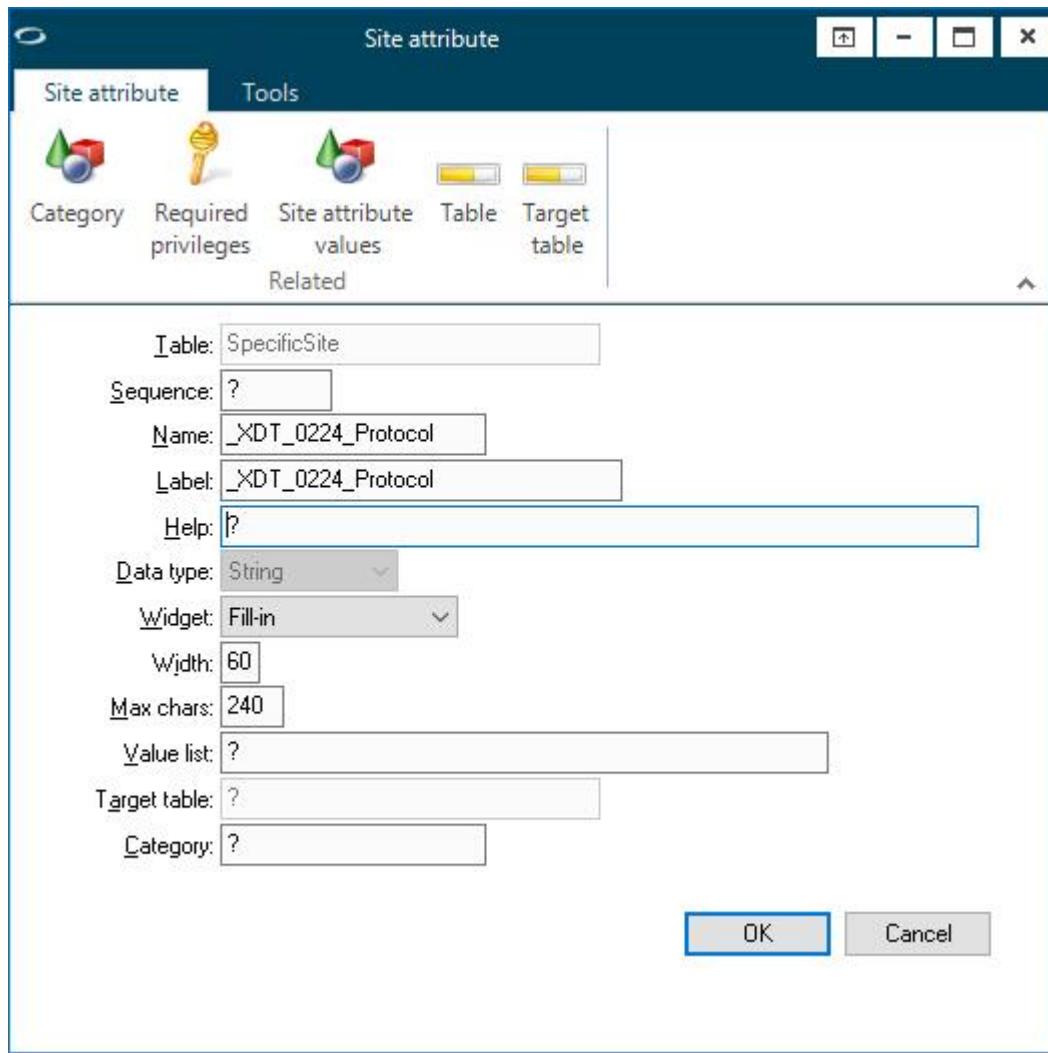
From now on, GLIMS will automatically fetch and store the value for "Produkttypversion des Konnektors" in the GLIMS **XDT_0224** site attribute (on SpecificSite table, as a string of max. 20 characters).

Both Windows and Linux environments are supported.

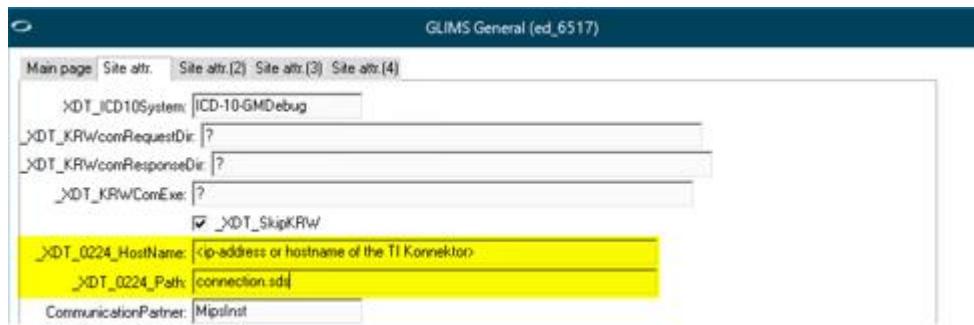
Configuration

1. Define the protocol, hostname and path of the "TI Konnektor" as SpecificSite-based site attributes:
 - _XDT_0224_Protocol
 - _XDT_0224_HostName
 - _XDT_0224_Path





2. Fill in the values for hostname and path of the "TI Konnekter" via **Start > System management > Customize > GLIMS General**.

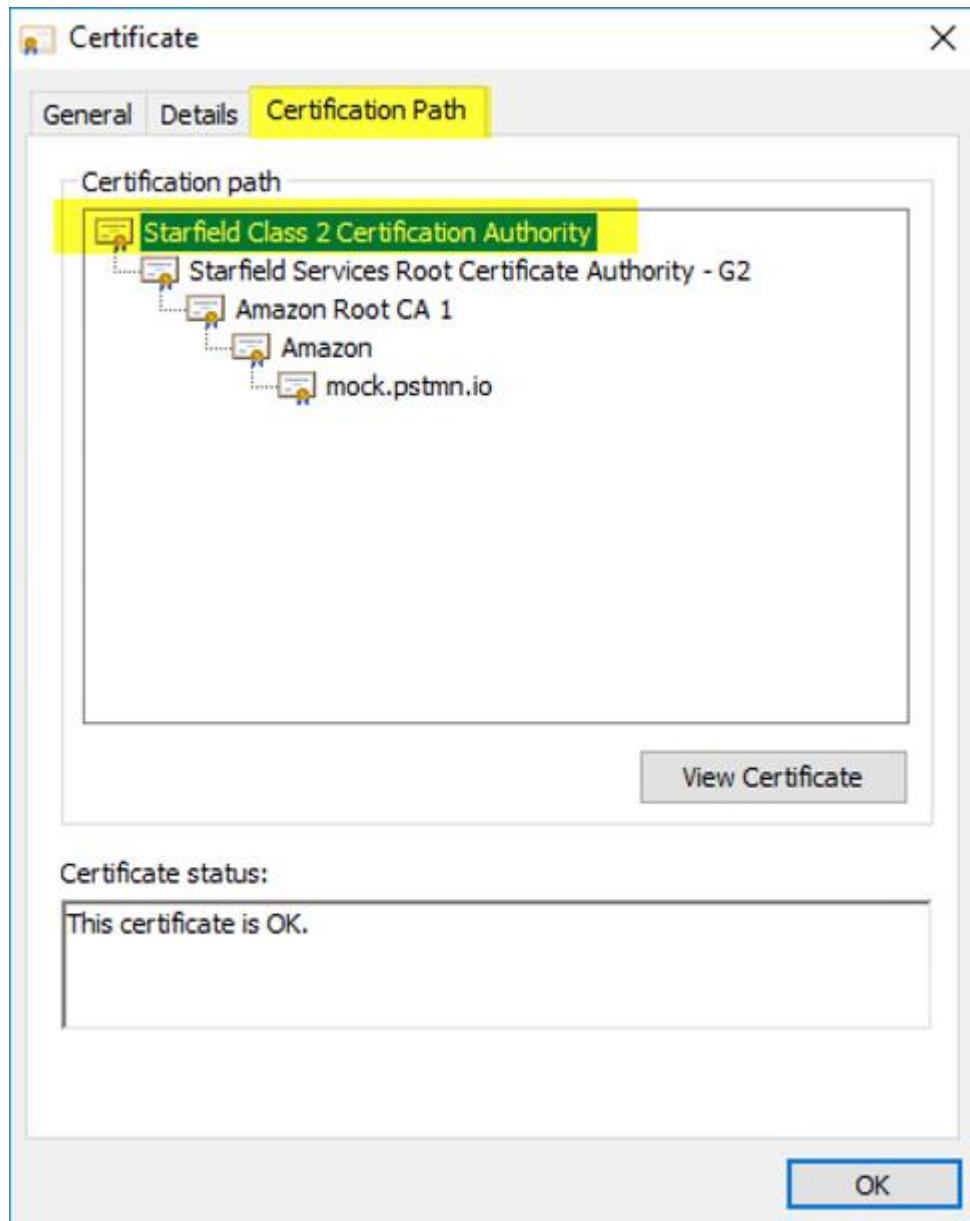


Export of your certificate

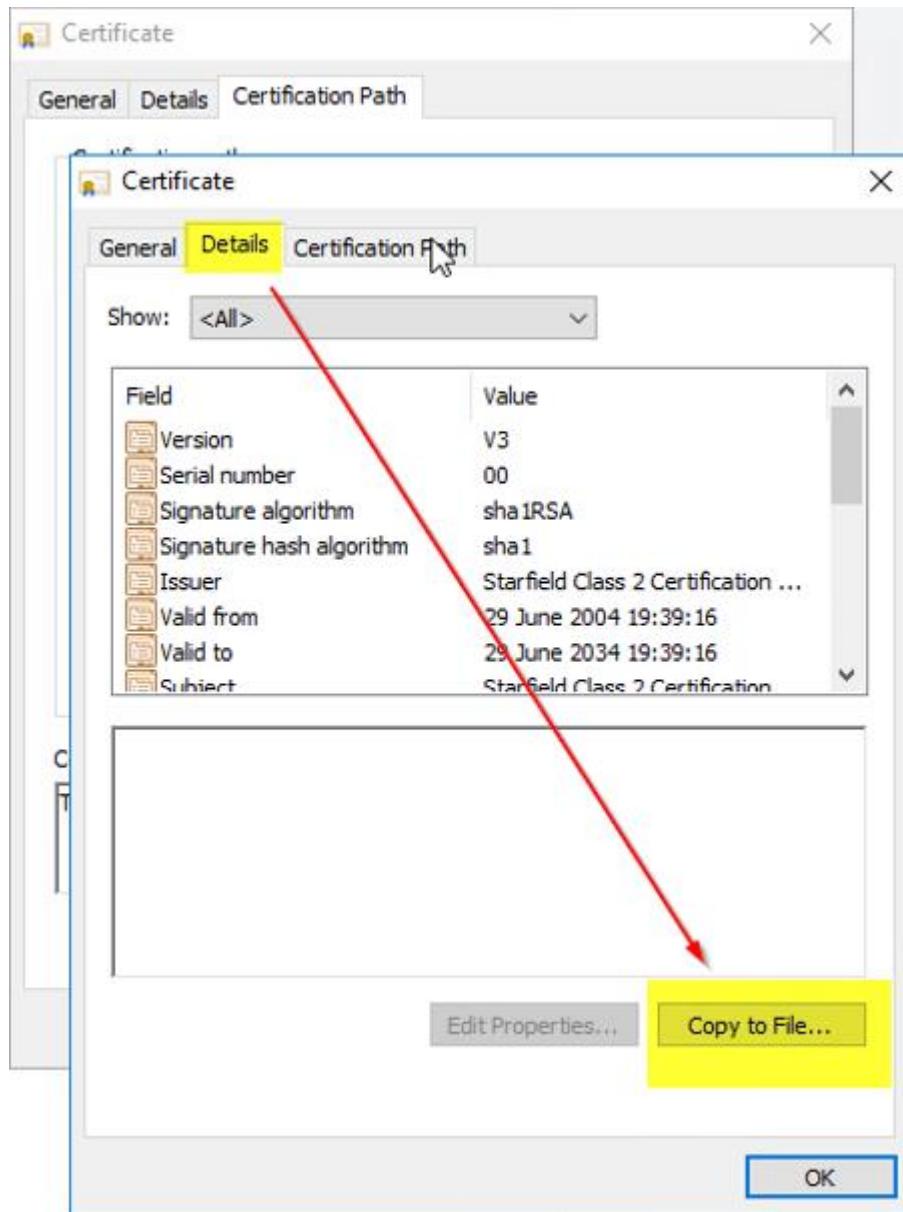
1. Open a web browser (Google Chrome) and navigate to the web server.
2. Press F12.
3. Click **View certificate**.

The screenshot shows the Chrome DevTools interface with the 'Security' tab selected. On the left, there's a sidebar with 'Overview' and a link to 'Reload to view details'. The main content area is titled 'Security overview' and displays a green lock icon, an information icon, and a warning icon. It states: 'This page is secure (valid HTTPS)'. Below this, three items are listed: 1. 'Certificate - valid and trusted': Describes a valid, trusted server certificate issued by Amazon, with a 'View certificate' button highlighted by a yellow box. 2. 'Connection - secure connection settings': Describes the encryption and authentication settings using TLS 1.2, ECDHE_RSA with P-256, and AES_128_GCM. 3. 'Resources - all served securely': States that all resources on the page are served securely.

4. In the **Certification Path** tab page, click [View Certificate](#).



5. Open the **Details** tab page and click **Copy to File...**



6. Click **Next**.



Welcome to the Certificate Export Wizard

This wizard helps you copy certificates, certificate trust lists and certificate revocation lists from a certificate store to your disk.

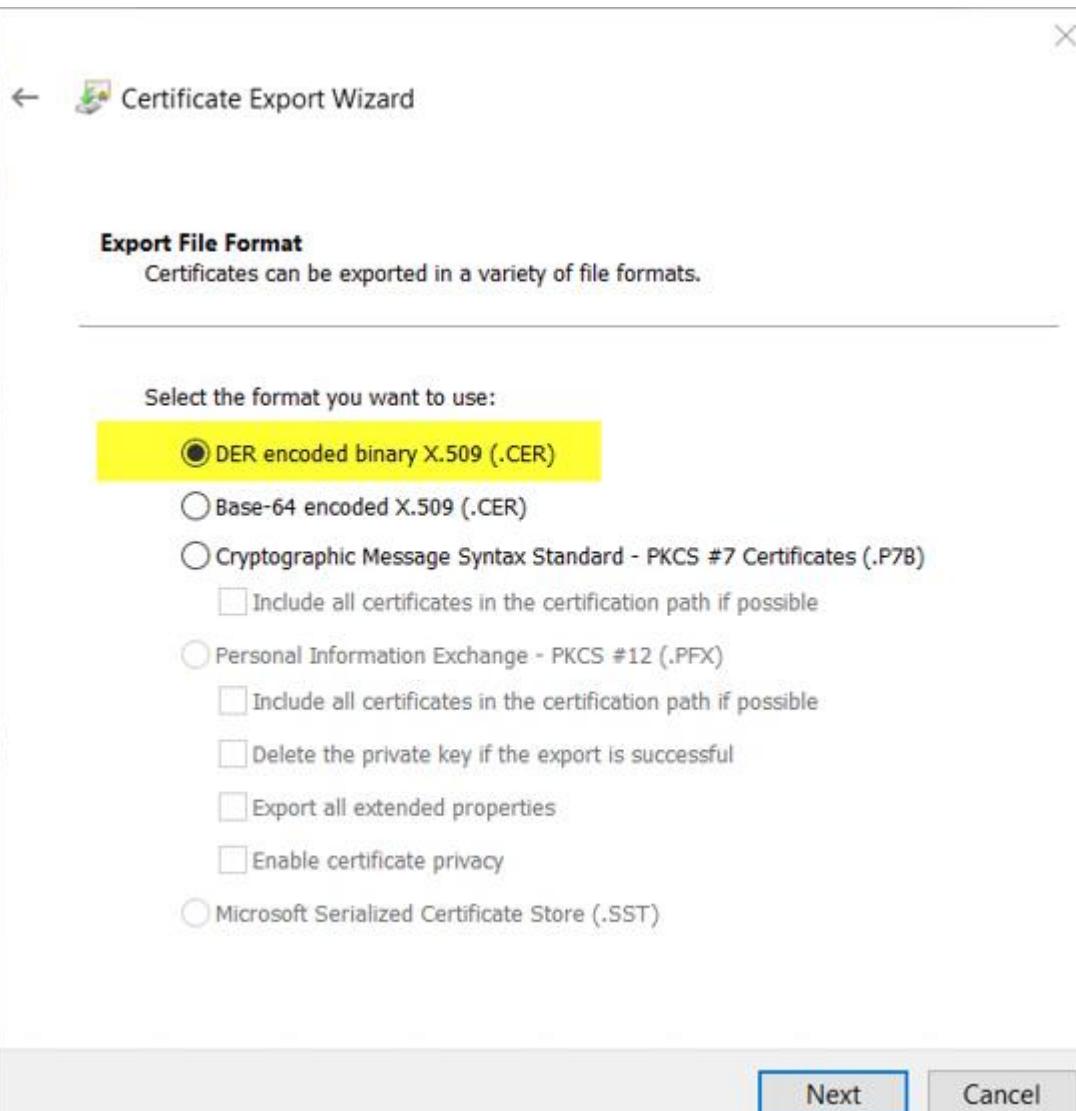
A certificate, which is issued by a certification authority, is a confirmation of your identity and contains information used to protect data or to establish secure network connections. A certificate store is the system area where certificates are kept.

To continue, click Next.

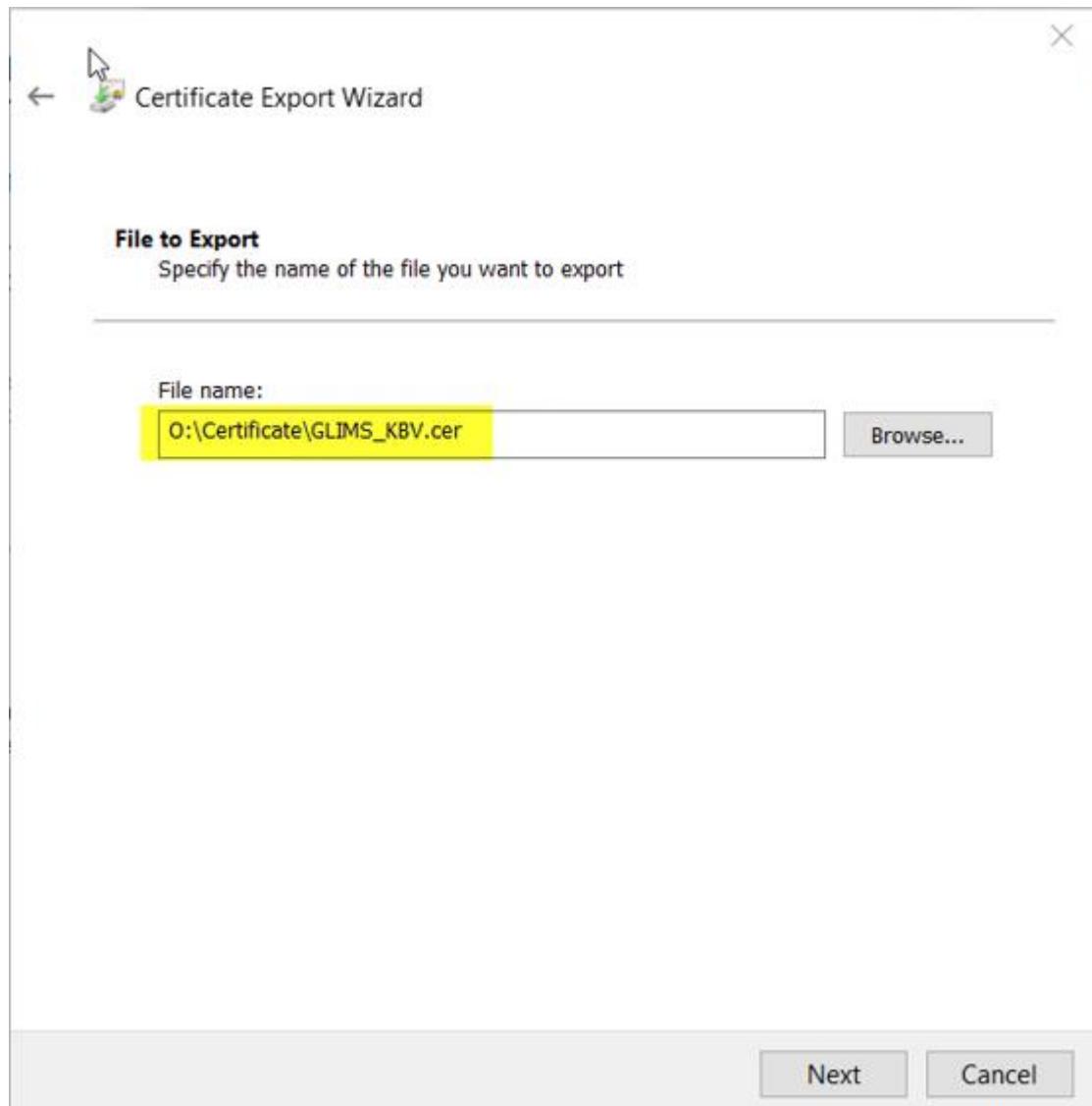
Next

Cancel

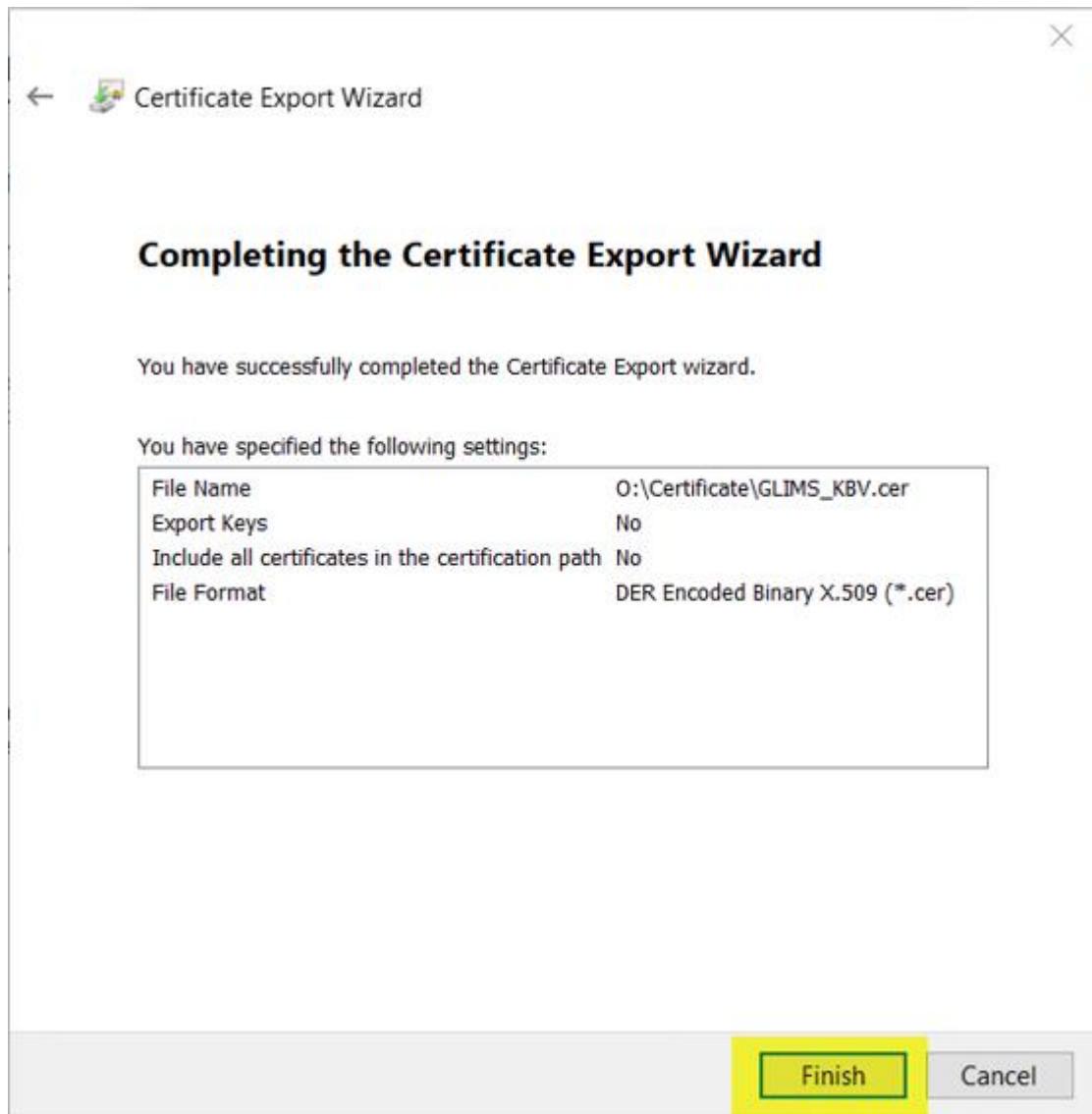
7. Select **DER encoded binary X.509**



8. Fill in a path and file name and click **Next**.



9. Click **Finish**.



Import of your certificate in OpenEdge

Open a proenv and execute the command "certutil -format DER -import Postman.cer" in the location where the certificate file is stored.

```
Proenv
proenv>certutil -format DER -import c:\Postman\GLIMS_KBV.cer
Importing trusted certificate to alias name: f387163d
proenv>_
```

You can check the folder C:\OpenEdge\117\DLC\certs for your certificate.

Export of a financial shipment with GLIMS KVDT

The site FK 0224 field value is exported in the KVDT BESA header (one FK 0224 is repeated per BSNR FK 0201). A value is not mandatory, no errors will occur if no value is specified.

Notes

- The previously used PaymentAgreement site attribute XDT_0224 is still checked (and preferred to this site value).
- For LG KVDT shipments: this same site value will be used, but only for the first (internal) BSNR.
- When a value for FK 0224 is provided, the automatic setting of FK 0226=1 does not happen any longer. The FK 0226(=1) can be configured per BSNR in the department (site attribute XDT_0226).

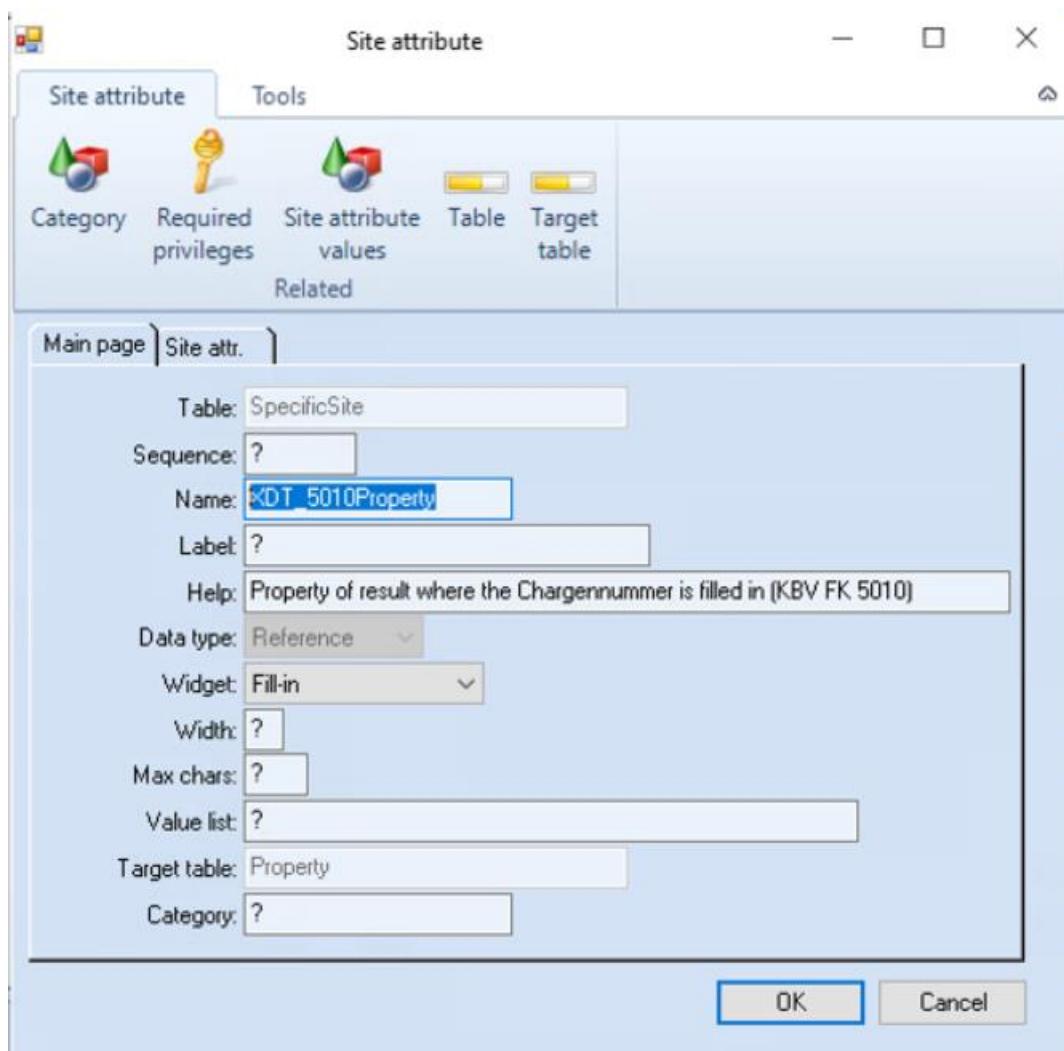
Debugging

Should problems occur while using the "TI Konnektor", Debug alert can be activated in GLIMS to log additional debug information. Send the financial shipment and consult the log type "TI Konnektor".

Financial export in German "KVDT" format: support for new field FK 5010 "Chargennummer" (Q2-2021) (BILX_GKVDT-00533)

The export of financial data in the German KVDT format (using the FinancialShipment.Send function) has been updated to support the export of a "Chargennummer".

The "Chargennummer" can be entered in the Order as the result value of the property specified in the site attribute named **XDT_5010Property**.



The KVDT export will send the "Chargennummer" in FK 5010:

- for all GNR (starting with) 88331, 88332, 88333, 88334, 88336, 88336, 88337, 88338, 88339 and 88340
- if the result value of the property specified in the site attribute **XDT_5010Property** is not discontinued

For GNR 88331 etc. without a "Chargennummer", the KVDT export check will produce a warning (Regel 868).

Financial export in German "KVDT" format: update Q4-2021 (BILX_GKVDT-00540)

The export of financial data in the German KVDT format (using the FinancialShipment.Send function) has been updated to support the changes (quarter 4, 2021) in KBV regulation.

KVDT financial export: improved handling of GNR that need only one OMIM G code (BILX_GKVDT-00543)

1. For some GNR (billing code with Tariff.NomenclatureCode), only one OMIM G code is allowed but in practice more OMIM G codes are automatically added. GLIMS will now only send one OMIM G code during the KVDT financial export. If more are available, they will be replaced with the value "999999" (FK 5070) and GenName="Verschiedene Gene" (FK 5072).
2. Up until now, for genetic exams, the OMIM code information was retrieved from XDT_507X result values that are linked with the genetic exam. However, the XDT_507X results are sometimes not linked to a genetic exam. GLIMS now allows for the retrieval of OMIM code information from XDT_507X results that are not linked to the genetic exam. Restriction: the order can have only one genetic exam.

KVDT financial export for LG should ignore "Erstveranlasser" (FK 4217) (BILX_GKVDT-00547)

For LG KVDT shipments, the "Erstveranlasser" (FK 4217) is not used. However, it happens that an Order in GLIMS contains an LG and non-LG part (2 invoices with a different Firm). The "Erstveranlasser" (see order entry Referral page/Uschein from scan) value is in fact only relevant for the non-LG part. This mixed Order will produce an error during the KVDT export (of the LG firm).

This issue has been corrected: the "Erstveranlasser" is now ignored during the KVDT financial export for LG (firm).

Fixed missing budget items in LDT reports (GLIMS_BILL-03787)

An issue was reported regarding missing budget items in electronic LDT reports.

The issue typically occurred in the following scenario:

- Request1: individual billing code BC1 (budget item 1)
- Request2: individual billing code BC2
- A third billing code (budget item) (typically obtained via a Höchstwert billing rule) is linked to both requests

In this scenario, BC2 was missing in the LDT report.

This issue, which occurred since GLIMS 9.8.10, has been corrected.

Avoid error "Payment agreement already exists with matriculation" (GLIMS_BILL-03816)

An issue was reported where updating a payment agreement (manually in the Payment agreement editor or via the import of MyCareNet insurability data) failed because of the error ** b_NewAgreement already exists with Matriculation + Discriminator. (132).

This issue occurred when using a site function (for payment agreement formatting; typically used to make the national number more readable) in the **Policy** field **Payment agreement update** and when an existing payment agreement matriculation number that had not yet been formatted was updated (in fact, there are two payment agreements for the same party (person), the same matriculation number (except for the formatting: one is formatted, the other is not) and the same discriminator).

This issue has been corrected: the updated payment agreement is now saved correctly, with formatting and with a different discriminator.

Avoid error 'Payment agreement in use by ...' during order entry (GLIMS_BILL-03841)

When using the price consultation program while another user was entering an order and trying to select the same payment agreement, the error 'Payment agreement in use by ...' occurred during order entry.

This issue, which occurred since GLIMS 9.8.13, has been corrected.

Blood transfusion

Implemented specific row refresh in blood selection browser (GLIMS_BTM-01140)

When running a blood selection query (for instance with status range set from [Initial](#) to [Ready](#)), selecting some records in the resulting blood selection browser and having them updated or processed by a function (for instance [Discontinue](#)), then the query was reopened and the selected records disappeared from the browser (their status no longer satisfied the specified status range of the query). However, these records might still be taken into account when running another function.

This issue has been corrected: a specific row refresh is now applied (rather than reopening the query), which means that the updated / processed records that no longer satisfy the specified query options no longer disappear from the browser. This behaviour is identical to that of other browsers and will improve performance since the query no longer needs to be reopened.

Fixed incorrect error message in case of a disallowed blood bag status transition (GLIMS_BTM-01144)

The error message shown in case of a disallowed blood bag status transition (for instance, when the user selected [Return to Verification](#) for a blood bag with status [Initial](#)) was not correct. This issue, which occurred since GLIMS 9.9.0, has been corrected.

Error when using the "When Returned" or "When Checked out" trigger for a blood product (GLIMS_BTM-01168)

This modification fixes the following issues which affected the blood product triggers [When returned](#) and [When checked out](#).

When returned

- Error message because of the execution of a BloodSelection-based site function on a record of the BloodBag table (GLIMS incorrectly expected the site function to be executed on a Blood bag record).
- Missing log indicating that the blood bag's reservation was cancelled.
- Incomplete Discontinuation reason for the blood selection.
- Inaccessible return fields.

When checked out

- Inaccessible check out fields.
- Inability to execute the BloodBag.SetExpirationTime() MISPL function.

Fixed 'Undo expiry' for expired blood bags (GLIMS_BTM-01176)

An issue was reported where Undo transfusion > Undo expiry did not put the status of an expired blood bag back to [Initial](#). This issue, which occurred since GLIMS 9.9.0, has been corrected.

Undoing discontinuation of a blood bag with (non-ISBT) internal ID not possible (GLIMS_BTM-01180)

It was not possible to undo the status change of a blood bag identified by a non-ISBT internal ID. The status could not be changed from "Discontinued" to "Initial" because blood bags with an internal ID and status "Discontinued" were excluded from the blood bag query.

This issue, which occurred since version 9.3, has been corrected. The condition that no discontinued blood bags should be selected has been removed from the query.

Blood selection in Ready status not changed to Discontinued status when associated blood bag is discontinued (GLIMS_BTM-01189)

A blood selection with status "Ready" was not changed to status "Discontinued" when the associated blood bag was discontinued.

This issue, which occurred since version 9.9.0, has been corrected. From now on, a blood selection with the status "Ready" will also be discontinued.

Prevent running "Return to initial" on a Wasted, Expired or Discontinued blood bag (GLIMS_BTM-01193)

It is possible to change the status of a Wasted, Discontinued or Expired blood bag using the Undo transfusion functionality. However, this should not be possible when using the [Return to 'Initial'](#) function. As different privileges can be assigned to the two functions, the permitted initial status of the blood bag must be strictly controlled. This issue, which occurred since version 9.9.0, has been corrected.

Support for Trix version 3.0 (GLIMS_TRIX_NL-00003)

Introduction

GLIMS now supports version 3.0 of the TRIX interface. This implies that the connection to the web service is now a direct one and no longer established via a translator.

Older versions of the Trix interface will still use the translator connection.

Automated information check from GLIMS to Trix

When creating an order for a patient in GLIMS, GLIMS automatically consults Trix to verify whether or not this patient is known in the Trix database. If the patient is known, the Object field [External info available](#) is enabled, as before.

Notes

The patient must have a date of birth filled in and a BSN assigned (identification). If both are missing, the check is not executed.

Consult Trix info from within GLIMS

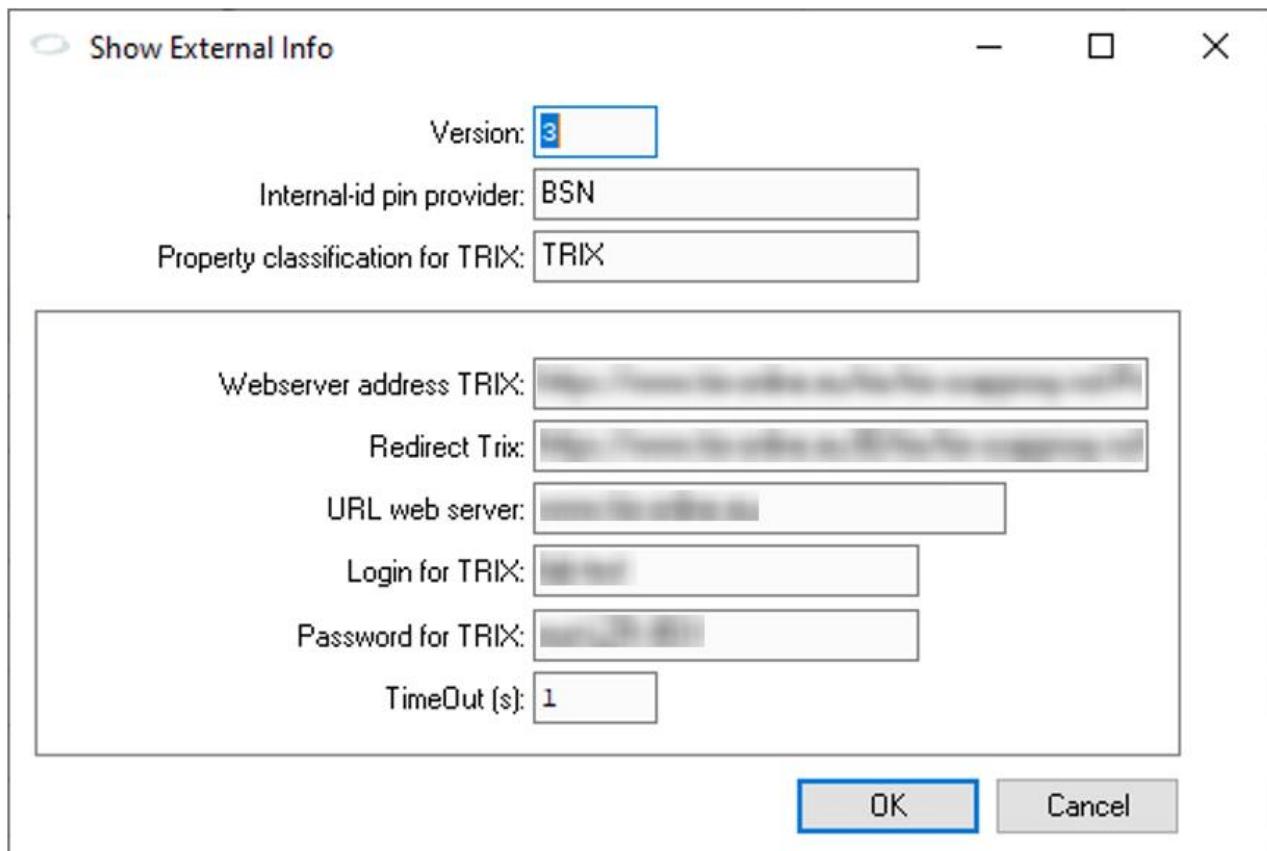
The context function [Show external info](#) on Object (Object.ShowExternalInfo()) allows the user to consult the external information from Trix. GLIMS reconnects to the web service and displays the temporary URL returned by Trix in an external web browser.

Note

- Due to the temporary nature of the returned URL, the web service needs to be called each time the information is required.
- The URL currently gives access to the login page of Trix. A fully descriptive URL offering a direct link to the required information is expected to be available soon. Consequently, the user needs to enter their credentials and the BSN to see the data.

The function Object.ShowExternalInfo() must be pre-configured as a menu option on the Object table.

Parameters



Webserver address Trix

The address of the web service (V2) or the full WSDL path or the web address of the URL (V3).

Redirect Trix

The web address where Trix is redirected to.

TimeOut (s)

Optional maximum wait time in seconds for a web service reply (V3).

Fixed disappearing information window in blood selection browser (MATE-06985)

The information window at the top of the blood selection browser shows detailed information about the currently focused blood selection. Below the information window, a screen splitter is available which allows the user to minimize the information window. However, an issue was reported where the screen splitter was no longer visible after closing the browser with a minimized information window and reopening it. The user could then no longer maximize the information window.

This issue has been corrected.

Communication

Synchronize results query should take into account the procedure data scope when reporting procedure data result changes for specimens (GLIMS_ANLZ-01428)

A Specimen-scoped procedure data result might be reported for several specimens (for the same object and object time), even though each specimen has "its own" procedure data result.

Example

Suppose there are five separate specimens (in five different orders) for the same object and having the same object time. Each specimen has a **Procedure data result** record that is linked to the same procedure (each specimen has an action for this procedure).

If the **Procedure data result** record of SpmnA changed (i.e. **Confirmed** or **Discontinued**), but the **Procedure data result** records of SpmnB, SpmnC, SpmnD and SpmnE did not change AND the procedure data is configured with **Scope = Specimen**, then GLIMS reported the procedure data result change of SpmnA for all five specimens.

However, if the procedure data was configured with **Scope = Object**, the outcome was exactly the same, while in case of regular specimen (or ALL) query processing, a clear distinction is made between both scopes.

This issue, which occurred since GLIMS 8.0.0, has been corrected.

Note

In case of a regular specimen query (or ALL query) that also requests procedure data, GLIMS will not report a Specimen-scoped procedure data result when that result is not linked to a specimen (purely informational properties that are configured as procedure data). If that property was not requested on a specimen (during order entry) - therefore no specimen was imposed on it AND the informational property is not an output of a procedure with a specimen as input - then GLIMS will not report it as procedure data when that property is configured as Specimen-scoped procedure data for a procedure that produces a certain test, which is selected to be included in the work order reply to the specimen (or ALL) query.

However, this informational property would have been included in the reply to the synchronize results query if that procedure data result had generated an event. Because of this modification, this will not happen anymore, bringing the current behavior more in line with the behavior of the regular specimen (or ALL) query.

Having such an informational property configured as Specimen-scoped procedure data could be considered as incorrect configuration. It would make a lot more sense to configure it Object-scoped. In that case, it would still be picked up for the synchronize results query.

Fixed site attribute processing in URL messages (GLIMS_OI-00800)

This modification fixes the following two problems, which occurred since GLIMS 9.5.20, during the processing of site attributes in electronic order entry messages (URL).

- Values of a tagged value list that contained an "=" were not handled correctly for site attributes. Only part of the provided value ended up being stored in the site attribute, that is: the part preceding the "=" character. For example, if the provided value was "0=days", then GLIMS only stored "0" as a value, ignoring the "=days" part.
- The processing of a second site attribute, for instance on the same specimen, resulted in an error.

```
*** ERROR [Translator server] 2021-06-14 15:20:03.82
Adding site attribute: ** Array subscript 2 is out of range. (26)
```

Reintroduce order service options ReportScheduling and ReportTriggering (GLIMS_OI-00853)

This modification reintroduces the Order-based service options ReportScheduling and ReportTriggering which were no longer taken into account since GLIMS 9.3.

Prevent creation of general payment agreement upon electronic order entry due to missing object information (GLIMS_OI-00865)

This modification prevents that general payment agreements are created during electronic order import.

In some situations, GLIMS cannot determine the party for a payment agreement that is mentioned in the order entry message (for instance, an order without an object and the provided payment agreement information does not contain enough information on the party to be used). GLIMS then creates a 'general' payment agreement: a payment agreement without a party. However, GLIMS should never create general payment agreements during electronic order import.

This issue has been corrected.

Fixed memory leak in translator service (GLIMS_OI-00873)

This modification fixes the memory leak that occurred when orders were processed via the translator service.

Prevent translator service from crashing when processing certain URL messages (GLIMS_PI-00359)

This modification prevents a GLIMS translator service from crashing when processing URL messages importing patient records and movements, and containing a correspondent ID that does not match an existing correspondent in the database.

In the service log file without time stamp, there will be a system error "SYSTEM ERROR: Index crsp_Id in Correspondent for recid 198912 partition 0 could not be deleted. (17630)".

Correspondents

Fixed error that occurred when applying a filter in the Lookalikes browser (GLIMS-13220)

This modification fixes the issue where applying a MISPL filter in the Lookalikes browser resulted in the error "Field was missing from FIELDS phrase". This issue only occurred in an Oracle environment.

CyberTrack

Access profile of employee assignment not set when logging in to Cyber-Track (GLIMS-13246)

An issue was reported where the access profile of the user logging in to CyberTrack was not loaded correctly. This led to incorrect shielding behavior (information being shielded even though the user had access to it) and an error during the start of a transfusion.

This issue, which occurred since GLIMS 9.8, has been corrected.

Fixed issue that hindered transfusion end registration (GLIMS-13486)

An issue was reported where a result update triggered by the execution of a site function led to problems with the publishing of the result event. This eventually led to a transfusion that could not be ended using CyberTrack.

This issue, which occurred since GLIMS 9.9.0, has been corrected.

Fixed issue where CyberTrack no longer warned about the maximum check out time having been exceeded (GLIMS_BTM-01172)

When the delay specified in the Blood product field **Max checked out minutes** had elapsed and the user attempted to register the start of a transfusion via CyberTrack, CyberTrack did no longer warn the user about the maximum time interval between the blood bag check out and start of the transfusion having been exceeded and allowed the user to proceed with the transfusion.

This issue, which occurred since GLIMS 9.9.5, has been corrected.

Incorrect person birth date format in CyberTrack (GLIMS_CBT-00302)

This modification fixes the issue where the format of the patient's birth date as sent by GLIMS to CyberTrack was not correct. Consequently, 1930/07/13 (yyyy-mm-dd) was shown in CyberTrack instead of 13/07/1930 dd-mm-yyyy. Upgrading to GLIMS 9.9.6 will solve this issue.

When activating multiple pending orders, apply the indicated object time to all orders to be activated (GLIMS-13475)

When activating multiple pending orders and setting the proposed object date/time to another value in the activation screen, the indicated object date/time was not remembered for the remaining orders to be activated and the user had to change the object time for each of these orders.

This issue, which occurred since GLIMS 9.9.5, has been corrected: when executing the non-preconfigured **Activate** function on multiple orders, the object date/time indicated in the activation screen for the first order is applied to all the other orders to be activated.

Ensure that the specimen internal ID is set correctly during pending order activation (GLIMS-13481)

An issue was reported where activating a pending order with explicitly requested specimens resulted in the specimens being assigned an incorrect internal ID when the specimen internal ID had been calculated in function of the order internal ID.

This issue has been corrected.

Genetics

Newlines added in rich text editor were not saved correctly (GLIMS-13332)

When opening the rich text editor (from the genetic result screen for instance), adding some text with newlines, and clicking OK, the inserted newlines were removed.

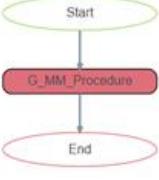
This issue, which occurred since GLIMS 9.9.4, has been corrected.

Fetal information shown only once in work list (GLIMS_GENX_LAB-00594)

Prenatal pooled specimens showed the same fetal information several times in the action grid of the work list screen. This issue, which occurred since version 9.9.0, has been corrected. The same information is now shown only once. If the pool consists of prenatal specimens from multiple different objects, the different fetal information is shown in the column.

Enhanced error handling during approach plan execution (GLIMS_GENX_LAB-00624)

This modification implements enhanced error handling in the following scenarios:

Error triggering scenario	Old behavior	New behavior
<ol style="list-style-type: none">1. Specimen is confirmed.2. Result is validated.3. A new activity is started (the new activity is linked to a property output with an error triggering site function specified in its Value field).	<ol style="list-style-type: none">1. The activity had status Error.2. The activity's Error message clearly specified the occurred error.3. The error message is shown to the user. 	<ol style="list-style-type: none">1. A rollback is performed: the specimen status is no longer Available.2. The error message is shown.3. The activity status is not changed.
<ol style="list-style-type: none">1. Result is entered.2. The next activity is started.3. An error occurs when starting the activity.	<ol style="list-style-type: none">1. A rollback was performed (the result value was again "?").2. No error message was shown.	<ol style="list-style-type: none">1. A rollback is performed (the result value is again "?").2. The error message is shown in the Results frame of the<ul style="list-style-type: none">• genetic exam screen• advanced worklist screen• specimen info screen• consult registration screen

Fixed error that occurred when opening large worklists with locus/variant results (GLIMS_GENX_LAB-00647)

An issue was reported where opening large worklists with locus results or variant results resulted in the error message "REPLACE/CONCAT may not result in data > 32000 bytes. (11678)".

This issue, which occurred since GLIMS 9.9.3, has been corrected. The performance of opening a worklist with locus results or variant results is now better as well.

Fixed error that occurred when opening a worklist with a lot of actions and result records (GLIMS_GENX_LAB-00651)

This modification fixes the issue where, in certain scenarios, opening a worklist with a lot of actions and result records resulted in the error message "***TTLocusGrid already exists with 1038. (132)".

This issue has been corrected.

Auto-validate genetic exam when results are validated (GLIMS_GENX_LAB-00679)

Previously, a genetic exam could only be validated if the user pressed the **Validate all** button. However, if all results had already been validated, the genetic exam could not be validated and remained at status **Confirmed**. This issue, which occurred since version 9.9.0, has been corrected. If the genetic exam can be validated, it will now be validated automatically.

Fixed issue of missing columns in column chooser pop-up (GLIMS_GENX_LAB-00689)

If the user has defined one or more customised columns via **List detail types** and the list detail type's mnemonic contained the name of an existing column in the Locus results/Variant results grid, the column was not included in the column chooser.

This issue, which occurred since GLIMS 9.9.4, has been corrected.

Fixed error that occurred during ribbon item selection after refreshing certain Genetics screens (GLIMS_GENX_LAB-00691)

An issue was reported where refreshing the genetic result screen or genetic order screen and activating the ribbon item that had been activated by the user prior to refreshing the screen, resulted in the error message "Invalid or inappropriate handle value given to RUN...IN statement. (2128)".

This issue, which occurred since GLIMS 9.9.1, has been corrected.

Allow discontinue of locus results without value when confirm/validate all in genetics result and work list screen (GLIMS_GENX_LAB-00717)

Issue

At **Confirm All/Validate All** on the genetic results screen/work list screen, there may be locus results that do not yet have a result. These were originally requested to e.g. make a price estimate of the genetic exam, but no results were ever received via the external Varvis interface. The value of those locus results remains in that case "?".

In order to validate the entire genetic exam and finalise the approach, these locus results must now be manually assigned a value. These may belong to different activities/genetic exams, so that the activities must first be selected to access the locus results... This is a very time-consuming and cumbersome process. Moreover, the person validating the conclusion is not in the right position to enter the values of the locus results at that time.

Solution

This issue, which occurred since version 9.9.0, has been corrected. At **Confirm All/Validate All**, the user is asked whether all expected locus results should be discontinued.

Extra: if you refresh the genetic results screen and try to add new locus results, you could get an invalid handle; this has also been fixed.

Discontinued informative results shown in the Genetic exam screen (GLIMS_GENX_LAB-00730)

Informative results with status 'Discontinued' were shown in the Genetic exam screen. This issue, which occurred since version 9.9, has been corrected. Discontinued results will no longer be displayed.

Family variants not displayed in the genetic results screen (GLIMS_GENX_LAB-00735)

Family variants were not displayed in the genetic results screen. This issue, which occurred since version 9.9.0, has been corrected. The family variants grid is now shown in the Family pane of the genetic results screen.

Improved loading time of Genetic exam screen (GLIMS_GENX_LAB-00745)

In Progress environments, the genetic exam screen would load slowly. This issue has been corrected.

Refreshing the genetic result screen changed the working activity and deselected the selected activities (GLIMS_GENX_LAB-00795)

Context

Initially, the genetic result screen was designed to automatically select the working activity when opening or refreshing the screen. As a consequence, refreshing the screen might change the working activity and deselect the selected activities.

As of now

The working activity and selected activities are saved and reselected when the screen is refreshed.

Please note that the user can no longer deselect the working activity: issues were reported where the user deselected the working activity and results that should not be validated were validated (those results were still taken into account even though the working activity had been deselected).

New MISPL function Approach.DiscontinueLocusResults() (GLIMS_GENX_LAB-00799)

A new MISPL function has been added to allow for the discontinuation of the locus results that are linked to the approach:

```
Approach.DiscontinueLocusResults(ValueString, QuestionString);
```

Warning

This function is only designed to be used inside the On confirmation / On validation triggers of the dummy property that is configured for locus results.

Parameters

- *ValueString*: locus results will only be selected if the **Raw value** (contains the name of the configured choice list choice) is the same as the given value. If not provided, the locus results with status **Expected** are discontinued.
- *QuestionString*: if defined, GLIMS will ask the user's confirmation by showing the specified question (yes/no). If the user refuses, nothing is selected.

Examples

Discontinue expected locus results, with confirmation message

```
logical Continue;
```

```
Continue := .Approach.DiscontinueLocusResults(?, "Are you sure you want to discontinue LR ?");  
IF Continue = false  
THEN message("User canceled");  
ENDIF;
```

Discontinue locus results having "Not tested" as value, without confirmation message

```
.Action.ApproachActivity().Approach.DiscontinueLocusResults("Not tested", ?);  
RETURN YES;
```

Fixed errors that occurred when a lot of departments are shielded (GLIMS_GENX_LAB-00803)

This modification fixes the error that occurred in the Family screen when shielding was active for a lot of departments.

Images inserted in the rich text editor were not exported in the report XML file (GLIMS_GENX_LAB-00807)

Images inserted in the Genetic exam screen via the rich text editor were not included in the XML file of the generated report. This issue has been corrected.

Performance enhancements for genetic result screen (GLIMS_GENX_LAB-00811)

The performance of the genetic result screen is now better (for instance during validation).

When clicking the **Confirm all / Validate all** button, a summary screen is opened. Please note that the genetic result screen now no longer refreshes prior to opening this summary screen.

Fixed refreshing of genetic exam screen when entering values in the Information tab (GLIMS_GENX_LAB-00832)

An issue was reported where the entire Genetic exam screen refreshed when entering values for the fields in the Information tab. This hindered the user who wanted to fill in a value for a field and proceed with the next field.

This issue has been corrected. It is now possible to use the Tab key to save the entered value and go to the next field.

HyBase

Fixed incomplete HyBase configuration dump file GLIMS2.ini (GLIMS_HYB-00028)

When running the HyBase export program with

- **Version = Extended**
- **Dump configuration** enabled

the created GLIMS2.INI file (containing the headers for the exported data) was incomplete: it contained fewer items than the exported .LAB data file. For instance,

- for line 1, GLIMS2.INI contained 11 items instead of 13
- for line 2, GLIMS2.INI contained 14 items instead of 15

This issue, which occurred since GLIMS 9.8.11, has been corrected.

Identifications

Support for new Icelandic PIN format (GLIMS-13321)

Context

In Iceland, each patient has a unique, nationwide number, consisting of their birth date, a sequence number and a check digit. Due to the widespread use of this number, explicit support is available in GLIMS to use this number as Person.InternalId. To this effect, the following functionality is available.

New functionality

A new range of Icelandic national identification numbers (starting with '8' or '9') will soon come into use for foreign nationals living in Iceland. GLIMS has therefore been updated to accept these numbers starting with '8' or '9' without any further verification. Moreover, GLIMS will not automatically set the birth date because these numbers do not contain the individual's date of birth.

Supplying an identification code for the default PIN provider will set the person internal id and PIN, as before.

Lab archive

Archive outline did not apply the rack type's row numbering (GLIMS_SERO-00186)

An issue was reported where the archive outline did not apply the rack type's **Row numbering**. Instead, the **Position numbering** was applied.

This issue, which occurred since GLIMS 9.9, has been corrected.

Fixed issue where specimen scan left open positions (GLIMS_SERO-00190)

This modification fixes the issue where in certain circumstances the specimen scan program skipped the next available position when switching between racks.

Configuration

1. A rack type with **Use first free position** deselected.
2. An archive with 2 racks of the above rack type.

Scenario

1. Scan a specimen into the 1st position of the first rack. The next position will be the 2nd position of the 1st rack.
2. Scan a specimen into the last position of the first rack. The next position will be the 1st position of the 2nd rack.
3. Scan a specimen into the 2nd position of the first rack. The next position will be the 1st position of the 2nd rack. It should be the 3rd position of the 1st rack.

MISPL

Ensure that site functions are evaluated in the report language of the order (GLIMS_GENX_LAB-00710)

Up until now, the site functions specified in

- the Property output field **Value** and
- the Property classification node field **Content**

were evaluated in the language of the user.

This is now no longer the case: the specified site functions are now evaluated

1. in the Report language of the order, if specified.
2. in the language of the issuer of the order, if specified.
3. in the language of the site, if specified.
4. in the language of the logged in user.

Microbiology

Memory leak when importing microbiology results (GLIMS-13314)

This modification fixes the memory leak that occurred when importing microbiology results.

Microbiology action status was downgraded after opening and closing the isolation comment text editor without changing the text (GLIMS_BAC-01651)

An issue was reported where opening - via F6 - the text editor for an isolation comment in the microbiology work screen (the microbiology action had first been promoted to status **ReadConfirmed** via F7) and closing the editor via the **OK** button without administering any changes to the text of the isolation comment, resulted in the status of the microbiology action being downgraded to **ReReading**.

This issue has been corrected.

Fixed error that occurred when adding, removing and re-adding carriers (GLIMS_BAC-01724)

This modification fixes the following issue:

1. Open the microbiology work screen.
2. Add three carriers.
3. Remove the first carrier.
4. Add another carrier.
5. An error occurs.

Memory leak in Microbiology module led to connection issues between GLIMS and WaspLab (GLIMS_BAC-01759)

An issue has been reported concerning the **Microbiology** module, where an unexpected connection time-out error occurred between GLIMS and WaspLab. This issue was caused by a previously undetected memory leak within the module itself.

This issue, which occurred since GLIMS 9.8.13, has been corrected.

Carrier test value was applied to another carrier test as well (GLIMS_BAC-01783)

This modification fixes the following issue:

1. The microbiology work screen shows two carriers; for each carrier a carrier test is added.

The Medium test of the second carrier test has a MISPL **Trigger** defined that is executed when the carrier test gets a value :

```
.Carrier.Action.SetReviewDate(Today());  
RETURN yes;
```

2. Open the carrier test browser.
3. Enter a value for the second carrier test.
4. The value of the first carrier test is changed as well.

This issue, which occurred since GLIMS 9.8, has been corrected: only the second carrier test now gets the entered value.

Fixed issue where Isolation record remained locked (GLIMS_BAC-01787)

If two GLIMS sessions were open for the same microbiology action and the user changed the reportability of the isolation in one session, the changed Isolation record remained locked. As a result, the Isolation record remained inaccessible.

This issue has been corrected.

Fixed incorrect colour usage for microbiology QC results with incubation period (GLIMS_QC-00994)

The colour usage in the microbiology QC results browser was not entirely correct for microbiology QC tests with an **Incubation period** scheduled to be initiated or executed today. These results were greyed out, making the user think that no action has to be performed.

This issue, which occurred since GLIMS 9, has been corrected.

Fixed layout of microbiology work screen when used in combination with the external antibiogram screen (MATE-07152)

This modification fixes the issue where the microbiology work screen was severely misaligned when the external antibiogram screen was opened simultaneously (the option Show the external antibiogram screen when opening the work screen was enabled).

Fixed errors that occurred when adding micro-organisms in the microbiology work screen (MATE-07207)

This modification fixes the errors

- "Invalid handle. Not initialized or points to a deleted object. (3135)"
- "Cannot access the LABEL attribute because the widget does not exist. (3140)"

which occurred when adding micro-organisms in the microbiology work screen.

Miscellaneous

Fixed memory leak in Order to-do items and Orders by order identifier browsers (GLIMS-12335)

A memory leak was detected in the Order to-do items and Orders by order identifier browsers. This issue, which occurred since GLIMS 9.8, has been corrected.

Disable obsolete 'RunProcedure' functions 'Merge persons from file' and 'LCSD export' (GLIMS-13176)

In GLIMS version 9, it was possible to configure a tool referencing the function table 'gp_Site', the function mnemonic 'RunProcedure' and a function parameter set referencing the function 'MergePersonsFromFile' or 'LCSDExport' in its setup screen. However, the function gp_Site.RunProcedure() with setup option 'MergePersonsFromFile' or 'LCSDExport', which existed in GLIMS 8, cannot be used anymore in GLIMS 9 and needs to be disabled.

This issue, which occurred since GLIMS 9.0.0, has been corrected.

Note

These obsolete functions have been replaced in previous GLIMS versions with the following menu functions:

- gp_Site.MergePersonsFromFile() : [Start > System management > Database > Merge double persons from file](#)
- PropertyClassification.LCSDExport(): context function [LCSD Export](#) on [Property classification](#)

Fixed slow performance of microbiology action browser (GLIMS-13207)

The microbiology action browser performed slowly when a material had been specified as query option. This issue, which occurred since GLIMS 9.8, has been corrected and the performance is now better.

Fixed error that occurred during setup of function parameter set for "BrowseNorms" (GLIMS-13262)

An issue was reported where the error **** "br_9999" was not found. (293)** occurred when setting up the function parameter set for the Property-based function [BrowseNorms](#).

This issue, which occurred since GLIMS 9.8, has been corrected.

Fixed "isn't a valid date" error (MATE-07079)

An issue was reported where the error "isn't a valid date" occurred when updating the **Valid from** field in the **Provision** editor and the date format in the session.pf file was set to ymd (year-month-day).

This issue has been corrected.

Fixed error "Invalid socket object used in WRITE method. (9178)" that caused excessive log file growth (MATE-07103)

An issue was reported where e-mailing statistics output (in CSV or Excel format) generated via a task scheduler failed with the error message "Invalid socket object used in WRITE method. (9178)" and caused the service log file without timestamp to grow excessively.

This issue has been corrected.

Dynamic web access: script errors no longer shown to the user (MATE_HTTP-00006)

When using Dynamic URL processing to access a web page from within GLIMS, any script errors that occurred because of errors in Javascript code or old versions of Internet Explorer were always shown to the user.

This has been corrected.

Order entry

Sequence of specimen internal ID assignment was not always correct (GLIMS-12859)

An issue was reported where, in the following scenario, the sequence in which the specimen internal IDs were assigned was not always correct.

Configuration

- A material mat1 and a property prop1.
- An informational and auto prompt property prop_info1 (scheduled via a different procedure than that of prop1)
- A panel containing mat1, prop1 and prop_info1 four times:
 - mat1
 - prop1
 - prop_info1
 - mat1
 - prop1
 - prop_info1
 - mat1
 - prop1
 - prop_info1
 - mat1
 - prop1
 - prop_info1

Routine

1. Open order entry and request the panel.
2. Add the values 1, 2, 3, 4 for the auto prompt properties.
3. Save the order.
4. Open the order outline: the specimen IDs are now in line with the values entered for the auto prompt properties.

Discontinuing a result via a result code resulted in the action having status Partial (GLIMS-12967)

Problem description

Configuration

- A result code exists with **Action = Discontinue** and **Assessed** disabled.
- A procedure exists with a material input and two property outputs. Both properties **Allow general result codes**.

Routine

1. During order entry, both properties are requested.
2. In the result browser of the newly created order, the result code is entered as result value for one of the properties.
3. In the order outline:
 - The specimen status should be **Initial**.
 - The action status should be **Inputting**.
 - The result with the result code should be in status **Discontinued**.
 - The other result should be in status **Initial**.
4. When entering a result value for the other property of the order,
 - the specimen status should be **Available**,
 - the action status should be **Realized**.

In previous versions, entering the result code for one of the properties resulted in an action with status **Partial**. This led to a problem when the second result output of the action received a value: the root specimen may not be promoted to status **Available**.

Solution

This issue has been corrected.

Allow use of .AddRequest() during label printing (GLIMS-12970)

Issue

No actions were scheduled for requests added during label printing. During the order post-processing, action scheduling happens before label printing.

Solution

The order post-processing is now re-run when new requests are added after the Evaluation after scheduling.

Warning

Using .AddRequest() during label printing is not recommended. We recommend invoking .AddRequest() via the 'Evaluation after scheduling'. Using .AddRequest() after the 'Evaluation after scheduling' will impact upon the performance of the order creation process.

Object time confirmation message was not shown upon patient selection during order entry (GLIMS-13036)

An issue was reported where the object time confirmation message (which was required because of the environment variable OrderEntryObjectTimeConfirmation=Yes) was no longer shown when opening the order entry screen and selecting the patient. The message was delayed until the first request was added.

This issue, which occurred since [GLIMS 9.9.4](#), has been corrected.

Fixed error that occurred when .AddRequest is called during action scheduling on AppServer (GLIMS-13109)

This modification fixes the "Cycle in procedure calls" error and the incorrect action scheduling that occurred when the .AddRequest MISPL function was called during action scheduling on AppServer.

Fixed incorrect scheduling of a panel in case of discriminator "+00:00" (GLIMS-13189)

This modification fixes the following scheduling issue.

Configuration

- A panel with two panel members.
- Both panel members are properties, derivable from the same material.
- One property has a discriminator ("+00:00"), the other property does not have a discriminator.

Routine

- Create an order and request the panel.
- GLIMS schedules two specimens of the same material, one for each panel member.

GLIMS now schedules only one specimen on which both properties are scheduled.

Fixed 'No wb_rootinstance is available' error during action scheduling (GLIMS-13263)

This modification fixes the error 'No wb_rootinstance is available' which occurred during action scheduling since GLIMS 9.8.

Result value was cleared by .AddRequest during order creation (GLIMS-13296)

An issue was reported where the .AddRequest function, when used in a MISPL expression that was triggered during order entry, set the result value of results which had already been given a value, to "?". If these results had already been automatically confirmed or validated, a discontinue-repeat might have occurred.

This issue, which occurred since GLIMS 9.8, has been corrected.

Ensure execution of the material creation trigger in case of electronic order entry with explicit specimen internal ID assignment (GLIMS-13370)

An issue was detected where the material creation trigger was not executed upon electronic order creation via a URL message that contained explicit values for the specimen internal ID.

This issue has been corrected.

LDT-import: fixed error that occurred when importing special characters (GLIMS_PI-00364)

This modification fixes an error that occurred when importing order-related data in GLIMS via an LDT-message. The error occurred when the imported last name(s) contained an apostrophe.

Fixed request code browser to show the entered search text when fast-positioning (MATE-07174)

Double clicking in the **Request** field of the order entry screen opens the request code browser. When fast-positioning to a request code record in this browser, the entered search text was no longer displayed in the lower left corner of the browser.

Request code Tools

Request definitions Request forms Study default request code

Panel membership Related Usage

Microbiology Request codes for current issuer

Mnemonic	Name	Type
FBR_MicroMaterial-FBR_G	Grafting	Mic
FBR_MicroMaterial-FBR_I	FBR Isolation Tests	Mic
FBR_MicroMaterial-FBR_M	FBR_Microbiology	Mic
FBR_MicroMaterial-FBR_M	FBR_MicroBioCalcul	Mic
FBR_MicroMaterial-FBR_F	FBR Processing	Mic
FBR_MicroMaterial-FBR_V	FBR_Virus	Mic
FBR_Urine-FBR_MicroBio	FBR Microbiology 1	Mic
HEMOC	ABactVtek	Mic
ho_micromat-ho_MB_proc	A microbiology procedure	Mic
ho_micromat-ho_microb	A microbiology procedure	Mic
ho_micromat-ho_microb2	A microbiology procedure - versic	Mic
JH_MAT1JH_MP_1	test procedure microbio	Mic
Jonas_M_Proc_Im	Jonas Micro Procedure import aé	Mic
Jonas_vieJonas_M_Proc	Jonas Micro Procedure import aé	Mic
jvr_blood-jvr_micro_proc	jvr_blood-jvr_micro_proc	Mic
jvr_Micro_Mat-jvr_Micro_P	JVR Microbiology Procedure	Mic
g_bak-JZ_mic1	JZ_mic1	Mic
KiestraMat1-KiestraMicro4	Kiestra microbiology procedure 4	Mic
KiestraMat1-KiestraMicro5	Kiestra microbiology procedure 5	Mic
KiestraMicro1	KiestraMicro1	Mic
ksm_microproc	ksm_microproc	Mic
LDF_MBMaterial-LDF_graf	LDF_grafProp	Mic
LDF_MBMaterial-LDF_MB	LDF_MBProc	Mic
LDF_MBMaterial-LDF_repl	LDF_MBMaterial-LDF_replProp	Mic
MAT_ORI_1-MP_ORI_1	MAT_ORI_1-MP_ORI_1	Mic

fb Options... OK Cancel

This issue, which occurred since GLIMS 9.9, has been corrected.

Order review

User without validation privilege could no longer "Confirm + validate" during order review (GLIMS-13401)

An issue was reported where order review no longer allowed a user without the result validation privilege to **Confirm + validate**: the query did not return any orders even when there were orders with available results.

In GLIMS 9.8, a user without the result validation privilege was able to cycle through the orders but unable to validate results. This issue, which occurred since GLIMS 9.9.1, has been corrected.

Orders

Improved sorting in urgency monitor (GLIMS-13010)

The urgency monitor in GLIMS now remembers the sort column and sort order selected by the user.

Implemented specific row refresh in order urgency monitor browser (GLIMS-13131)

The order urgency monitor browser will now no longer reopen the query to refresh its data after one or more records were updated or processed by a function. A specific row refresh - meaning that only for the selected rows the updated data will be fetched - is now applied which is faster than reopening the query (the user no longer has to wait until the entire browser finishes refreshing).

Fixed slow order creation in certain situations (GLIMS-13202)

This modification fixes slow order creation in certain situations by omitting certain specimen-related checks when a specimen has not yet been created.

Urgency monitor is slow when a department filter is specified (GLIMS_Moni-00013)

The Urgency monitor is slow when only a department filter is specified. This issue, which occurred since version 9.9, has been corrected.

Take reference date into account when searching a correspondent for a given combination of LANR/BSNR identifications (GLIMS_OI-00897)

An issue was reported where an incorrect correspondent was selected for a given combination of LANR/BSNR identifications in case of, for example, a BSNR identification that used to be valid for HCProvider1, but is currently linked to HCProvider2.

Example

HCProvider1 has the BSNR identification "12345" which expired on 31 December 2020. HCProvider2 has the same identification number as of 1 April 2021. In this case, GLIMS might have incorrectly selected HCProvider2 even though an order of HCProvider1 was being updated electronically.

This issue, which occurred since GLIMS 9.8.14/9.9.5, has been corrected.

Pathology

Opening the pathology work screen was slow (GLIMS_Path-00373)

An issue was reported where opening the pathology work screen was very slow when a lot of users or HC providers were linked to the department of the pathology examination.

This issue, which occurred since GLIMS 9, has been corrected.

Quality control

Implemented specific row refresh in QC population browser (GLIMS_QC-00971)

The QC population browser will now no longer reopen the query to refresh the data after one or more records were updated or processed by a function. A specific row refresh - meaning that only for the selected rows the updated data will be fetched - is now applied which is faster than reopening the query (the user no longer has to wait until the entire browser finishes refreshing).

Text browser could not be opened during QC result entry via a work list (GLIMS_QC-00975)

When entering a QC result that raises a severity, the user is asked to enter a comment. A comment text can be selected from the Text browser which can be opened by using the Insert key in the comment field. However, when entering a QC result via a work list, the user could open the Text browser but could not select a Text from the browser and had to enter the comment text manually.

This issue has been corrected.

Channel quality monitor did not show the client stations of a LAS or Concentrator (GLIMS_QC-00998)

An issue was reported where the **Include client stations** option of the Channel quality monitor was disabled and greyed out. Consequently, the **Channel quality monitor** did not show the client stations of a LAS or Concentrator and the user was unable to enable the option to have them displayed.

This issue, which occurred since GLIMS 9.6, has been corrected.

Active tab page in Levy Jennings graph no longer changes in function of the selected QC population (GLIMS_QC-01002)

When opening the Levy Jennings graph from the QC population browser, the active tab page in the graph window changed when navigating to a different QC population in the browser. GLIMS determined the active tab page in function of the selected QC population. This is now no longer the case: the selected tab page remains the active tab page when selecting a different QC population.

CTRL+F on a qualitative QC result in a work list opened the wrong choice list (GLIMS_QC-01007)

Context

Work lists are commonly used to list the work to be done by a particular work unit (person or station) in the laboratory. Work lists are editable. In particular, they offer the possibility to enter patient and QC results.

For QC results to be visible and editable in a work list,

- the option **Include QC** of the Generate work list screen must be activated.
- the QC materials must be added to a QC schedule.
- the QC schedule must refer to the work list template on which the work list is based.

Issue

When using CTRL+F on a qualitative QC result in a work list to enter the QC result value, the choices of the property choice list were shown instead of the choices of the QC population's QC choice list.

This issue has been corrected.

Report Builder

Fixed Java error that occurred when generating a report containing a graph result (GLIMS-13056)

An issue was reported where an error occurred during the generation of a GLIMS Report Builder report containing a graph where all points were having the same value on the Y axis.

This issue has been corrected.

Added environment variable MA_JVM_JARROOT to shorten the classpath for MipsJVMDaemon (MATE_RB-00228)

On Unix, GLIMS may be installed in a deep directory structure (for instance: /home/mips/glims9). When assembling the classpath for MipsJVMDaemon, two environment variables are taken into account: MA_JVM_CLASSPATH and MA_ROOT.

If MA_JVM_CLASSPATH is not set, the classpath is built at runtime, starting from MA_ROOT. This could result in the following classpath whose length might be problematic.

/home/mips/glims9/jar/mips-jvmrt-1.0.1?jar:/home/mips/glims9/jar/mips-pdfbox-1.0.1?jar:...

The environment variable MA_JVM_JARROOT is now available as well and can be used instead of MA_ROOT in order to assemble the classpath. It allows system managers to create a symbolic link on the UNIX server that results in a shorter overall Java classpath.

Reports

Fixed error that occurred when adding a report (GLIMS-13048)

This modification fixes the issue where adding a report (for instance by opening the report browser and selecting the context ribbon item **Add**) resulted in an "Invalid or inappropriate handle value given to RUN...IN statement. (2128)" error message.

Improved performance of report approval (GLIMS-13406)

This modification improves the performance of

- report approval
- the Order-based MISPL functions .Attribute("ValidatorSignatureList") and .Attribute("ValidatorInitialsSignatureList")

Report the result status even when electronic reporting of the result value is suppressed (GLIMS_RX-00750)

This modification fixes a number of issues which have occurred since the implementation of [GLIMS_RX-00725](#).

1. For discontinued empty results, the result status was no longer exported by default.

In this scenario, empty results were obtained via a result code that expands (via its **Expansion** field) to an empty text.

2. GLIMS should handle the case where an **Empty result** text is defined on the report template.

As of now:

1. A result status will be reported for discontinued results as well.
2. If the result value is the Empty result text value (because the result value cannot yet be reported as determined by the minimal result status), the result will be reported as Expected (external comment, availability information, etc. are omitted).
3. If the result value was emptied via the Content MISPL on the property classification node, the result status is still reported. Initial, Expected and Discontinued are reported as such. Available, Confirmed and Validated are exported as Expected.

Results

Update object time/reference time of discontinued results during 'Change object time' (GLIMS-13238)

An issue was reported where the object time and reference time of a discontinued result were not updated during Change object time.

This issue, which occurred since GLIMS 9.6, has been corrected.

Example

Configuration

A procedure with a material as input and a property as output.

Routine

1. Create an order and request the property @12:00.
2. Fill in the property's result value and **Confirm**.
3. Select the result and choose Repeat in the context menu or context ribbon.
4. Select the order and choose Change object time (**New object time** = 18:00).

In previous versions

The discontinued result and its action remained at @12:00.

As of now

The new object time is taken into account.

Incomplete results query did not return any results (GLIMS-13288)

An issue was reported where the Incomplete results query with a status range from **Initial** to **Confirmed** did not return any results. This issue, which occurred since GLIMS 9.8, has been corrected.

'Update image results' tool now detects images in subfolder of 'Old image path' (GLIMS-13306)

The tool (**Start > System management > Tools > Update image results**) that allows you to change the image path of all image results in GLIMS has been updated in order to support the detection of Result records with an image that is located in a subfolder of the specified folder. Moreover, the subfolder structure is maintained in the **New image path**.

In previous versions, an image result with raw value \\Server\2021\07\22\test.gif could not be found when \\Server was specified as **Old image path**.

Fixed issue where the Results of Order browser froze (GLIMS-13513)

This modification fixes the issue where the Results of Order browser froze when the user scrolled through the results. This issue occurred since GLIMS 9.9.4.

Specimens

Fixed incorrect logging of sampling time changes for specimens (GLIMS-12977)

An issue was reported where the Specimen audit trail did not log sampling time changes correctly: the **Specimen audit** records showed (NewTime) -> (NewTime) instead of (OldTime) -> (NewTime).

This issue, which occurred since GLIMS 9.8, has been corrected.

Paired specimens in an existing order were not marked internally as paired upon edit of order (GLIMS-13090)

An issue has been reported where the **lowest object time** of an order was not calculated correctly when reusing specimens.

When an order contained paired specimens and was re-opened to insert additional requests, the already saved paired specimen was no longer considered as paired.

This issue, which occurred since version 9.3, has been corrected.

Request not scheduled via specimen reception scan when order entry was open (GLIMS-13301)

An issue was reported where requests added via the site function specified in the **New internal id** field of the Specimen reception scan program were not scheduled when the order entry screen was open (an order had been created first and then the specimen reception scan was opened).

This issue, which occurred since GLIMS 9.8, has been corrected.

Implemented workaround to avoid Progress error when using Specimen.ProcessByNumber (MATE-07130)

This modification implements a workaround in order to avoid the error "Mismatched number of parameters passed to routine ReceiveCachedTable. (3234)" from occurring when using Process by number.

Statistics

Avoid error during the generation of financial statistics on invoice items (GLIMS_BILL-03819)

An issue was reported where an error occurred during the generation of financial statistics on invoice items. The error occurred when a MISPL filter (calling .Order.InvoiceItemsData()) was used.

In addition, running the MISPL

```
Order.InvoiceItemsData(?, ?, ?, "NomenclatureCodes" /* whattoget */, ?) ;
```

returned the value '0' when no invoice item was available whereas the return value should be ''. The value '0' should only be returned as initial value for whattoget="Amount" or "BaseValue".

These issues have been corrected.

Fixed incorrect description or grouping in transfusion statistics output (GLIMS_BTMS-00007)

The following issues which occurred during the generation of transfusion statistics have been fixed.

1. The blood bag query allows to select blood bags on the basis of a specific status set within a specific time range (via the TimeType query parameter). However, the resulting output failed to show the correct status / time type. For instance, when the user had selected **Checked out**, the output showed **Received**.
2. The grouping of the selected blood bags in the resulting output was not correct. The following now applies:
 - For status / time type **Checked out**: check out time-based grouping
 - For status / time type **Returned**: return time-based grouping
 - For status / time type **Status expired**: expiration time-based grouping
 - For status / time type **Discontinued**: discontinuation time-based grouping

Fixed output of corrupt Excel file by Statistics module (MATE-07182)

This modification fixes the issue where the Statistics module in GLIMS sometimes outputted a corrupt Excel file.

System management

Fixed C-sources compilation error for Red Hat 8.3 (MATE-07200)

This modification fixes the compilation error (c_sources.tar) that occurred when installing GLIMS 9.9 on Red Hat 8.3.

User interface

CTRL+F should not take into account spaces at the end of the search text (MATE-07034)

When using CTRL+F to find data in a browser, spaces at the end of the search text were taken into account as well whereas in GLIMS 8 those spaces were not taken into account. Consequently, the value searched for was not found in GLIMS 9.

This issue has been corrected.

Accelerator key was taken into account even when activated from a non-focused context (MATE-07099)

This modification fixes the issue where an accelerator key was taken into account even though the required context for the accelerator key was not active.

This issue has been corrected.

Quick report window not synchronized when using PageDown in worklist array editor (MATE-07120)

This modification fixes the following issue:

1. Open a worklist with several entries (pages).
2. Open the quick report for a patient in the worklist.
3. Navigate to the second page of the worklist using the PageDown key.
4. The quick report is not updated to the selected patient on the second page of the worklist.

Fixed issue where processed records remained selected in browsers (MATE-07162)

The following issue has been corrected: when one or more records in a browser were updated or processed by a function, causing the query to be reopened, one or more of the previously selected records - which no longer matched the current query criteria and were therefore no longer visible - were still selected.

Adjust tab page width in editors to avoid missing tab page titles (MATE-07192)

An issue was reported where an editor's tab pages were very small, which caused the tab page title to no longer be visible.

This issue has been corrected: if the available space is sufficient, the tab page width will now be adjusted.

The user interface themes **Blue**, **Silver** and **Black** do not support tab page resizing.

Fixed synchronisation issue between parent and child window (MATE-07223 / MATE_SCL-00078)

This modification fixes the following synchronisation issue:

1. Open the Orders by internal ID browser.
2. Open the Result browser for the selected order.
3. Use fast positioning in the Order browser by entering "2019" => The Result browser synchronises.
4. Enter "09" so that the Order browser fast positions to "201909" => The Result browser does not correctly synchronise.

Active record in browser was scarcely discernible (MATE-07230)

This modification fixes the issue where the active record (selected via fast-positioning or CTRL-F) in a browser was no longer clearly discernible from the other records in the browser.

Watchdog

Fixed issues that occurred when starting WatchDog 6 on Unix (MATE_COMHL-00586)

This modification fixes the issues that occurred when starting WatchDog 6 on a Unix operating system.

Version 9.9.5

Important modifications

Field FK 5002 'Art der Untersuchung' in German KVDT (ADT) export (BILX_GKVDT-00487)

Since [GLIMS 9.9.4](#), the KVDT export field FK 5002 - Art der Untersuchung is filled with the external description of the billing code (and no longer with the request definition description). However, in some cases, the old behaviour is desired.

Therefore,

- if the external description of the billing code is specified, it will be sent in FK 5002.
- if the external description of the billing code is not specified, the request definition description (or, if empty, the mnemonic) is sent.

Results of auto prompt properties should have their own RequestedCode (GLIMS-12868)

Issue

Since the introduction of the RequestedCode concept in GLIMS 9.3, GLIMS reuses existing RequestedCode records instead of creating new RequestedCode records for requests of auto prompt properties. However, this could cause issues during electronic reporting as the results of those properties are seen as part of the originally requested "item" (for instance: microbiology procedure or panel). Consequently, HL7 messages will report the results as OBX segment within one ORC/OBR block.

Solution

The request of an auto prompt property is now linked to a separate RequestedCode record. This results in a clearer picture of what was originally requested and what was added later on.

Example

Configuration

- A microbiology procedure is configured with references to grafting, microscopy, processing and report properties.
- The microscopy procedure that outputs the microscopy property outputs two auto prompt properties as well: "auto_propA" and "auto_propB" (to allow the user to provide information on observations made during the microscopy investigation).

Routine

- The microbiology procedure is requested during order entry:
 - a RequestedCode is created for the microbiology procedure
 - no requests are created for "auto_propA" and "auto_propB"
- In the microbiology work screen,
 - the microbiology action is promoted to status **Microscopy**.
 - a value is provided for the auto prompt property "auto_propA" that is listed in the **Results of specimen** browser of the work screen.

New behaviour

A new request for "auto_propA" is added to the order with its own RequestedCode (in previous versions, the request for "auto_propA" was linked to the RequestedCode of the microbiology action).

When generating an electronic report for the order, "auto_propA" is reported in its own OBR/OBX segment and no longer as OBX segment in the OBR segment of the microbiology action.

Printed status of order and specimen labels incorrectly set to 'YES' (GLIMS-13007)

When using GLIMS in combination with CyberLab and an electronic order was sent via a translator to a GLIMS service and the translator options enabled 'ReportOrderDetails' in the reply message, then

the Order options

Order label 1 printed

Order label 2 printed

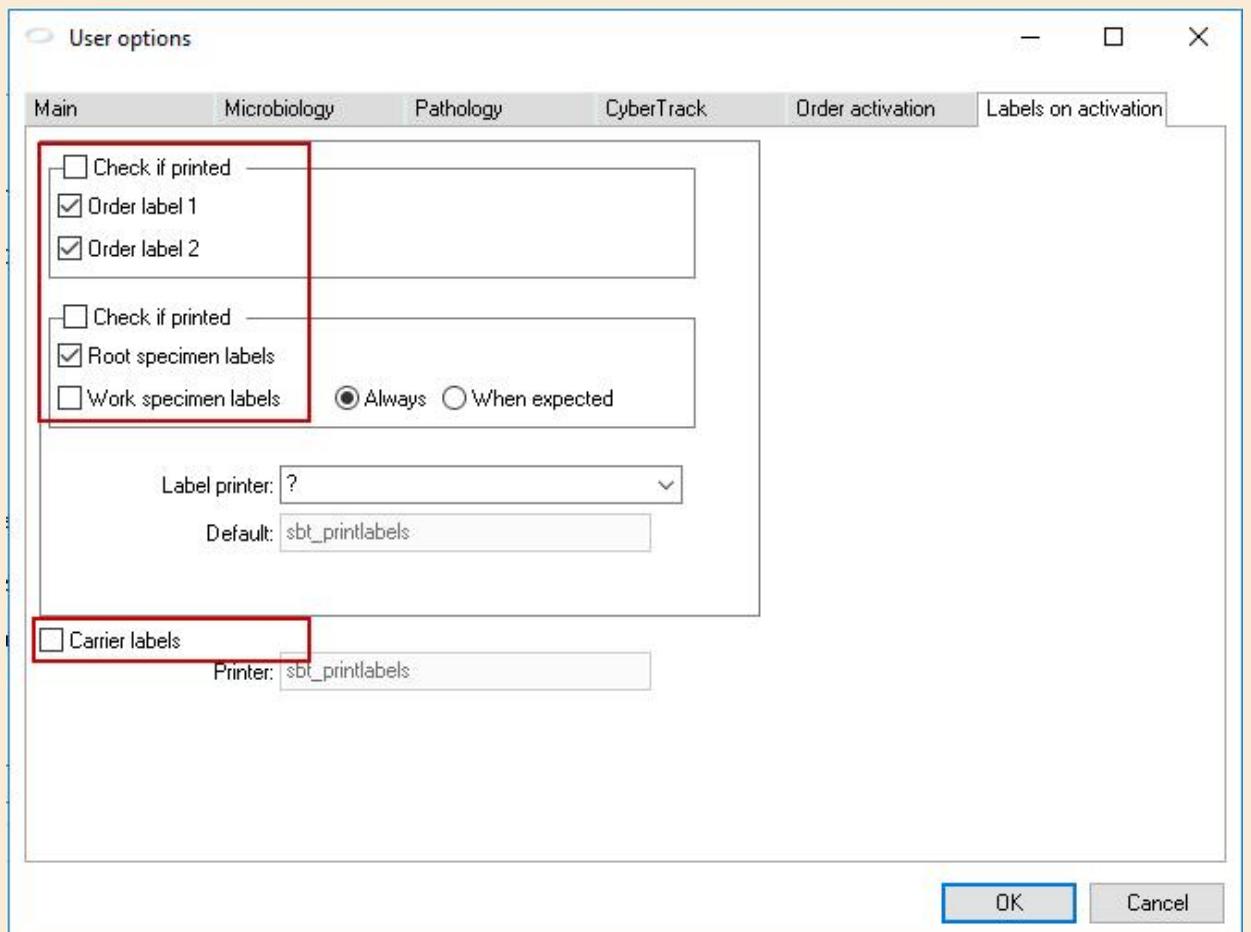
and the Specimen option

Label printed

were incorrectly set to 'YES' regardless of the batch user order entry preference. This issue has been corrected. The batch user settings for order and specimen labels are now taken into account.

Warning

To guarantee backward compatibility for electronic reporting, the batch user's 'Labels on activation' order entry preferences need to be set as follows:



To change the batch user's order entry preferences:

1. The batch user should become an interactive user ('Session type' = 'Interactive').
2. Login with this user.
3. Update its order entry preferences (see image).
4. Change the interactive user into a batch user again ('Session type' = 'Batch').

Evaluate 'Person comparator' MISPL function before reusing an existing Person record based on its identification (GLIMS_PI-00356)

Issue

When new Person records are imported via a URL message being sent to a GLIMS service, GLIMS first verifies if the patient already exists in the database, in order to avoid that more than one Person record is created for the same patient. The criteria used to determine whether or not Person records are identical are customer-specific. These criteria can therefore be defined in the **Person comparator** MISPL function (**Start > System management > Customize > GLIMS General > Main page > Persons**). The outcome of the MISPL function determines whether or not the existing Person record can be used.

However, the **Person comparator** MISPL function is only evaluated when the URL message does not contain an identification. When one or more identifications are transmitted for a Person, GLIMS tries to find the best matching Person record without any further verification.

Solution

The **Person comparator** MISPL function is now also evaluated when the received Person is found in GLIMS via its identification.

In addition, GLIMS will now take into account any shielding that is configured before selecting an existing Person record from the database.

Application management

Fixed incorrect logging for imported results (GLIMS-11962)

An issue was reported where the logging of results imported via System management > Database > Specific import > Results was not correct: the user having opened the Result editor for a given result was mentioned and not the user having imported the result.

This issue has been corrected.

Re-enable generic import of person internal id (GLIMS-12924)

The generic import of persons (via System management > Database > Import) did not take into account the internal id specified in the import file – a new internal id was calculated instead.

This issue, which occurred since GLIMS 9.9.0, has been corrected.

Billing

New 'AFS Amsterdam' protocol for export of financial data (BILX_AFS-00001)

The FinancialShipment.Send function has been extended with a new protocol: [AFS Amsterdam](#).

The new protocol is similar to the GGD protocol but:

- one output file instead of 3 separate files
- column separator ";" ("|" for GGD) and decimal separator ","
- record type 1 (one per invoice summary) and record type 3 are similar but do not have the same number of fields
- new record type 2 'grootboekregels'

Warning

The current implementation still requires an update based on customer feedback. If required, an update will be provided in a future version.

MyCareNet: export of insurability requests should include BIS numbers (BILX_CAREVXML-00036)

When GLIMS sent requests to the MyCareNet platform to obtain patient insurability information, BIS numbers (assigned by the KSZ) were not included even though MyCareNet can provide GLIMS with the insurability information of patients with a BIS number.

This issue, which occurred since GLIMS 9.8, has been corrected.

Financial export in GILDA format: export BillingItem.ExecutingDepartment instead of executing lab (BILX_GILDA-00001)

When exporting financial data in the GILDA format via the Send function on Financial shipment, GLIMS now exports the BillingItem.ExecutingDepartment (the identification code provided by the [Id provider](#) that is by default the shipment destination) in record type ACT, field 14 "CODE DE L'UH EXECUTANTE" (instead of the executing lab).

Note

For billing items of supplements or specimens (and now also in case of a missing BillingItem.ExecutingDepartment), the executing department of another result of the same order (and for specimen results, of the same specimen) is taken into account (as before).

Financial export in German "KVDT" format: update Q1-2021 (BILX_GKVDT-00489)

The export of financial data in the German KVDT format (using the FinancialShipment.Send function) has been updated to support the changes (quarter 1, 2021) in KBV regulation.

Financial export in German "KVDT" format: update Q2-2021 (BILX_GKVDT-00495)

The export of financial data in the German KVDT format (using the FinancialShipment.Send function) has been updated to support the changes (quarter 2, 2021) in KBV regulation.

Financial export in "HPRIM XML" (<1.07) format did no longer export nomenclature codes for lettre clé BHN (BILX_HPRIMXML-00061)

Since [GLIMS 9.9.1](#), the BHN-related billing codes are sent via the new element <bhnPhn> for HPRIM XML versions 1.07 and 2.00. However, for HPRIM XML versions 0.1 and 1.0, the BHN-related billing codes were no longer sent.

This issue has been corrected: for HPRIM XML versions lower than 1.07, the nomenclature codes for price code (lettre clé) BHN are now again sent in the <nabms> element.

In addition, the Tariff.NomenclatureCode is sent in a '<bhnPhns><bhnPhn><code>' element for all 'hors nomenclature' codes (version >= 1.07).

Order entry: manually added payment agreements were not always saved (GLIMS-12910)

An issue was reported where a manually added payment agreement was not saved for an existing order. This happened if adding the payment agreement was the only change made to the order.

This issue, which occurred since GLIMS 8, has been corrected.

Incorrect 'No executor found' error upon tariffication of pathology-related panel (GLIMS_BILL-03799)

An issue was reported where the tariffication of a pathology-related panel resulted in the error message 'No executor found', even though the responsible of the pathology examination (who should have been used as executor) was set.

This issue has been corrected.

Prevent 'Invoice summary creation' function from slowing down in case of large invoice summaries (GLIMS_BILL-03801)

The **Invoice** function Invoice summary creation was slow for large invoice summaries.

This issue, which occurred since [GLIMS 9.9.2](#), has been corrected.

Avoid incorrect tariffication error 'no billing code found for request' (GLIMS_BILL-03804)

The tariffication of a microbiology / pathology examination with a billing code assigned to the Medium (or lower level for microbiology) and not to the request definition or microbiology procedure resulted in the error message 'No billing code found for request'.

This issue has been corrected.

Invoice item rejection: pre-configured parameter set did not save 'Assign document number' option (GLIMS_BILL-03810)

When using the **InvoiceItemReject** function in a Tool (i.e. with a pre-configured parameter set), the options **Assign document number** and **Update requests** were not saved.

This issue, which affected the MyCareNet Facturation import (via the Import payments function) as well, has been corrected.

Financial export in RIZIV format: export pseudo nomenclature code (art.33ter) (GLIMS_BILL-03812)

Since [GLIMS 9.9.0](#), the export of financial data in the **RIZIV** format includes the "registratiecode" (registration code) for billing items related to art.33ter (in record type 50 Zone 57-59).

However, the pseudo nomenclature codes related to art.33ter need to be exported as well. Therefore, the code specified in the Property-based site attribute (data type **String**) 'PseudoCode_AMB' or 'PseudoCode_HOSP' is now exported as well (in record type 50 Zone 17-18 - 'Betrekkelijke verstrekking' / 'Prestation relative').

Which site attribute is taken into account depends on the **Order > Encounter > Type > Residence type (Hospitalized/Ambulatory)**: orders without an encounter are considered to be ambulatory.

The site attributes need to be created and should contain the pseudo nomenclature code mentioned in the official list.

Allow reuse of completely tariffed order sets during (electronic) order entry (GLIMS_BILL-03824)

Background

An order set can be used for multiple orders (typically when the orders are created for the same patient and date). Generally, the orders are entered and, when completed, the order set is tariffed. However, it can happen that the first order is already tariffed before the second one is entered.

During manual order entry, GLIMS then informs the user that "The chosen order set is already completely tariffed !" and offers the user the possibility "to reuse (and reopen) this order set". However, during electronic order entry, an error occurs and the order set is not linked to the order.

Solution

The new option **Allow reuse order set** (implemented via the SpecificSite-based site attribute '_ReuseComplOrderset' with data type = logical), which can be accessed via **System management > Customize > GLIMS billing**, now allows for a completely tariffed order set to be reopened automatically during electronic order entry. By default, this new option is disabled.

Note

The status of a completely tariffed order set will not be downgraded automatically when additional requests are added.

This needs to be done manually or via a task (query the order sets with status Complete and Order.TariffingStatus < Complete and apply the OrderSet.ChangeTariffingStatus (downgrade) function).

Avoid error when importing a (large) CODA file without a unique 'continuous sequence number' (GLIMS_PYIP-00014)

An issue was reported where an error occurred when importing (file format = BVB I.5 (128)) a (large) CODA file without a unique 'continuous sequence number' / 'doorlopend volgnummer' / 'n° de séquence permanente'.

This issue has been corrected.

CODA payment import: store 'communication (ctd.)' / 'mededeling (vervolg)' in payment info (GLIMS_PYIP-00017)

Issue

When importing a CODA file (file format = BVB I.5 (128)), the 'communication' / 'mededeling' of record 2.1 (pos 66-115) is stored in the payment reference.

However, in case of an unstructured communication type, the 'communication (ctd.)' / 'mededeling (vervolg)' / 'communication (suite)' (of record 2.2 and 2.3) is required as well.

Solution

In case of an unstructured communication type (niet gestructureerde mededeling / type de communication non structurée), the 'communication' / 'mededeling' (of record 2.1) and the 'communication (ctd.)' / 'mededeling (vervolg)' / 'communication (suite)' (of record 2.2 and 2.3) are now stored in the **Raw reference** (PaymentInfo.OriginalReference) field.

The 'communication' / 'mededeling' (of record 2.1 pos 66-115) is stored in the **Reference** field as before.

Invalid JSON file structure of Billing document template output (MATE-06925)

An issue was reported with the output of a Billing document template, where a large amount of lines (e.g. 100 000) in the output file caused a page break, resulting in a corrupted JSON file structure.

This issue has been fixed: the underlying layout builder has been adapted, removing the length limitation. Setting **Page length** to ? in the Billing document template will not cause a page break in the output file.

Blood transfusion

Fixed error that occurred during blood bag creation (GLIMS-12785)

An issue was reported where an error occurred in the following scenario:

1. A blood product exists with a request definition specified in the field **Create order with request**.
Note: the resulting request will add an implicit request for a specimen. Because of this specimen, a label will be printed. A label is therefore defined on the related root material.
2. A **Label printer** having **Print command** set to "Copy "&1"" is defined in the Set devices configuration screen (**User** tab).
3. The **Default report builder service** is specified and **Process print commands on report builder service** is enabled in **Start > System management > Customize > MATE**.
4. In the order entry options, **Check if printed** and **Root specimen labels** are enabled.
5. Scan a blood bag for the blood product via **Start > Transfusion management > Entry > By scanning barcodes**.

This issue, which occurred since GLIMS 9.9, has been corrected.

Fixed interference of memory-saved objects (GLIMS-12974)

An issue was reported where, upon blood bag checkout, the recipient shown in the blood bag log and blood bag **Recipient(s)** field was incorrect.

Scenario

1. An order with a blood selection exists for Person1.
2. A blood bag is linked to the blood selection and the blood bag status is promoted to **Checked**.
3. A quick report is opened for an order of Person2.
4. The quick report is closed.
5. The blood bag linked to the order of Person1 is checked out.
6. The **Blood bag** editor (**Log** tab page and **Recipient(s)** field) incorrectly designates Person2 as recipient.

This issue, which occurred since GLIMS 9.9.0, has been corrected.

Support of DGTI files with <LF> as end of line marker and last line containing only one field (GLIMS_BTM-01106)

In GLIMS 9.9.0, the DGTI specifications for importing blood bag files became stricter. As a result, DGTI blood bag files in which end of lines were marked with <LF> (line feed) and containing only one field (last line) instead of the required three fields could no longer be imported.

This has been corrected: GLIMS will now allow the import of blood bag files where the lines end with <LF> and the last line contains only one field.

Report expression was not re-evaluated upon each blood selection status change (GLIMS_BTM-01112)

The MISPL expression specified in the **Report expression** field of the BTM-related settings was not re-evaluated when the blood bag was promoted to status **Checked**.

This issue, which occurred since GLIMS 9.9.0, has been corrected.

Avoid that blood bag is administered twice + have CyberTrack block unauthorised HC providers (GLIMS_BTM-01114)

This modification ensures that

1. a blood bag can be administered only once (trying to administer a blood bag with status **Administered** now results in a warning message).
2. CyberTrack does not start or end a transfusion if the HC provider is not part of the group of HC providers who can be selected as responsible persons when starting and ending a transfusion (specified in **Start → System management → Customize → CyberTrack**).

Fix MISPL function StringToEnumerated and database import/export for Partial/Variant (GLIMS_BTM-01116)

Since the [introduction of Partial and Variant](#), errors could occur when using the functions mentioned below. This modification ensures that

1. the MISPL function StringToEnumerated works for Variant, Partial and *.
2. importing / exporting Blood bag typing, Blood bag, Blood donor rule, Blood product advice, Blood recipient type records does not result in an error.

Clear "Responsible HC provider" on "Cancel checkout" (GLIMS_BTM-01120)

When a HC provider authorizes a checked out blood bag in CyberTrack, the HC provider is filled in in the **Responsible HC provider** field of the **Blood bag** editor. However, when the checkout of the blood bag was cancelled in GLIMS (via Cancel checkout), then the **Responsible HC provider** field was not cleared.

This issue, which occurred since GLIMS 9.9.0, has been corrected.

Fixed unnecessary errors that occurred during the import of blood group data (GLIMS_BTM-01127)

An issue was reported where, during the import of blood group data, the records were not processed because of an error regarding:

- the number of fields that were provided (GLIMS incorrectly assumed that more fields than needed had been provided)
- an optional date that had not provided

This issue, which occurred since [GLIMS 9.9.4](#), has been corrected.

Blood bag preparation and production date can be in the future (GLIMS_BTM-01129)

GLIMS imposed that the preparation and production date of a blood bag lie in the past. However, for tissues, it should be possible to enter a preparation and production date that lie in the future.

When registering blood bags, GLIMS now no longer checks if the preparation and production date lie in the past.

Fixed error that occurred upon blood bag checkout (GLIMS_BTM-01131)

An issue was detected where an "Invalid handle" error occurred in the following scenario:

1. The option **Double cross allowed** is enabled in the BTM-related general settings.
2. The same blood bag is selected for two different orders.
3. The blood bag is checked out for the first order.

This issue, which occurred since GLIMS 9.9.0, has been corrected. The error now no longer occurs, the first order has a checked out blood bag and the second order has a discontinued blood selection and a blood selection with status **Initial** (for the selection of a new blood bag).

Blood bag field "Status reached on" was not always updated (GLIMS_BTM-01136)

An issue was reported where the **Blood bag** field **Status changed on** was not updated upon each status transition.

This issue, which occurred since GLIMS 9.9.0, has been corrected.

"When received" trigger was executed upon blood bag administration (GLIMS_BTM-01151)

Upon administration of a blood bag, the MISPL expression specified in the **When received** field of the Blood product was evaluated as well, in addition to the MISPL expression specified in the **When administered** field of the **Blood product**.

This issue, which occurred since 9.9.0, has been corrected. Upon administration of a blood bag, only the **When administered** trigger is now executed.

Communication

Station should not send patient last name instead of spouse name (GLIMS-12904)

If the Station field **Person alternative name** was set to **Spouse last name** but the **Spouse name** of the patient was not specified, then the **Last name** was sent to the external system.

This issue, which occurred since GLIMS 9.9, has been corrected. If the spouse name is not specified, no person alternative name should be sent.

Correspondent phone numbers no longer truncated at 16 characters for electronic messages (GLIMS-12914)

This modification ensures that the length in characters at which correspondent phone numbers are truncated is increased from 16 to 30 characters for electronic messages received by GLIMS (for instance: URL ADT^A08 messages updating correspondent information).

Fixed incorrect urgency on new action for moved incoming result (GLIMS_ANLZ-01431)

Issue

The new action that is created when storing an incoming result that was originally scheduled on a different station, can have an incorrect urgency.

When the originally scheduled result had an urgency higher than the default urgency, then the action that is created by GLIMS for the station that sends the result, will always have the default urgency.

Solution

This issue, which occurred since GLIMS 9.6.0, has been corrected.

Unsolicited result for discontinued result gave invalid handle error instead of warning about unexpected result (GLIMS_ANLZ-01446)

When receiving an unsolicited result for a specimen that already has a previously discontinued unsolicited result for the same property, then GLIMS encountered an invalid handle error.

This issue, which occurred since GLIMS 9.8.13, has been corrected.

Certain Correspondent fields could no longer be nullified via an electronic message (GLIMS_CI-00008)

Certain Correspondent fields could no longer be nullified by sending the <NULL> value in an electronic message via a translator to a GLIMS service.

This issue, which occurred since GLIMS 9.9.0, has been corrected.

Take a reference date into account when checking identification validity (GLIMS_OI-00803)

Issue

When the GLIMS database contains 2 correspondents with the same identification assigned by the same provider and, for one of the correspondents, the identification has an end date ('Valid until'), then one would assume that, during electronic order

communication, the GLIMS service would select the correspondent whose identification code is still valid. However, often, the GLIMS service selected the correspondent whose identification code is no longer valid (end date in the past).

Solution

In case of electronic order communication with GLIMS via a URL message in which a Correspondent and an IdentificationList for the Correspondent are mentioned, a reference date is now taken into account when checking the validity of the provided identifications. The default reference date is TODAY.

However, when trying to find a correspondent during electronic order entry, the reference date is determined in the following order (each time a value is not known or not given, the next one is taken):

1. Prescription time

The identification should be valid at the time the order, or any of the tests, was prescribed, whichever is the lowest.

2. Receipt time

The identification should be valid at the time the order, or any of the tests, was received, whichever is the lowest.

3. Lowest object time

Can be interpreted as the time of the first request or the object time of the order, whichever is the lowest.

4. Today

Note

If a 'StartDate' is provided in the Identification-element itself, then the provided start date has priority.

Stricter issuer lookup when LANR and BSNR identifications are provided electronically (GLIMS_OI-00841)

Issue

Since GLIMS 9.8, German users can specify LANR and BSNR providers ([Start > System Management > Customize > GLIMS General -> Identification](#)).

However, in case of electronic order communication, a stricter order issuer lookup is required as GLIMS searched for the 'best matching' correspondent even though it should be possible to uniquely identify the HC provider based on the combination of LANR/BSNR identifications.

Solution

GLIMS will now apply the following logic upon receipt of a URL message containing an identification for the LANR provider and/or BSNR provider:

If LANR provider and/or BSNR provider is set in GLIMS

=> Find the correspondent with a matching LANR and/or BSNR number.

- If an exact match is found: no need to look any further.
- If no exact match is found: do not look any further in order to avoid that a correspondent with a different LANR/BSNR combination is selected.

Note

'No exact match' means:

1. more than one match is found => this indicates a configuration problem
2. there is currently no such record in GLIMS

Both cases are logged in the service log file:

Ambiguous correspondent detected LANR '<provided LANR code>' BSNR '<provided BSNR code>'.

No correspondent found LANR '<provided LANR code>' BSNR '<provided BSNR code>'

The reason (no exact match found) is logged as well => the lookup is aborted.

Note

There is one 'special case': if the incoming message ONLY contains a LANR identification AND in the GLIMS database there is exactly one correspondent:

1. with the given LANR identification
2. without a BSNR identification

Then, that correspondent is selected.

Consult registration

Fixed error related to the size of the externalization of the previous consults (GLIMS_CONSXT-00057)

An issue was reported where consult registration resulted in the error message: "REPLACE/CONCAT may not result in data > 32000 bytes. (11678)". The error occurred if the content of the [Consults about the object](#) pane of the consult registration screen exceeded 32000 characters.

This issue, which occurred since GLIMS 9.8, has been corrected.

Consultation

Order consultation: fixed usage of wild card character "*" in object externalization search box (GLIMS-12920)

The order consultation program allows the user to perform a wild card search on the object externalization via the search screen that can be activated via the [Support object pattern search](#) option.

An issue was reported where entering the wild card character "*" only worked when the user had first entered some other characters and then added "*" in front of the entered characters.

This issue, which occurred since GLIMS 8.8, has been corrected. **In addition, the [Use soundex](#) option has been removed.**

CyberTrack

"No specific ward" was not stored in the user preferences (GLIMS_CBT-00298)

When GLIMS was configured to store the last ward selected by a user in CyberTrack's patient list (via the user option **User current ward user preference** or the general option **Use current ward user preference**) and **No specific ward** was selected for ward selection in CyberTrack, then an error occurred and the selected ward was not stored in the user preferences.

Consequently, each time a user wanting to see a list of patients of no specific ward logged in to CyberTrack, he or she needed to select **No specific ward**.

This issue has been corrected: "No specific ward" is now stored again provided that GLIMS 9.9.5 is used in combination with CyberTrack 4.1.3 or higher.

Fixed issue where logging in via REST services was suddenly no longer allowed (GLIMS_CBT-00300)

An issue was detected where the REST AppServer no longer allowed users to log in to GLIMS. Restarting the AppServer was necessary to allow users to log in again via REST services.

This issue, which occurred since GLIMS 9.9.3, has been corrected.

EOS

Sampling location of order is no longer overwritten when activating multiple orders (GLIMS-12789)

When multiple pending orders with different sampling locations were activated (via a command or interactively), while no sampling location was specified, the sampling location (and other activation parameters) of the first order was copied to all the activated orders.

This issue has been corrected.

Support "Skip setup" for pending order activation (GLIMS-12896)

Pending order activation is now possible without the order activation screen being shown to the user. This can be achieved via

- the **Tool** option **Skip setup** when the Order-based function `ActivateOrders()` is used in a Tool
- the new option **Skip setup order activation** in the specimen reception scan program.

Determine the order lowest object time before running the order internal ID MISPL (GLIMS-12907)

When activating a pending order and

1. the order internal ID depends on the order lowest object time
2. a new order lowest object time is calculated during the activation of the order

then the order internal ID was calculated on the basis of the old order lowest object time and not the new one.

This issue, which occurred since GLIMS 9.9.0, has been corrected.

Fixed conversion of RequestedCode.ExpansionStatus (GLIMS-12962)

The conversion script introduced via [GLIMS-12879](#) did not update the **Expansion status** (`RequestedCode.ExpansionStatus`) of certain requested codes of pending orders to **Unexpanded**, leaving them with an **Expansion status** set to "?".

Consequently, upon activation of the pending order, the scheduling was incorrect, as GLIMS did not consider these requested codes as **Unexpanded**.

This issue, which occurred since GLIMS 9.8, has been corrected.

Note

The conversion script will run when upgrading to GLIMS 9.9 or higher. Customers already using GLIMS 9.9 can run it again should they experience issues with pending orders created in GLIMS before the upgrade to version 9.9.

Fixed error that occurred during pending order activation with MISPL function using the <current> department (GLIMS_EOS-00214)

An error occurred when activating a pending order while using the following configuration:

1. Pending order activation via a function parameter set in which **Department** is set to "< current >".
2. A MISPL expression using `(Order).Department` which is evaluated upon order activation (for instance: **Order internal ID on activation**).

This issue, which occurred since GLIMS 9.8, has been corrected.

GLIMS-CyberLab: electronic pending order update triggers "On electronic order entry" evaluation (GLIMS_OI-00858)

The functionality introduced with [GLIMS_EOS-00212](#) and disabled with [GLIMS_EOS-00216](#) is now available again. However, it is intended exclusively for the improvement of the communication between GLIMS and CyberLab and can therefore not be used with other third party Order Entry solutions.

Genetics

Change verification of family name letters should be case-sensitive in the family pedigree screen (GLIMS-12856)

An issue was detected where a change to the lower and/or upper case of a family name was not saved in the family pedigree screen (if this was the only change made).

Example

1. Open the pedigree screen of a family
2. Change an upper case letter in the family name to the corresponding lower case letter and save the screen
3. The change is not saved because the family name letters comparison check is not case-sensitive.

This issue has been fixed: from now on, the family name in the family pedigree screen is subjected to a case-sensitive comparison check.

Avoid error / crash issues when multiple Genetics screens are open (GLIMS_GENX_LAB-00482)

This modification avoids the crash of GLIMS and/or the Genetic results screen when multiple Genetics screens are opened.

The issue was detected when GLIMS crashed upon using **Validate all** on a work list (advanced editor), when the Genetic exam screen and Genetic results screen were open as well.

This issue has been fixed.

Customize the work list grid to display MISPL action label (GLIMS_GENX_LAB-00487)

New functionality

In the advanced editor work list editor, a new column was implemented to display the MISPL action label that can be defined for actions in the work list template.

This label configuration is not new and users may have configured it in the past for the classic work list screen, in order to give actions a different label. From now on, this concept is implemented as a new column in the action grid.

To configure the content of the action label, navigate to

- the work list template editor > **Layout > Grid > Rows > Action label**
- or to the GLIMS General settings > **Main page > Externalizations > Action label**

If an action label function is defined, the MISPL will now be evaluated to populate the new column with the resulting output. The following example is an Action based MISPL expression with data type String:

Example

```
RETURN .Object.Externalization;
```

Note

If no MISPL expressions are defined for the action label, the internal ID of the input specimens will be shown instead, comma separated.

If no input specimens are available, the internal ID of the object is used.

Result.Attribute("Value") MISPL didn't perform correctly on rich texts (GLIMS_GENX_LAB-00498)

Issue

When customers attempted to get the result attribute value via the MISPL Result.Attribute("Value") for a property of data type rich text, they only received "Rich Text" in the value field instead of the actual result attribute value. This resulted in reduced MISPL/reporting functionality for a number of users.

Solution

This issue has been fixed, the following result attribute MISPL expressions will now return the plain text version attribute value (limited to 20 000 characters) in case of rich text results:

- RETURN .Attribute("Value")
- RETURN .Attribute("Value:ReportFormat")

This correction does not only influence the aforementioned MISPL, but other areas in GLIMS where the result attribute value is displayed as well (e.g. results of an order).

Warning

Any MISPL expression using the .Attribute function to explicitly check for the previously returned fixed value "Rich text" needs to be updated.

Add stop position to Sequence variant editor (GLIMS_GENX_LAB-00504)

Updated functionality

From now on, the sequence variant editor will contain a **Stop position** field in the same way as it is presented in the CNV editor.

The new **Stop position** field will work in a similar manner as for CNVs:

1. A stop position smaller than the start position is not a valid field entry.
2. A start position without a subsequent stop position is valid, but a stop position without a start position is not allowed.
3. If a start position is added without a subsequent stop position, the total size will not be displayed.

Genetics: fix access rights shielding for various result types (GLIMS_GENX_LAB-00506)

Issues

This modification addresses several shielding issues which were reported for the GLIMS Genetics module.

1) Loci results, CNV and sequence variant results were not shielded by **View** access rights, while dynamic results were. This was inconsistent behavior.

2) When **Modify** access rights were restricted via shielding, it was still possible to update values for dynamic results. Users could not send the actual update, but they shouldn't be able to perform it in the first place.

- a. Additionally, **Modify** access rights were not restricted for loci, CNV and sequence variant result records in the Work list screen.

These issues resulted in inconsistent **View / Modify** access rights for result records in the Genetic exam, Work list and the Family pedigree screens.

Solution

These issues have been fixed.

No privileges taken into account when confirming and/or validating via work list / genetics results screens (GLIMS_GENX_LAB-00508)

Issue

In the following two screens there are two buttons concerning genetic exam results, **Confirm all** and **Validate all**:

- Genetics results screen
- Work list screen (advanced)

An issue was reported where no privilege check was in place to prevent unauthorized users from using the aforementioned buttons.

Example

1. Log in with a user without the privilege to either validate or confirm results on the Result table
2. Navigate to either the genetics results screen or the advanced work list screen
3. Use the **Confirm all / Validate all** buttons
4. Regardless of the user privileges, the selected action is executed, which is incorrect behavior.

Solution

The issue has been fixed: the options to **Confirm all** and **Validate all** are from now on protected by a privilege check.

Warning

Validation by delegation is not yet supported in the genetics results screen and in the advanced work list screen.

Variant results: avoid content removal of additionally configured list detail types via REST (GLIMS_GENX_LAB-00511)

Issue

An issue was detected for variant results in the Genetics module, where after the variant annotations field was updated via REST, the additionally configured columns (list detail types) in the Variant results pane were cleared.

Example

1. Have a variant result with some values in extra configured columns (ListDetailTypes), added manually or via REST
2. Send an update of the annotations via REST without the extra configured column
3. The values of the additional columns are cleared, which is unwanted behavior

Solution

This issue has been fixed: from now on, the create/update VariantResult message allows providing extra columns as fields.

GLIMS will save the following information in the variant **Annotations** field:

- Annotations provided in the REST message
- Additional columns provided in the REST message

Add support for updating locus results of same locus with different parent (GLIMS_GENX_LAB-00514)

Issue

An issue was reported where after sending an update message (via REST) for the same locus, but with a different ParentLocusName, the same locus result was updated. This was not the expected behavior.

Solution

This issue is fixed: from now on, GLIMS supports updating locus results with the same locus, but with a different ParentLocusName via REST.

Order entry Genetic exam button must be protected by privilege (GLIMS_GENX_LAB-00519)

An issue was reported where in the GLIMS order entry, it was possible to click on the genetic exam button and continue to the genetic exams even if the user had no privilege to do so.

This issue has been fixed, the order entry genetic exam button is now displayed according to the configured privileges of a user.

If there is a privilege that protects the function GeneticExams on the Order table and the user doesn't have this privilege, the genetic exam button in the order entry screen will be disabled.

Buttons in family pane of genetic exam and genetic results screens didn't require privilege check (GLIMS_GENX_LAB-00522)

An issue was reported in the genetic exam and genetic results screens of the Genetics module. The family pedigree and a family attachment buttons in the family pane required no privilege checks, which was not the expected behavior. When the access privilege is missing, these two buttons should be disabled.

Example

1. Log in with a user without the privilege to see a family from a genetic exam
2. Navigate to any of the two screens mentioned above
3. Click on the family pedigree and/or the family attachment buttons
4. The buttons work despite the missing access privilege.

This issue has been fixed, a privilege check has been introduced for the family pedigree and a family attachment buttons in the genetic exam and genetic results screens.

Allow CNVs with same start and stop position for same locus, with different DNA change type (GLIMS_GENX_LAB-00525)

Issue

An issue was reported where GLIMS didn't allow users to create two CNVs for the same locus with the same start and stop position, but each with a different impact (DNA change type).

- In GLIMS: An error message was shown
- Via REST: The existing variant was updated with the new DNA change type.

Solution

This issue has been fixed: since the variant name must be unique, it will from now on contain the DNA change type as a component.

There is no conversion for this correction, existing variants will be updated the first time they are saved.

Example

This is how the variant name of a CNV is generated now, the text in bold is new:

```
Variant.Name = '[' + GenomeBuild + ']' + Locus name + "(" + start + "_" + stop + ") + DNAchangeType.Mnemonic
```

Condition function MISPL of approach plan usage runs on ApproachPlan instead of Approach (GLIMS_GENX_LAB-00528)

Issue

An issue was reported for the Genetics module, where the **Extra condition function** MISPL configured on an approach plan usage ran on ApproachPlan instead of Approach.

This could potentially result in incorrect approach plan selections or unexpected error messages.

Solution

This issue has been fixed, the **Extra condition function** MISPL will from now on be executed on Approach level.

Tip

During the MISPL evaluation, there is no actual Approach context available. The MISPL function can only be used to navigate to other linked records (ApproachPlan, GeneticExam, Specimen).

Other functions like AddLocusRequest(), GetActivity(), GetVariantResult, StartTime, EndTime, CreationUser, ... are not available.

Allow MISPL access from VariantResult to disorder via site attribute (GLIMS_GENX_LAB-00533)

Issue

An issue was reported with the Genetics module, where disorders were not displayed on reports, because report texts containing disorder names could not be calculated by MISPL.

There was no way for MISPL to calculate the description of a disorder linked to a VariantResult via a list detail type with a choice list of type **Alternative choice configuration table** = Disorder, where the user can select a disorder (the one that is most likely associated with this variant result).

In the MISPL generated report text only the disorder **Mnemonic** was present, but not the **Name** and the **OMIM code** of the disorder for each variant result.

Solution

This issue has been fixed: the disorder is from now on stored as a reference on the VariantResult table, but only if a "_Disorder" site attribute exists.

Customers have to create this site attribute for the correction to work as intended:

Example

```
String output;
Integer TheDisorder;
String Name;
String Omim;
Output:= "Disorder unknown";
IF GetSiteAttribute("VariantResult", .Id, "_Disorder.Id") <> ?
THEN
    TheDisorder := StringToInteger(GetSiteAttribute("VariantResult", .Id, ifknownstring("_Disorder.Id")));
    Name := GetSiteAttribute("VariantResult", .Id, "_Disorder.Name");
    output := "Name: " + Name + "~n";
    Omim := GetCode("Disorder", TheDisorder , "OMIM");
    IF Omim <> ?
        THEN output := output + "OMIM: " + Omim;
    ENDIF;
endif;
RETURN output;
```

Warning

The "_Disorder" site attribute will not change when users attempt to update this value via the REST interface.

Furthermore, adding results with a choice list linked to an alternative choice configuration table is not yet supported via REST.

Additionally, this modification adds the unknown value "?" to the drop down that is shown in case the configured **List detail type** is linked to a choice list.

Report XML: implement list detail type mnemonic as tag and short name as attribute (GLIMS_GENX_LAB-00539)

Issue

An issue was reported in the GLIMS Genetics module, where configured locus list detail types were exported inside an XML report, but if the locus list detail type **Short name** contained a space, the generated XML file was not valid anymore.

Solution

The issue has been fixed.

From now on, the following XML naming rules are implemented:

1. The list detail type **Mnemonic** is used as tag and the **Short name** is used as attribute
2. Special characters are stripped and replaced with "_Unknown", thus only numbers [0-9] and letters [A-Z] are allowed
 - a. Some special characters are stripped and replaced with an underscore "_" or not replaced at all at the beginning or the end of a mnemonic
3. If the name starts with a number [0-9], the XML element will start with an underscore "_"
4. If the name starts with "XML", the XML element will start with an underscore "_"

Warning for upgrade to v9.9.5 and higher

Report templates need to be checked for locus result detail or variant result annotation fields, and the tags in question need to be updated in case they contain spaces, special characters or other invalid values for XML tags.

Enable LocusResult update via REST for the same locus on multiple running approach activities with different detail types (GLIMS_GENX_LAB-00552)

Issue

An issue was reported with the Genetics module, where updating a LocusResult via REST services did not support adding and/or updating locus results on multiple running approach activities.

In some cases, two or more approach activities containing locus results (property outputs linked to properties of data type **Genetic list**) can be running simultaneously. These property outputs can then refer a list type of content type LocusResult, but with different **List detail types** linked to them.

- If a locus result is sent for activity 1, users expect the specific list detail type value to be updated.
- If a locus result is sent for activity 2, the alternative specific list detail types should be updated as well.

Solution

This issue has been fixed: from now on, the REST services contain a check for all relevant activities in order to save a LocusResult detail.

Gene region locus name was non-editable (GLIMS_GENX_LAB-00575)

Issue

An issue was reported within the Genetics module, where the **Locus name** in the gene region screen was read-only.

Improved functionality

This issue has been fixed, resulting in updated behavior:

- The locus name in the gene region screen is from now on editable
- The name in the locus screen is from now on editable if the type is a gene region (for other types it remains read-only)

Always detect value changes of long (rich text) results (GLIMS_GENX_LAB-00601)

Issue

The following issues were detected with rich text results in the Genetics module:

1. When the value of an available result containing a result text was changed,
 - a. no result log was written,
 - b. the availability time was not updated.
2. For rich text results, the result log contained visible HTML code.
3. For results with a value exceeding 3999, the value "..." was shown in the result screen.

Improved functionality

These issues have been fixed, from now on:

1. The result availability time will update accordingly when a large rich text is updated
2. The result log and the log file will contain the plain text value of a rich text field (limited to 100 characters) and no visible HTML
3. The result screen text box supports values with >4000 characters.

Grids in Results screen: column preferences were not saved correctly (GLIMS_GENX_LAB-00613)

Issue

An issue was reported with the Genetics module, where in certain cases the column preferences for the **Results**, **CNVs** and **Sequence variants** grids in the Results screen were not saved correctly.

- The grid columns for genetic results were not displayed after the Result screen was opened
- The last saved removed/resized/moved columns were not loaded as saved preferences upon opening the screen.

Solution

This issue has been fixed.

Note

This correction is not backwards compatible, which might cause the already configured column width / hidden columns in certain screens to not apply anymore.

In that case, users have to perform the changes again and close the screen in order to update the (large) user preferences.

Genetic exam: Sub-specimen not correctly added in a specific scenario (GLIMS_GENX_LAB-00617)

An issue was detected in the genetic exam screen, where in certain scenarios the parent specimen of a sub-specimen was missing, or where a sub-specimen was wrongly added to the genetic exam.

This incorrect behavior only appeared in a specific scenario, when

1. a genetic procedure was requested (without the necessary material),
2. the genetic exam was opened and the specimen (material) was added,
3. the specimen availability was confirmed in the same step.

The expected behavior only worked if the order screen was closed after requesting the procedure (but without progressing in the genetic exam), or when the genetic procedure and the material were requested in the order at the same time.

This issue has been fixed.

MISPL

Avoid the crashing of GLIMS in case of very large numeric values of exponential results (GLIMS-10521)

Progress has a problem with the execution of the EXP() function for very large values on some operating systems.

The maximum possible number Progress (therefore GLIMS) can calculate is "EXP(10, 50) - 1", as any higher number will cause it to hang and eventually crash. In order to prevent the hanging or crashing of GLIMS, the EXP() function is now protected against very large values : a check has been implemented which throws an error if the predicted number would be too large.

Fixed error that occurred for some MISPL expressions (MATE_MISPL-00120)

On some platforms or in some situations, some MISPL expressions produced an error such as SN\$ERR_INCOMPOP "Incompatible operand(s), operation 'GT'"

This issue has been fixed.

Microbiology

Fixed empty microbiology action log entry when changing a validated antibiotic result (GLIMS_BAC-01678)

When changing antibiotic results for a microbiology action in status **ReadValidated** or higher, the user needs to enter the reason for this change. The entered reason was logged correctly for the antibiotic result. However, for the microbiology action, an empty log entry was created.

This issue, which occurred since GLIMS 9.8, has been corrected: the empty log entry is now no longer created.

Fixed auto-complete feature for carrier comments in microbiology work screen (GLIMS_BAC-01707)

The Medium field **Choice list allowed values** allows the user to enter a choice list. This choice list contains the choices that are the possible values for the **Comment** field of the **Carriers** (for this type of Medium) in the microbiology screen.

In the microbiology work screen, when the user enters the first characters of the name of a choice list choice, GLIMS should auto complete the name. However, this auto-complete feature did no longer work.

This issue, which occurred since GLIMS 9.8, has been corrected.

Locking issue when changing the status of a microbiology action (GLIMS_BAC-01711)

Locking issues sometimes occurred when multiple users were changing the status of microbiology actions at the same time.

These issues, which occurred since GLIMS 9.6, have been corrected.

Microbiology procedure requested via panel should have its own RequestedCode (GLIMS_BAC-01718)

Issue

Since GLIMS 9.3, electronic reports of microbiology-related orders report too many requests (sometimes even all the requests) via the RequestedCode of the microbiology action if the microbiology procedure had been requested via a panel. GLIMS reports every request that results from that panel via the panel's RequestedCode. Consequently, the (HL7) translators construct messages that cannot be interpreted correctly by the receiving result viewer as results that were reported separately in GLIMS version 8 are now reported as part of the same ORC/OBR-element, which makes it hard to distinguish results from each other.

Example

Suppose a microbiology procedure is requested via a panel, together with other biochemistry tests. In this case, the electronic report ended up reporting all the requests via 1 requested code, which resulted in the translator sending an HL7 message containing a single ORC/OBR segment holding all the OBX elements.

Solution

The microbiology action that was requested as part of a panel now has its own RequestedCode record. The **Origin** of the new RequestedCode record is: **Due to procedure configuration**.

Logging

The creation of the new RequestedCode is visible in the order log when increasing the scheduling verbosity:

Example

Microbiology procedure "<microbiology_procedure_request_definition_mnemonic>" as panel member of panel "<panel_request_definition_mnemonic>". Create a separate requested code.

In some rare cases, GLIMS might detect that a "duplicate" microbiology procedure request already created a similar requested code. This will be logged as well:

Example

No new requested code created for microbiology procedure "<microbiology_procedure_request_definition_mnemonic>" of panel "<panel_request_definition_mnemonic>". The procedure is already requested!

Electronic reports

Electronic reports will now report the microbiology action separately, in its own ORC/OBR segment.

Warning

This modification only applies to newly requested (or activated) microbiology procedure requests. Existing orders remain as they are.

Allow more than 26 carriers for a microbiology action (GLIMS_BAC-01722)

Issue

Currently, microbiology actions only support up to 26 carriers. If a carrier is deleted, its sequence letter is not reused unless all of the carriers are deleted. This means that users could be blocked from adding carriers even when the limit of 26 carriers is not yet reached.

Solution

To allow for more carriers, the possible sequence letters have been extended from A-Z to A-ZZ.

Example

A – B – C – ... – Y – Z – AA – AB – AC ... AY – AZ – BA – BB – BC – ... – ZY – ZZ

Carriers			
	Medium	Date	Comment
A	nvp_g_med1	?	?
B	nvp_g_med2	?	?
C	BA	?	?
D	Bouillon	?	?
E	Cell-line	?	?
F	Choco	?	?
G	Egg	?	?
H	erb_Med1	?	?
I	erb_Med2	?	?
J	ERO_medium	?	?
K	LDF_medium	?	?
L	Loewen	?	?
M	MAC	?	?
N	McConkey	?	?
O	MCK	?	?
P	MSA	?	?
Q	MVD-MB-Mediu	?	?
R	m_medium	?	?
S	NVPUMICROU	?	?
T	nvp_g_med1	?	?
U	nvp_g_med2	?	?
V	Reg_M_Med1	?	?
W	Reg_M_Med2	?	?
X	Sabou	?	?
Y	sbt_CPS	?	?
Z	sbt_med1	?	?
AA	sbt_med2	?	?
AB	sbt_M_medium	?	?
AC	sdm_XTest	?	?

Note

The theoretical maximum number of carriers is now 702 (above this limit a third letter would be required). Carrier sequence letters are still not reused, meaning that the user could still be limited to a number below the theoretical limit.

Performance issue when retrieving microbiology actions for a given person (GLIMS_BAC-01732)

Any microbiology action query where no **Sampled from** range is specified was slower than expected.

This issue, which occurred since GLIMS 9.8.13, has been corrected: the performance of the microbiology action query has been improved, more in particular for queries where

- no material is specified
- a material is specified in combination with an order, object, procedure or specimen range

Miscellaneous

Avoid warning message about BTM license in Lookalikes browser (GLIMS-11972)

If no BTM license was available, then a warning message informing the user about the remaining evaluation period for the Blood Transfusion Management module was shown when starting the Lookalikes browser.

This issue has been corrected.

Avoid system error "Attempt to define too many indexes" (GLIMS-12783)

An issue was reported where the System error: Attempt to define too many indexes for area 6 database. (40) (14675) occurred. A modification was made to avoid that the error occurs.

Enable "Skip setup" for functions gp_Site.BloodSelections() and gp_Site.GeneticExamQuery() (GLIMS-12835)

The **Tool** option **Skip setup** is now available for the gp_Site-based functions BloodSelections() and GeneticExamQuery() when they are used in a Tool.

TAJ information check: limit the number of calls to the web service (GLIMS-12844)

Context

GLIMS allows Hungarian customers to check the social security number of the patient during order entry by sending a request via a web service to the platform of the Hungarian National Health Insurance Fund.

Via this modification, we intend to optimize the communication with the web service.

Issues

1. If the web service connection is active when the check is initiated but gets disabled before the reply is received, then the GLIMS client session continues to wait for a reply that will never arrive.
2. GLIMS does not need to connect to the web service for each order. The connection is only required if the order contains certain billing marks.

Solution

1. Orders that could not be checked due to configuration or web service issues are now logged in the log type **Ojote TAJ check**. The user can easily access the order from the log and perform the check from within order entry.

Note

This log does not contain the orders for which the web service replied with an error (for instance: invalid number).

2. The following SpecificSite-based site attributes need to be created:

_TajBillingMarks (data type String)

Should contain the comma-separated list of the applicable billing marks. The automatic TAJ information check during order entry should only be done if the issuer has a billing mark that matches one of the billing marks in the list.

Warning

If no value is specified for the site attribute, no check is done during post-processing.

Notes

The site attribute is not taken into account for the manual TAJ information check: the manual check is executed regardless of the billing mark of the order.

_TajWaitTime (data type Integer)

The maximum waiting time. If the site attribute does not exist or has no value, GLIMS will apply the default value of 1 second. This is the LOWEST possible value.

Correction of error "Site attribute _TajStatus for Order does not exist" (GLIMS-12848)

Changing the object of an order could lead to the error message **Site attribute _TajStatus for Order does not exist**. The mentioned site attribute is only relevant for Hungarian customers and should not appear when the general option **External info system** is not set to **Taj**.

This issue, which occurred since GLIMS 9.8, has been corrected.

Fixed errors that occurred when closing the Workflow Visualization Tool (MATE-06883)

An issue was detected where a number of error messages were given when closing the Workflow Visualization Tool. This issue has been fixed.

Fixed issues with incorrect proxml.dll being loaded based on incorrect DLC (MATE-06961)

This modification should avoid that incorrect proxml.dll are loaded (based on a DLC added by the customer and referring for instance to an old GLIMS version) by prefixing the PATH with the DLC (OE directory) when launching GLIMS.

Fixed memory leak in report generation task (MATE-06992)

An issue was reported where the misconfiguration of a report generation task caused the task scheduler executing this task to leak memory and finally to stop working. When the task was supposed to print a report, but no printer was specified, the task was leaking memory.

This issue has been solved.

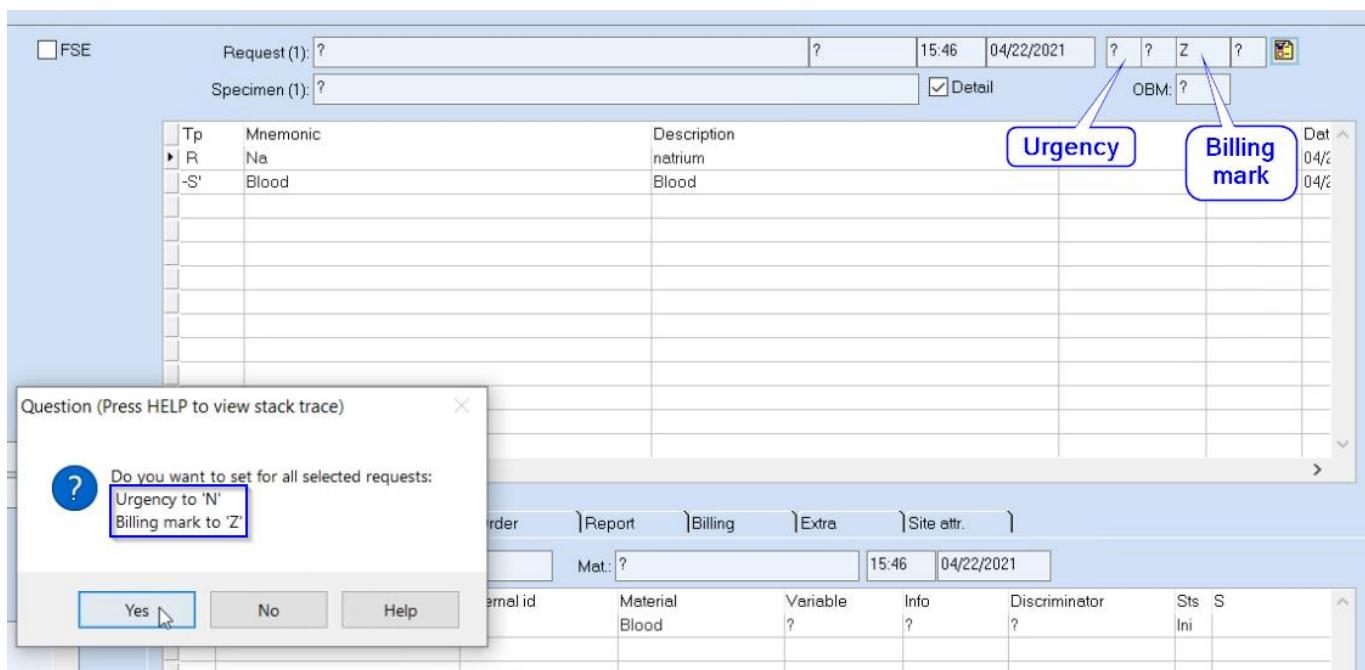
Order entry

Fixed incorrect use of urgency when changing request attributes in order entry (GLIMS-12799)

An issue was detected in order entry where the unknown value '?' for Urgency was interpreted as '1' (the first available urgency level) which led to problems in case of orders with requests with different urgency levels.

Scenario:

1. In order entry, enter some requests with urgency 'Phone/P'.
2. Save the order and reopen it.
3. Change Billing mark to 'Z' and Urgency to '?'.
4. Select all the requests.
5. Use the contextual function **Apply current request attributes**.
6. A pop-up window appears mentioning the billing mark change AND the urgency change whereas the urgency change should not be applied.



This issue has been corrected.

Evaluation after scheduling: a discontinued result re-added via .AddRequest was not added properly (GLIMS-12804)

An issue was reported where discontinuing a result and re-adding the same property via .AddRequest during Evaluation after scheduling did not create a new **Result** record with status **Initial**.

This issue has been corrected.

Pop-up message was no longer shown during order entry upon specimen reuse (GLIMS-12812)

An issue was reported where GLIMS no longer asked the user to confirm the reuse of a specimen during order entry via a pop-up message.

This issue, which occurred since GLIMS 9.3, has been corrected.

Ensure that order entry option “Request via root specimen” is saved (GLIMS-12818)

The setting of the order entry option Request via root specimen was not saved in the user preferences.

This issue, which occurred since GLIMS 9.9.1, has been corrected.

LDT order import: fixed issue where imposed result value was overwritten (GLIMS-12865)

An issue was reported where, upon order creation in GLIMS on the basis of a received URL message (LDT import), the result value added via the procedure output configuration was overwritten and set to ? if the procedure did not have a material input and if the request definition did not have an urgency.

Example

Configuration

- A procedure exists with two property outputs and without a material input.
- For one of the properties (prop1), the result value is automatically set via the procedure output's **Value** field (for instance: "Result:= "<AUF10A>"").
- In addition, the "prop1" property has a MISPL function (for instance in the **On result entry** trigger) that executes .CascadeRequest on the other property (for instance: ".CascadeRequest("prop2");".

Routine

When GLIMS received the URL message for the creation of the order, the result value imposed by the procedure output configuration was not taken into account. The result value of "prop1" was "?".

This issue has been corrected.

Fixed issue with MISPL added request on material with time discriminator (GLIMS-12877)

Problem description

Configuration

- A procedure exists with an input material and an output property.
- The material has a **Creation trigger** that adds a request. For instance: ".AddRequest("PropertyMnemonic", ?, ?); RETURN TRUE;"

Routine

- When requesting the material with a time discriminator, for instance "01:00", a message appeared saying that the request cannot be derived from the material.

Solution

This issue has been corrected.

Clicking in the blocking period pop-up window resulted in GLIMS being unresponsive (GLIMS-12948)

Problem description

Configuration

- Property B has a blocking period of 1 day.
- Property A does not have a blocking period but has an **On confirmation** trigger that adds property B.

Routine

- An order is created for patient X containing property A.
- Upon result confirmation for property A, property B is added by the **On confirmation** trigger.
- A new order is created for the same patient and property A is requested.
- Upon result confirmation for property A, the **Request in blocking period** window is shown.
- When clicking one of the buttons, GLIMS does no longer respond.

Solution

This issue, which occurred since GLIMS 9.5, has been corrected.

Sampling address specified in order entry options was not remembered during order entry (GLIMS-12958)

The **Sampling address** specified in the Default page of the order entry options when **Sampling location** is set to **Specific** was not remembered during order entry.

This issue, which occurred since GLIMS 9.9.0, has been corrected.

Actions were not scheduled on specimen with modified variables (GLIMS-12989)

An issue was reported where, if default material variables were defined on the request definition and the user modified the specimen variables during order entry, then no actions were scheduled on the specimen with the modified variables.

Example

Configuration

- A material "blood" with at least one material variable.
- A sampling procedure outputting "blood".
- Two procedures: one outputting "property1", the other outputting "property2", both having "blood" as input material.
- "property1"
 - has an **On result entry** trigger which adds "property2" to the order
 - its request definition has a material variable choice filled in
 - its procedure output has a return value specified in the **Value** field.
- The order entry option Automatic sample login is enabled.

Routine

- During order entry, request "blood" and "property1".
- During order creation, the **Specimen variables** window appears.
- When the user changed the default material variable choice, "property2" was not scheduled correctly.

This issue, which occurred since GLIMS 9.8, has been corrected.

Order review

Correction of order review performance issue that occurs when the query option "From" is not specified (GLIMS-12832)

An issue was reported where the order review query was very slow when having selected **Received** or **Sampled** without having specified a start date in the **From** field.

This issue, which occurred since GLIMS 9.9.0, has been corrected.

Orders

Order.Purge() did not delete all log entries (GLIMS-12774)

An issue was reported where the Order.Purge() function did not delete all log entries. The remaining log entries had been created during the order purge process, if the log type "Audit Order" was active, and were related to the deletion of site attribute values.

This issue has been corrected. The log entries related to the purged order are now deleted and no new log entries are added.

Pathology

Retain selection in pathology examination browser after closing the work screen (GLIMS-12927)

Selecting some records in the pathology examination browser and opening and closing the pathology work screen resulted in the records no longer being selected.

This issue, which occurred since GLIMS 9.6.0, has been corrected.

Pathology/genetics

Genetics mode: display informational results and conclusion result next to pathology specimen (GLIMS_Path-00371)

When the pathology work screen is used in Genetics mode, informational results and the conclusion result are now displayed next to the specimen of the pathology examination (and no longer next to the root specimen).

In previous versions, the pathology work screen displayed informational results (which are not linked to a specimen) and the conclusion result (which is linked to the pathology examination) next to the root specimen, even when the root specimen was reused from another order. This may confuse the user.

In non-Genetics mode, all results continue to be displayed next to the root specimen.

Example scenario

Configuration

A pathology procedure on a material that is derived from another material.

Routine

In order entry, the root material, the pathology material and a property that is not derived from a specimen are requested.

Phone list

Improved layout of phone list result browser (GLIMS-12934)

The externalization window of the phone list result browser contains patient information according to the dynamic text "Order-Externalization". However, the height imposed by the dynamic text (HTML) was not taken into account. This resulted in an externalization window that narrowed the result browser which consequently displayed less rows than desired.

This issue has been corrected.

Quality control

Use result processing time if analyzer only sends a measurement date (GLIMS_QC-00965)

Certain analyzers only send the date on which a QC result was measured and not the time. GLIMS then sets the result availability time to midnight (of the specified date). However, this has an impact on QC tests that, for instance, need to be executed every xx hours.

This issue, which occurred since GLIMS 9.8, has been corrected: if GLIMS only receives a date, the availability time will now be set to the time the result was processed.

"Create new lot" did not copy all active QC populations (GLIMS_QC-00968)

When using the Create new lot function, the active QC populations of type **Qualitative** or **Titer** were not copied.

This issue, which occurred since GLIMS 9.8, has been corrected.

Report Builder

Quick report and PDF report did not display isolation test results (GLIMS_ARep-00311)

When the Report template option **Adaptive XML export** was enabled,

1. the screen report generated for a microbiology order did not display the isolation test (display name and value).
2. the PDF report generated for a microbiology order did not display the isolation test (display value).

This issue, which occurred since GLIMS 9.9, has been corrected.

PSCM: Station-related site attributes were no longer exported (GLIMS_PSCM-00037)

When generating a primary sample collection manual, the Station-related site attributes were no longer included since GLIMS 9.8.0.

This issue has been corrected.

Avoid time-out warning during generation of invoice summary report (MATE-07004)

An issue was reported where outputting an invoice summary to a PDF file generated by GLIMS Report Builder resulted in the warning message 'Service did not reply within time-out period (60s)'.

This issue has been fixed.

Update to version 1.7.6 of the mips-reportbuilder library (MATE_RB-00213 / MATE_JRBS-00095)

This modification introduces 2 new properties for reference charts:

- `be.mips.reports.chart.ReferenceChartCustomizer.highlimit` to set the High limit reference
- `be.mips.reports.chart.ReferenceChartCustomizer.lowlimit` to set the low limit reference

If one of these is set, the specified value is used to set the low/high limit of the chart. If none of these is set, the reference value as given by the application is used.

Do not apply 'Adaptive XML export' on AppServer when no Report Builder service is used (MATE_RB-00214)

When a GLIMS Report Builder report was generated

- with AppServer
- without Report Builder service
- with Adaptive XML export enabled

several errors occurred as the **Adaptive XML export** was not supported in this scenario.

This issue has been corrected: the errors are now avoided by ignoring the **Adaptive XML export** and generating the entire XML output.

Reports

Do not regenerate reports after severity/norm update for validated results (GLIMS-12883)

An issue was reported where updating the severity or norm of a result validated more than a day ago triggered the regeneration of (old) reports.

This issue, which occurred since GLIMS 9.8, has been corrected:

- Updating the result severity or norm no longer marks results validated more than a day ago.
- Updating a person's birthday or sex no longer triggers the regeneration of reports older than 30 days.

Improved performance of report generation because of improved result responsible calculation (GLIMS-12956)

An issue was reported where the generation of reports was slow. This issue occurred since GLIMS 9.8. The performance of the calculation of the result responsible is now better which should improve the performance of the report generation process as well.

Do not disable "Needs checking" for online report if translator replies with an error (GLIMS-12994)

An issue was reported where the **Needs checking** option of a generated online report was disabled even though the report had not been received successfully by the external system (the translator replied with an error).

This issue has been corrected.

Results

Fixed Expand button in Result.Modify() screen (MATE-07001)

An issue was reported where the **Expand** button in the **Result** editor that can be accessed via the context function **Modify** on a Result no longer worked. This issue has been fixed.

Specimens

Fixed inconsistencies in "Specimen info" screen (GLIMS-12670)

The following inconsistencies that existed in the Specimen info screen have been resolved:

1. When entering an invalid HC provider name or ID in the **Sampler** field of the **Specimen info** screen, the screen can be saved and closed. However, when reopening the **Specimen info** screen, the entered name has disappeared.
=> An error message is now shown when the user enters an invalid HC provider in the **Sampler** field.
2. **External Id** and **Discriminator** are visible on both the **Specimen** and the **Specimen info** screen. The **External id** can be edited in both screens, the **Discriminator** only in the **Specimen** screen.
=> The **Discriminator** can now be edited in the **Specimen info** screen as well.

Correction of "cycle in procedure calls" error that occurred during specimen confirmation (GLIMS-12838)

An issue was reported where the error **Cycle in procedure calls detected in SetSpecimenSize spmn_siz while executing WRITE trigger for Specimen. (2868)** occurred in the following scenario:

Configuration

Two procedures having the same material as input and each a property as output. A **Minimal size** is defined for the material input of the first procedure. A **Consumption** is defined for both property outputs. The property output of the first procedure has a MISPL expression defined discontinuing the property outputted by the second procedure.

Routine

- Request both properties in order entry.
- Confirm the availability of the specimen.
- The above-mentioned error occurs.

Because of this error, the specimen's availability could not be confirmed. This issue has been corrected.

New option "Asynchronous barcode processing" in specimen reception scan (GLIMS-12899)

Issue

When scanning a specimen using the specimen reception scan program, the order activation, action scheduling and post-processing processes cause a delay for the user: the user has to wait until these processes are finished before they can continue scanning specimens.

Solution

A new option **Asynchronous barcode processing** is now available in the specimen reception scan program. If this option is set, then the barcode processing will be done asynchronously on the AppServer in order to allow the user to continue scanning specimens while the AppServer is processing the barcode. This results in a considerable performance benefit and a better user experience.

Warning

Asynchronous barcode processing cannot be used if any user input (for instance: specimen selection, interactive MISPL functions, user actions during order activation, etc.) is required during the barcode scanning.

Fixed specimen discontinuation via a command and task (GLIMS-12942)

In previous versions, discontinuing specimens was not always possible. For instance, specimens in status **Expected** could not be discontinued if the order status was **Closed** or **Discontinued**. This issue was fixed in [GLIMS 9.9.3](#). In addition, a warning message was added of which the purpose was twofold:

1. warning the user about the presence of (sub) specimens that were not yet available,
2. asking the user if they want to continue with the specimen discontinuation.

By default, the answer to the question was No. However, when discontinuing specimens via a command and task, the question was not asked but the answer remained no, which made it impossible to discontinue such a specimen.

This issue has been corrected.

Specimen archive scan: next rack position was not always incremented correctly ([GLIMS-12964](#))

An issue was detected when archiving specimens via the specimen scan program: for every second rack, only the first position was used to store the specimen. Then, the next rack position incorrectly moved on to the next rack.

Example

Five racks exist with a capacity of five positions:

- Racks: A1, A2, A3, A4, A5
- Positions: 1, 2, 3, 4, 5

Scanning specimens results in the following archive positions:

- A1,1
- A1,2
- A1,3
- A1,4
- A1,5
- A2,1
- **A3,1**
- A3,2
- A3,3
- A3,4
- A3,5
- A4,1
- **A5,1**
- A5,2

This issue, which occurred since GLIMS 9.9.3, has been corrected.

Process specimen by number: fixed Station field related error ([GLIMS-13046](#))

An issue was reported where an error occurred when executing the `Specimen.ProcessByNumber()` function and using the up and down arrow keys in the **Station** field.

This issue, which occurred since GLIMS 9.9, has been corrected.

Statistics

Character limit increased from 188 to 1970 for statistics output (MATE-06895)

The technical limit of 188 characters imposed by OpenEdge caused certain output (especially in the Statistics module where it limited the length of the string returned by the user-defined MISPL function for the rows) to be truncated.

This limit has been increased and is now 1970 characters. It is therefore now possible to use up to 1949 characters in the statistics output:

Note

The length of the returned string is limited. The maximum number of characters is defined on the basis of two parameters:

- the number N of classifications to be displayed in the rows and columns
- among these classifications, the number N' of user-defined ones ($N' < N$)

and is calculated as follows:

$$\text{Max. length} = ((1970 - 12 * ([N] - [N'])) - 20) / [N'] - 1$$

For instance, if $N=1$ and $N'=1$, the maximum number of characters that can be displayed is 1949. If the returned string is longer, it will not be entirely displayed.

User interface

Fixed fast positioning in encounter browser (GLIMS-12936)

An issue was reported where fast positioning did not work in the .NET version of the encounter browser. This issue, which occurred since GLIMS 9.6, has been corrected.

Specimen query: "insufficient criteria" was shown in .NET browser but not in Classic browser (GLIMS-12939)

An issue was reported where the message **Insufficient criteria to perform query** was mistakenly shown when using the Specimen query with the following criteria:

- Sampling time from: Yesterday
- Sampling time to: Today

The message did not appear in the Classic version of the browser when using the same query criteria.

This issue, which occurred since [GLIMS 9.9.0](#), has been corrected.

Informational area did not update after fast-positioning in .NET Orders by internal Id browser (MATE-06879)

An issue was reported where the informational area at the bottom of the **Orders by internal Id** .NET browser did not synchronize with the fast-positioning between the order records. This issue, which occurred since GLIMS 9.9.3, has been fixed.

Microbiology QC: reduced functionality of minimum size results browser (MATE-06888)

Issue

An issue was reported with the Microbiology QC results browser, where reducing it to its smallest size led to

1. the buttons on the bottom of the screen not being visible
2. the vertical scroll bar not responding
3. the horizontal scroll bar barely being visible.

This resulted in reduced functionality for a number of users.

Solution

These issues have been fixed, full functionality for the **Microbiology QC results** browser in its smallest size has been restored.

Slow performance of Orders by internal Id .NET browser (MATE-06943)

An issue was reported with the performance of the .NET **Orders by internal Id** browser when using F5 to refresh it, or when changing its sort order.

Users can select a letter or number to display orders beginning with a specific prefix according to the corresponding department. After doing so, refreshing the browser or changing the sort order led to extremely long waiting times.

This issue has been fixed.

Position and/or size preferences of the MISPL syntax editor were not saved (MATE-06950)

An issue was reported where in the following scenario, the position and/or size preferences of the MISPL syntax editor were not saved:

1. Navigate to **Start > System Management > Site functions**
2. Select one of the site functions
3. Open the site function details (F6), select the site function definition and use F6 again
4. Re-size and reposition the **MISPL syntax editor** screen
5. Confirm and close the editor screen, then re-open it to see if the changes were actually saved.

This issue has been fixed.

Fixed display of blue/white rectangle in order review (MATE-07010)

An issue was reported where, in the order review screen (when **Show image results** was enabled in the **Results of order - options**), a blue or white rectangle was shown covering some data in the browser. This issue has been fixed.

.NET browsers performed slowly in combination with an Oracle database (MATE-07067)

An issue was reported where .NET browsers performed slowly in combination with an Oracle database. This issue has been fixed.

Version 9.9.4

Important modifications

Use billing code external description in KVDT export field FK 5002 (BILX_GKVDT-00468)

The KVDT export field FK 5002 - Art der Untersuchung is now filled with the external description of the billing code (and no longer with the request definition description).

Warning

Customers need to make sure that a billing code external description is specified that can be exported as "Art der Untersuchung".

Note

Field FK 5002 is only sent if the tariff field **Need request definition description** is enabled.

Correction of conversion and interpretation of RequestedCode.ExpansionStatus to avoid scheduling issues (GLIMS-12879)

Problem description

1. Adding requests to orders created in GLIMS before upgrading to version 9.9 caused previously scheduled items such as specimens and tests to be rescheduled. This resulted in an error as GLIMS tried to create a new specimen with the same internal ID as that of an existing specimen. Consequently, the completion and tariffication of the order was hindered.
2. Activating a pending order that was created in GLIMS before upgrading to version 9.9 and that contained panel requests resulted in the panels not being expanded.

Solution

For customers having upgraded GLIMS to version 9.9 (from a lower 9.x version) the conversion script "cv99_RequestedCodeExpansionStatus" can be re-executed.

1. Log in with a **Role** that has **User type** set to **Developer**.
2. Choose **Start > Development > 4GL > Run procedure**.
3. Fill in **cv99_RequestedCodeExpansionStatus** as **File name**.
4. Enable **Pass handle**.

Execute "When carrier data changes" site function when grafting result changes (GLIMS_BAC-01661)

The site function that is specified in the **When carrier data changes** field of the Medium editor is now executed as well when the carrier's grafting result changes.

Electronic pending order update no longer triggers "On electronic order entry" evaluation (GLIMS_EOS-00216)

The functionality introduced with [GLIMS_EOS-00212](#) has been disabled and will be re-introduced in GLIMS 10 for the improvement of the communication between GLIMS and CyberLab (1+1=3).

Application management

Application checkup tool extended with check on events and automatic purging of events (GLIMS-12759)

Background

If the number of gp_Event records is excessively high, then upgrades requiring a site attribute conversion for gp_Event can take a very long time. High numbers of gp_Event records should therefore be avoided.

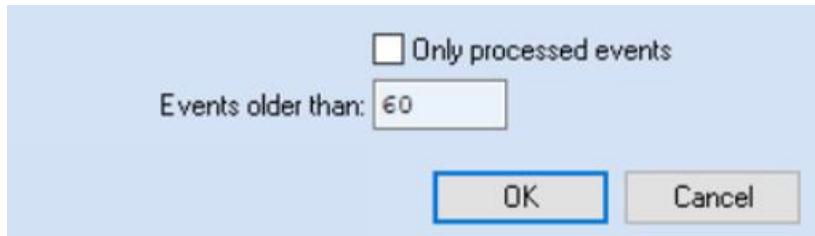
Enhancement

This modification extends the application checkup tool with functionality to detect the presence of old events so that they can be cleaned up prior to upgrading GLIMS. This tool reports among other things the total number of events and the number of old events. If the number of old events is equal to or higher than 25%, an exclamation mark is displayed to draw the user's attention.

Counting events...

```
RequestGroup (IHE LTW): 73 (processed: 0)
  Oldest      : 24/08/2020, subtype 'LabInitiated', table 'Order'
  Youngest    : 16/10/2020, subtype 'LabInitiated', table 'Order'
StnPrcdRsIt-3 (H717 (PR0)): 21 (processed: 0)
  Oldest      : 24/08/2020, subtype 'Modified', table 'Result'
  Youngest    : 13/10/2020, subtype 'Modified', table 'Result'
StnPrcdRsIt-3 (StnPrcdRsIt-3): 21 (processed: 0)
  Oldest      : 24/08/2020, subtype 'Modified', table 'Result'
  Youngest    : 13/10/2020, subtype 'Modified', table 'Result'
StnPrcdRsIt-3 (StnPrcdRsIt-3): 21 (processed: 0)
  Oldest      : 24/08/2020, subtype '?', table 'Result'
  Youngest    : 13/10/2020, subtype '?', table 'Result'
StnPrcdRsIt-334830 (StnPrcdRsIt-334830): 21 (processed: 0)
  Oldest      : 24/08/2020, subtype '?', table 'Result'
  Youngest    : 13/10/2020, subtype '?', table 'Result'
StnPrcdRsIt-67698 (StnPrcdRsIt-67698): 21 (processed: 0)
  Oldest      : 24/08/2020, subtype '?', table 'Result'
  Youngest    : 13/10/2020, subtype '?', table 'Result'
ADT (ADT Event Handler): 17 (processed: 0)
  Oldest      : 24/08/2020, subtype 'Create', table 'Person'
  Youngest    : 16/10/2020, subtype 'Create', table 'Person'
CacheNeedsUpdate (CacheNeedsUpdate): 4 (processed: 0)
  Oldest      : 02/09/2020, subtype 'OEUserPref', table '?'
  Youngest    : 16/10/2020, subtype 'SpecificSite', table '?'
StnSyncIsol (StnSyncIsol - Kiestra): 2 (processed: 0)
  Oldest      : 14/10/2020, subtype 'Insert', table 'Isolation'
  Youngest    : 14/10/2020, subtype 'Insert', table 'Isolation'
StnSyncMcraSts (StnSyncMcraSts - V_Urine2): 2 (processed: 0)
  Oldest      : 14/10/2020, subtype 'Graft', table 'MicrobiologyAction'
  Youngest    : 14/10/2020, subtype 'Graft', table 'MicrobiologyAction'
StnSyncIsol (StnSyncIsol - vitek): 2 (processed: 0)
  Oldest      : 14/10/2020, subtype 'Insert', table 'Isolation'
  Youngest    : 14/10/2020, subtype 'Insert', table 'Isolation'
StnSyncMcraSts (StnSyncMcraSts - vitek): 2 (processed: 0)
  Oldest      : 14/10/2020, subtype 'Graft', table 'MicrobiologyAction'
  Youngest    : 14/10/2020, subtype 'Graft', table 'MicrobiologyAction'
StnSyncMcraSts (StnSyncMcraSts - ho_micro_stat): 2 (processed: 0)
  Oldest      : 14/10/2020, subtype 'Graft', table 'MicrobiologyAction'
  Youngest    : 14/10/2020, subtype 'Graft', table 'MicrobiologyAction'
StnSyncIsol (StnSyncIsol - ho_micro_stat): 2 (processed: 0)
  Oldest      : 14/10/2020, subtype 'Insert', table 'Isolation'
  Youngest    : 14/10/2020, subtype 'Insert', table 'Isolation'
StnSyncMcraSts (StnSyncMcraSts - ho_station1): 2 (processed: 0)
  Oldest      : 14/10/2020, subtype 'Graft', table 'MicrobiologyAction'
  Youngest    : 14/10/2020, subtype 'Graft', table 'MicrobiologyAction'
StnSyncIsol (StnSyncIsol - ho_station1): 2 (processed: 0)
  Oldest      : 14/10/2020, subtype 'Insert', table 'Isolation'
  Youngest    : 14/10/2020, subtype 'Insert', table 'Isolation'
Total of: 215 of which 76 older than 30 days ( 35 %) [!]
```

Moreover, when upgrading GLIMS, a command (for table gp_EventHandler and function Purge) and task will be created to automate the execution of this function with the following default settings:



Maximum execution time check for lg_Log.Purge (MATE-06688)

The lg_Log.Purge has a built-in maximum execution time. If a run of such a purge task takes more than 30 minutes, it is interrupted. The remaining logs are processed at the next task run.

In previous versions, the application only checked this maximum execution time each time a full log was processed. In case of a log with many log entries, it could happen that the maximum execution time was exceeded. The application will now check this maximum execution time each time a log entry is processed.

Note

This built-in maximum execution time only applies to the lg_Log.Purge function, not to the lg_Type.Purge function.

Log type option "Export before purge" did not work on Unix (MATE-06696)

When the **Log type** option **Export before purge** is enabled and the logs of this log type are purged, then GLIMS will first export them to the file system in XML format before purging them.

An issue was reported where this option did not work on Unix. This issue has been corrected.

Billing

No more rejection of MyCareNet shipment file because of invalid characters (BILX_CAREVXML-00023)

Exporting financial data in the **RIZIV** format (MyCareNet) via the Send function on Financial shipment could result in the shipment file being rejected when it contained characters such as é, è, ç, à (originating from the property description, billing code description or other character fields) in the field 44 of recordtype 50 (this field is only filled for nomenclature codes starting with 960).

In order to avoid errors and the rejection of the shipment file, the following characters will now be replaced as follows.

é, è, ê, ë	e
à, â, ä, á	a
î, ï	i
û, ü, ù, ú	u
ô	o
ç	c
ß	ss

Other characters that are not allowed by the export format will be removed.

Warnings

- Customers having implemented a workaround (using a MISPL function to replace the characters that are not allowed) can now remove this workaround.
- The ß character needs to be replaced as it is not allowed. However, the maximum field length might be exceeded when "ss" is used instead of ß.

MyCareNet: incorrect Person logging in case of errors (BILX_CAREVXML-00025)

If an error file is received from MyCareNet (for instance: because of an incorrect or unknown national number) and imported in GLIMS, then the reported errors are logged in GLIMS. However, the error file contains the initial requests (without the insurance details) as well. If an error was followed by a request without an error, then the error was logged for the person linked to the request that did not produce an error as well.

This issue has been corrected. However, the erroneous logging will remain visible until the expiration date of the log type has passed.

MyCareNet : fixed failing import of insurability information in XML format (BILX_CAREVXML-00030)

An issue was reported where the import in XML format of the requested insurability information obtained from MyCareNet failed because of an error regarding the size of the character variable that exceeded 32000 characters.

This issue, which occurred since GLIMS 8.11.20, has been corrected.

Changes for KBV recertification 2020 (BILX_GKVDT-00462)

- The patient address ("Strasse" FK 3107 & "Hausnummer" FK 3109) was not always sent in the KVDT file (when the site attribute "IsPostBox" was set to ?). This has been corrected.
- The country code FK 3114 was only sent for "Ausländer" and is now always sent when available (for "Inländer" as well).
- The export of FK 5013, 5015 and 5016 is now supported.

- The values are exported via new site attributes: XDT_5013 XDT_5015 XDT_5016 (table Request).
- The already supported fields FK 5011 5012 5018 5019 have been moved from the BillingCode table to the Request table.
- OP ("Online Pruefung") fields are now supported.

5034	OP-Datum
5035	OP-Schlüssel
5041	Seitenlokalisierung OPS

Site attributes on Request (String)

- XDT_5035 comma-separated list (because one GNR can have multiple OP Schlüssel and 1 SeitenLokation per Schlüssel, those values are a comma-separated list)
- XDT_5041 optional value but the number of entries should not exceed the number of entries of XDT_5035
- XDT_5034 date as string yyyyymmdd
- Do not export the "Auftrag" field FK 4205 = Default value =Requestable/Property description/mnemonic for Scheinuntergruppe 28 (only for Scheinuntergruppe 21, 27, 31). If the Order / other site attribute XDT_4205 is explicitly entered, it will still be exported.
- OMIM code entry / check against OMIM-Stammdaten .csv file
 - A warning message (and no longer a blocking error message) will now be shown when the entered OMIM P and G codes do not occur together in the OMIM file.
 - For OMIM 999999 (entry in the Property editor), "Ersatz" is now allowed in the Genname value.
- Order entry - Referral tab page
 - The "DMP kennzeichen" and "BPG Besonder PersonenGruppe" fields now have "00" as initial value and no longer "?".
- ICD code check (against ICD-Stammdaten)
 - If an ICD code does not exist, several errors / warnings now occur because different rules apply. To avoid too many errors / too much logging, the ICD code's existence is checked once and other rules (age, sex) are skipped when an ICD code does not exist.
- KV Spezifika checks
 - Nicht zulässiger Personenkreis (empty FK 9402 and value not in the list) now generates a warning instead of an error.

KVDT export (Germany): KBV Q4-2020 update adds new field FK 0224 "Produktypversion des Konnektors" (BILX_GKVDT-00477)

From now on the FK 0224 field "Produktypversion des Konnektors" is exported in the KVDT BESA Satz during the KVDT export with the (most recent) value that was received from the VSDM (KBV Versichertendatenbank).

This value is stored by the translator as the PaymentAgreement site attribute value for XDT_0224.

Since a BSNR in GLIMS represents multiple orders and payment agreements and its version can change, we attempt to fetch the latest received value for XDT_0224 (the latest order where the site attribute XDT_0224 is filled in on the payment agreement).

Note that for KVDT LG shipments the BESA contains external issuers (in case of a [Referral](#)): for these it is assumed that no FK 0224 value has to be sent.

Warning

For performance reasons we do not recommend that sites which do not make use of this function define a site attribute for XDT_0224 on the PaymentAgreement table.

Note

Additionally, starting with the 1st October 2020 the updated version ADT1020.01 of the ADT-Satzbeschreibung (field FK 9212) is sent for financial shipments.

Support for "Kodierregelwerke" (KRW Stammdatei) checks (BILX_GKVDT-00479)

Support of "Kodierregelwerke" checks

From now on the KVDT checks verify the "Kodierregeln" as provided in the KRW Kodierregelwerke SD Stammdatei by the KBV. The "Kodierregeln" contain some restrictions in regards to the ICD codes (diagnosis codes), DS codes (Diagnosesicherheit) and GNR (Gebührennummer).

1. The check is done per GNR (FK 5001) in the KVDT message and compared with the ICD and GNR of the Order (Behandlungsfall/Uschein)
2. The check runs automatically during the KVDT export or when running the Order.CheckKVDT() MISPL. During the preliminary Order.CheckKVDT() check there are no real GNR yet, but the ICD DS and ICD-ICD checks can already be executed. The first KRW Kodierregeln check run of the day will generate a log.
3. GLIMS does not perform an automatic correction of the ICD codes (DELETE/ADD), users must replace the erroneous ICD code manually. Detected "Kodierregeln" issues are added (as warning or error depending on the "Kodierregel Fehlerstatus") to the KVDT error/warning list and are logged under log type "KBV KRW kodierregel check".
4. The "Kodierregeln" check is optional, it can be disabled via site attribute XDT_SkipKRW = YES on specific site.
5. The KRW SD file krw*.xml is not stored in a GLIMS table but automatically loaded when necessary (once per session). A recent krw*.xml is expected in the GLIMS BILLDAT directory. Since there is not always a new krw*.xml file for each quarter, the latest file (highest year + quarter + version but <= current year + quarter) is taken.
6. The KRW checks are not applied for FK 4101 (Keine Prüfung wenn Inhalt FK 4101 (invoice quarter) <> FK 9204 (shipment quarter)).
7. This first version only checks for the Windows flavor in IcdKrwSdHelper.cls.

Additional improvements

This modification contains other ICD code related changes:

1. The import of the ICD Stammdatei (not the KRW but the already supported ICD import) has been extended.
2. In the past we only stored the end date (XDT_QuarterEnd), but since users need to be able to skip future ICD Codes, the start date (or quarter) should be stored as well. A new site attribute XDTQuartalStart (YYYYQ) will automatically be added during the import of the new diagnosis code site attribute XDTQuartalStart QYYYY and is based on the start date of the SD ICD file. Please note that this QuarterStart is only specified for new ICD Codes (since the ICD SD does not contain historical values).
3. The ICD code site attribute, previously shown on the order site attribute page is now available in the **Referral** tab of the order entry as well.
4. Additionally, now there is a find function (CTRL+F on ICD code) and an add button (+) to add an ICD code.

Notes

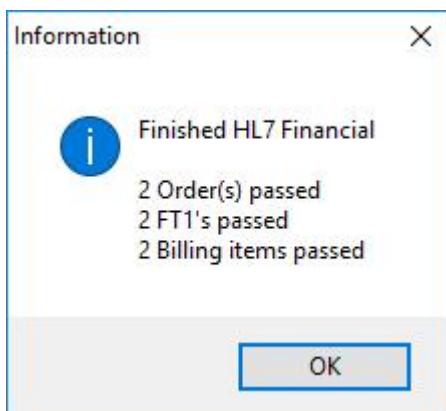
Please note that the label is now more specific (conform to the Pflichtfunktion ICD codes P10-80)

Please note that there are Behandlungsdiagnosen (implemented FK 6001 field) and DauerDiagnosen (not used in GLIMS).

Financial export in HL7 2.4 format: number of sent billing items stored in Comment field (BILX_HL7DFT24-00009)

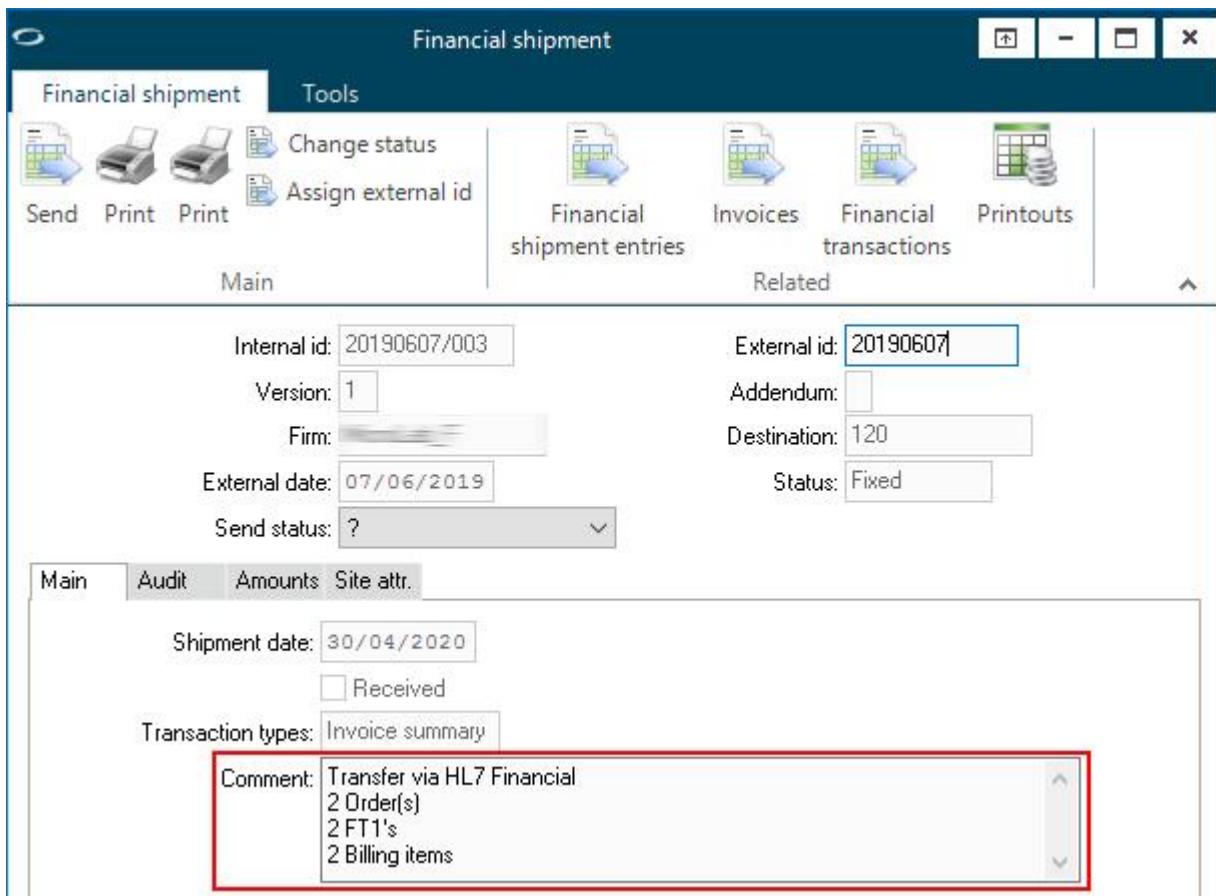
When having exported financial data in the **HL7 2.4** format via the Send function on Financial shipment with the **Mark** option activated, shipment-related information is shown on screen.

For instance:



In addition, the **Comment** field of the **Financial shipment** editor contains shipment-related information as well.

For instance:



However, contrary to the information that is shown on screen immediately after the export, the **Comment** field did not indicate the number of sent billing items.

This has been corrected: the **Comment** field of the **Financial shipment** editor will now indicate the number of sent billing items as well.

Correction of errors related to checking the validity of the Belgian national number (GLIMS_BILL-03771)

Checking the validity of the Belgian national number of a person was performed incorrectly in the following cases:

1. An incorrect check digit was calculated for patients born in 2000. Consequently, an incorrect check was performed when
 - entering a Belgian national number in a payment agreement,
 - sending the national number to the RIZIV,

- sending a MyCareNet insurability request,
 - using the Person-based CheckNationalNumber() MISPL function.

2. The sequence number (position 7-9) of the national number was not taken into account if it equalled "001".

3. When the person's DoB status was **Unkown** or **Year known**, the national number in the **Payment agreement** record and in the **Identification** record was not recognized as such.

This issue, which occurred since GLIMS 9.6, has been corrected.

Warning

Person records with a DoB status set to Standard and with a national number that does not have a matching month should be corrected (either the DoB status or the national number).

Tool to facilitate the analysis of issues with financial export in RIZIV format (GLIMS BILL-03789)

Introduction

A tool is now available in GLIMS that facilitates the analysis of issues with financial shipments sent in **RIZIV** format.

Configuration

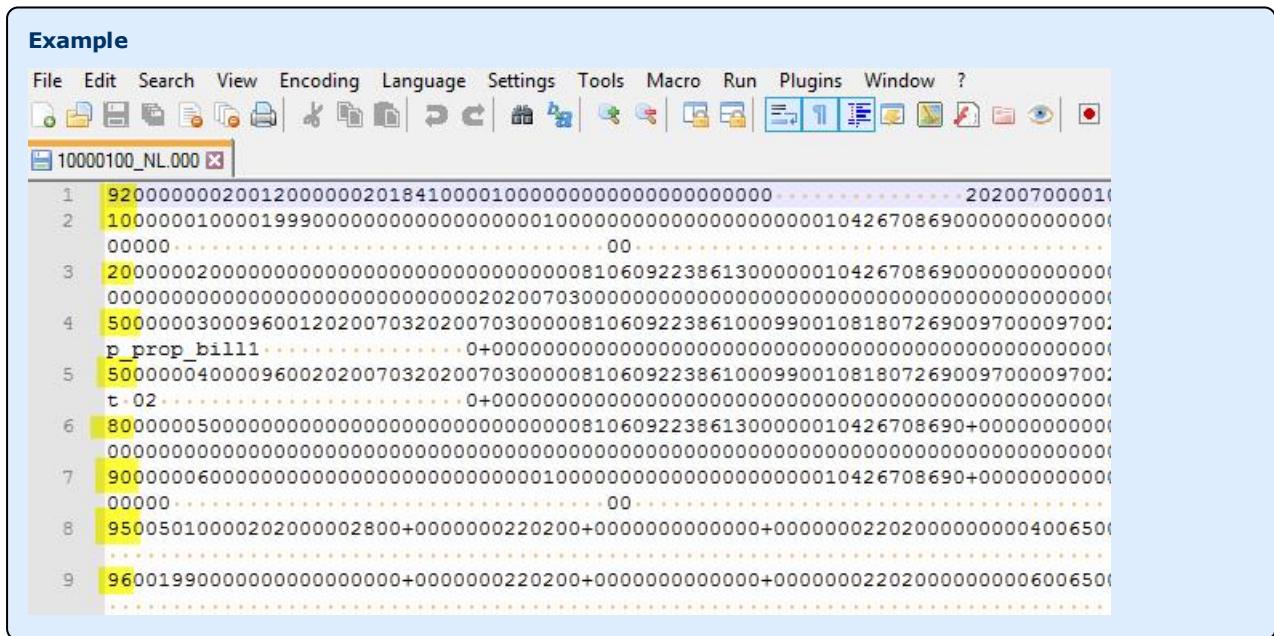
A gp_Site-based tool needs to be configured:

- Mnemonic: ReadRizivFile
 - Function table: gp_Site
 - Function mnemonic: RunProcedure
 - Function parameter set: choose **ReadRizivFile** as **Function** when setting up the function parameter set

How it works

When launching the tool, the user needs to select the RIZIV file that was generated by the FinancialShipment.Send function. The tool

1. creates a new file ("_NL") of which the content is split up on the basis of the available records to enhance readability.



2. processes the file to check the correctness of the check digit of each record. In case of an incorrect check digit, an error file (_ERR) is created containing information on the record that caused the error.

Example

 3002920014052020.000	4/06/2020 11:57	000 File	50.840 KB
 3002920014052020_ERR.000	18/06/2020 16:24	000 File	43.193 KB
 3002920014052020_NL.000	18/06/2020 16:24	000 File	10.151 KB

Avoid errors when printing billing documents via requests of type Genetics (GLIMS_BILL-03793)

Several errors were detected in relation to the billing function for requests of type Genetics.

- During the attempt to print billing documents with a request of type Genetics, an error appeared due to the fact that the Genetics request type was not yet implemented for the billing document print function.
- Requests of type Genetics were not supported for the financial export with GEMA and PEGASE (France). The Genetics department was not correctly recognized due to the issue mentioned above. The executing department that is sent corresponds to the genetic procedure field **Responsible department** of the genetic exam in question.
- The MISPL function .Data() which returns information regarding a specific invoice summary did not perform as expected when used in the context of Genetics executing departments and requests of type Genetics.

These issues have been solved and the expected behavior has been established.

Support for import of payment-related information from DOCCLE (GLIMS_PYIP-00012)

GLIMS now supports importing payment-related information (CODA files) from DOCCLE in the **BVB I.5 (128)** format.

Blood transfusion

Import patient medical record information only when no PMR information is present (GLIMS_BTM-00921)

An issue was reported where patient medical record information was imported ([Start > System management > Database > Specific import > Blood group data](#)) even when a PMR was already present in GLIMS for that patient.

This issue has been corrected: if a patient already has a PMR in GLIMS, the import and thus the update of (some of) the already available PMR information is now rejected.

When the import is rejected, a rejection file with the name <importfilename>.rej is created.

Warning

For new imports, the name of the log type is now **Blood group data Import** (and no longer "BTM import").

Blood selection query: entering a valid PIN resulted in incorrect warning message (GLIMS_BTM-01055)

An issue was reported where the message 'There is no object record for this person or PIN code' was shown when having entered a valid PIN as blood selection query option.

This issue has been corrected.

New values added to BloodGroup and BloodGroupPattern enumerators (GLIMS_BTM-01090)

The BloodGroup and BloodGroupPattern enumerators have been extended: the values

- Aweak
- Bweak
- ABweak

have been added to the list of hard coded blood groups in GLIMS.

These new values can now be used

- when entering blood bags,
- when changing a person medical record,
- when configuring blood bag typing, blood donor rule, blood product advice and blood recipient type records.

Warning

GLIMS 9.9 does not allow the user to execute the generic export of the tables containing these new values.

New MISPL function BloodBag.GenerateDocument (GLIMS_BTM-01092)

Introduction

In addition to the contextual function [Print transfusion form](#) on blood bag, the BloodBag-based MISPL function GenerateDocument is now available as well.

Function parameters

FormMnemonic

For FormType **PDF** and **XML**: reference to a dynamic text that starts with "<?GRB path=".

For FormType **Text**: reference to a dynamic text that expands to the text to be printed or saved to file.

FormType

PDF, XML or TEXT.

DoPrint

Does the document need to be printed? Possible values: YES/NO.

Note

- If only printing is needed:
 - DoPrint = YES
 - Directory and FileName should not be specified
- If only saving to file is needed:
 - DoPrint = NO
 - Directory and FileName should be specified
- Both printing and saving to file can be accomplished by calling this function only once.

PrinterName

Name of the printer. If not specified, the transfusion form printer is taken into account.

CopyCount

Number of copies to print.

Directory

Should be specified if the document needs to be saved to file. Expansion of the symbols "{TempDir}" and "." is supported.

FileName

Should be specified if the document needs to be saved to file. Expansion of the symbols "{Date}" and "{Sequence}" and of references to blood bag related fields is supported.

Example**Site function**

Table: BloodBag

Description: GenerateDocumentPDF2File

Data type: Logical

Definition:

```
RETURN .GenerateDocument(
    "BloodBagPrintGRB" /* FormMnemonic */,
    "PDF" /* FormType */,
    NO /* DoPrint*/,
    ? /* PrinterName, if empty transfusion form printer */,
    ? /* CopyCount */,
    "C:\Temp" /* Directory */,
    "BBF{Date}{Seq}.pdf" /* FileName */);
```

Referenced text

Main page	Site attr.
Mnemonic: <input type="text" value="BloodBagPrintGRB"/>	
Class: <input type="text" value="?"/>	
Description: <input type="text" value="Blood bag form Report Builder"/>	
Table: <input type="text" value="BloodBag"/>	
Text: <?GRB path="C:\Workspace117\PRO\glims_dev_pro\glims-bin\templates\examples\BloodBagForm\BloodBagForm.jasper"?>	

Improved error handling during blood bag checkout (GLIMS_BTM-01095)

In previous versions of GLIMS, if one or more of the checks performed during the checkout of a blood bag failed, a warning message was shown. However, the warning message only stated "Error detected" and did not describe the issue.

The error handling when checking out a blood bag is now better.

Blood attribute "Hemolysin" was not added during blood bag import in Progesa format (GLIMS_BTM-01101)

When importing blood bags using the **Progesa** format, the Hemolysin blood attribute information, even though displayed correctly in the browser containing the imported blood bag related information from the supplier, was not available in the **Attributes** tab page of the Blood bag editor of the imported blood bag.

This issue, which occurred since [GLIMS 9.9.0](#), has been corrected.

Error when discontinuing an order with blood selections (GLIMS_BTM-01103)

An issue was reported where an "Invalid handle" error occurred when discontinuing an order with blood selections.

This issue, which occurred since GLIMS 9.9.0, has been corrected.

Blood bag entry: the preparation / production date saved when scanning a date barcode was incorrect (GLIMS_BTM-01108)

When entering blood bags in GLIMS using the scan program that is available from the main menu, **Start -> Transfusion management -> Entry -> By scanning barcodes**, scanning a barcode representing a production date or a preparation date resulted in GLIMS adding one day to the scanned date and registering a production date or a preparation date different from the scanned date.

Example

Production date scanned by the user: 13/10/2020 12:49

Production date registered by GLIMS: 14/10/2020 12:49

This issue, which occurred since GLIMS 9.0.0, has been corrected.

Error during execution of MISPL function BloodBag.VerificationPassed() (GLIMS_BTM-01110)

An issue was reported where executing the BloodBag-based MISPL function `.VerificationPassed()` on a blood bag with status **Verification** via the blood product trigger **When received** resulted in the occurrence of errors.

This issue, which occurred since GLIMS 9.9.0, has been corrected.

Communication

Actions without outputs were created when uploading an unsolicited result and "Store unsolicited" = NO (GLIMS-11893)

Unsolicited results, received from an analyser for properties that have an assessment method that should NOT store unsolicited results (**Store unsolicited** is unchecked), have GLIMS create empty actions in status **Connecting**. These actions prevent proper closure of orders.

This issue, which occurred since GLIMS 9.8, has been corrected.

Service option RequestUpdateResultThreshold was not taken into account in lab-lab communication (GLIMS-12540)

An issue was reported where the service option RequestUpdateResultThreshold was not taken into account in lab-lab communication. When set, it did not prevent the service from discontinuing and repeating validated results that were updated by an electronic message.

This issue, which occurred since GLIMS 9.8, has been corrected.

REST services: variant search inconsistent when specifying locus and start stop positions (GLIMS-12615)

An issue was detected where a REST call to find a variant by certain parameters did not function properly in regards to the start and stop position (when a locus was specified as one of the parameters). The search returned more values than expected because it did not look for absolute start and stop positions, but rather for ranges.

This issue has been corrected.

REST services: fixed code error which led to authentication failure (GLIMS-12665)

A code error was detected in the CyberTrack PDA, CyberTrack API, CyberLab and DaVinci REST calls which resulted in a REST service authentication failure.

This issue has been corrected.

Issue with update of start date and end date of encounter via ADT (GLIMS-12770)

An issue was reported where an incoming ADT message from the HIS (hospital information system) updating the start date and end date of an existing encounter in GLIMS resulted in an "end date lies before start date" error if the new date interval was entirely in the future. This was due to GLIMS validating the new start date against the initially stored end date in the database.

Example

An encounter exists in GLIMS with

- start date 18/7/2020 08:00
- end date 22/7/2020 10:00

An incoming ADT message updates the start date and end date of the encounter as follows

- start date 25/7/2020 08:00
- end date 03/8/2020 10:00

According to GLIMS, the new start date (25/7/2020 08:00) comes after the initial end date (22/7/2020 10:00) => an error occurs and the update is rejected.

This issue, which occurred since GLIMS 9.0.0, has been corrected. The encounter data from the HIS is now accepted as is.

Ensure successful ASTM result upload when the linked order is simultaneously updated by another session (GLIMS-12825)

An issue was reported where results uploaded from an analyzer were not stored in the database because the linked order was simultaneously being updated by another session. GLIMS only attempted five times to successfully store the results.

This issue has been corrected: the number of attempts has been increased.

Non-numeric results of properties without units were no longer updated electronically (GLIMS-12890)

An issue was reported where non-numeric result values of properties for which no unit is defined were no longer updated when a result update was received from an analyzer.

This issue has been corrected.

Reply to query for historical and procedure data results without omitting data (GLIMS_ANLZ-01149)

A query for historical results which are also procedure data results for other tests assessed on the same specimen had GLIMS reply with an empty work order message. This happened in GLIMS versions lower than 8.11.13. A temporary fix introduced in 8.11.13 (GLIMS_ANLZ-01146), 9.5.10 and 9.6.0 had GLIMS omit the historical data if the result to include in the reply could not be unambiguously identified to ensure that the work order message would at least contain the requested data (except for the "ambiguous" historical results).

This modification ensures that GLIMS now replies correctly without omitting data.

Tests marked as downloaded were not included in the work order message sent in reply to an ASTM ALL query (GLIMS_ANLZ-01424)

When processing an ASTM-query, it happens that GLIMS does not know the ID of the action that needs to be marked for download. This very unusual situation can raise errors causing the referenced specimen and all of its tests on the same station to be excluded from the work order message. The "service log without timestamp" contained 2 Progress errors (3135 and 984), mostly when the "service log with timestamp" logged the following:

Warning in service log

```
*** WARNING [Translator server] 2020-05-28 11:52:24.10
[StationInquiry]: Could not set download status on action: ?
```

Progress errors in service log without timestamp

```
Invalid handle. Not initialized or points to a deleted object. (3135)
Error attempting to push run time parameters onto the stack. (984)
```

Additionally, it happened that somehow the actual action did get marked as downloaded by that station, hereby ensuring that any subsequent all query would not take it into account anymore for inclusion in the work order reply.

This issue, which only occurred occasionally since GLIMS 9.8.11, has been corrected.

No more unnecessary specimens and incorrect action scheduling upon reception of material variable choice (GLIMS_OI-00834)

An incoming order import message containing the code of a material variable choice caused the creation of additional yet unnecessary specimens and thus the incorrect scheduling of the order. This was due to GLIMS using both the untranslated code from the message and the translated code (obtained via the configured coding system) during electronic order import. When comparing both, GLIMS concluded that the codes did not match and that another specimen was required.

For instance, in case of a material request that is configured as a panel member with request definition variables, an incoming message containing specimen information, the codes of the material variable choices and the panel would lead to the creation of two **Specimen** records: one for the specimen mentioned in the message and another one for the material request in the panel because GLIMS did not realize that the specimen from the message matched the panel's material request.

This issue, which occurred since GLIMS 9.5, has been corrected.

Correspondents

Multiple errors occurred when running multiple merges at the same time in the lookalikes browser (GLIMS-07916)

When performing multiple merges in different GLIMS instances at the same time, multiple logging errors occurred, and any merge that was not the first to be run was not completed. Both instances attempt to access the same logging record, but cannot after it has been locked (by whichever instance attempted the access first).

This issue, which occurred since GLIMS 8.8, has been corrected.

Error in person relation overview when a relation's sex is unknown (GLIMS-12703)

An issue was detected where an error occurred when opening the person relation overview (via the contextual menu item [Relations > Outline](#) on a person). This happened when the sex of one of the relations was "?".

This issue has been corrected.

Double patient search: comparator function could not be selected (GLIMS-12777)

An issue was reported where the [Comparator function](#) option was greyed out in the double patient search program. As a result, the user could not select a comparator function as an additional comparison criterion.

CyberTrack

Ending a transfusion was sometimes not possible in CyberTrack 4 (GLIMS_CBT-00296)

When using GLIMS 9.9 in combination with CyberTrack 4, ending a transfusion was sometimes not possible.

This happened when a MISPL expression was used to automatically validate the report property via the Blood product trigger **When administered** so that the order would be promoted to status **Complete** when the transfusion is ended.

For instance: `.Order.Result("report_property", ?, ?).Validate();`

This issue has been corrected.

Memory leak when activating a pending order (GLIMS-12522)

This modification fixes a memory leak that was detected when activating a pending order. The memory leak could lead to slow performing services and eventually a crash.

Genetics

Show specimen ID next to activity name in genetic Results screen (GLIMS_GENX_LAB-00406)

An issue was detected where results of activities in the genetic results screen and in the related results summary screen were shown under the same corresponding activity name, however for different specimens.

If the same activity name was used multiple times (e.g. multiple approaches for the same material or a genetic exam with multiple activities with the same name), it could be unclear as to which activities the results belong to.

This has been corrected. The specimen ID is now shown together with the activity name to avoid confusion.

Additional space for foetus information labels in the Family screen (GLIMS_GENX_LAB-00409)

In the German and French versions of GLIMS an issue was detected where some labels for the foetus information in the right pane of the Family screen were too short.

The space for the labels in questions has been expanded and the information is fully visible again in all languages.

Avoid MISPL double execution during work list creation (GLIMS_GENX_LAB-00413)

When generating a work list which uses a MISPL function to generate a name (e.g. in the GLIMS general settings for the external ID for the work list name), this MISPL was executed twice while it should only have been executed once. As a result, generated work list names may have been unnecessarily long and unclear.

This issue has been fixed.

Extended variant search for loci of type chromosome (GLIMS_GENX_LAB-00415)

Updated functionality

When searching for variants of a chromosome, the users should receive all variants of that chromosome, including all variants of a region of that chromosome.

Until now, users found the variants of a chromosome, but not of the corresponding chromosome regions. This functionality has been updated to extend the query results.

Searching for CNVs

Copy number variants linked to chromosomes or chromosome regions:

- A search for CNVs on a chromosome will also return the variants on the chromosome regions of that chromosome.
- A search for CNVs on a chromosome region will return the variants of the chromosome regions, but not of the chromosome.

CNVs can be linked to genes or gene regions as well:

- A search for CNVs on a gene will also return the variants on the gene regions of that gene.
- A search for CNVs on a gene region will return the variants of the gene regions, but not of the gene.

Searching for sequence variants

Sequence variants can only be linked to genes or gene regions:

- A search for sequence variants on a gene will also return the variants on the gene regions of that gene.
- A search for sequence variants on a gene region will return the variants of the gene regions, but not of the gene.

Fix right click behavior on grids within screens with the same context (GLIMS_GENX_LAB-00425)

An issue was detected in screens which contained a grid within the same context as the screen itself (e.g. the Other genetic exams pane in the Genetic exam screen).

A right click in such a grid did not open the corresponding context menu, as it should normally happen.

This issue has been solved, the context menu appears corresponding to the sub-context of the grid in question.

Additional splitter in the Genetic exam screen (GLIMS_GENX_LAB-00428)

On the bottom of a Genetic exam screen with an active approach, the grids for approaches & requests were displayed in the same pane as the approach visualization (further below).

From now on, a splitter separates the approaches & requests grids from the visual approach representation.

New MISPL function Approach.AddLocusRequest for implemented approach plan creation trigger (GLIMS_GENX_LAB-00429)

New creation trigger site attribute on Approach plan

The new site attribute **Creation trigger** which can be defined in the site attribute tab of the Approach plan editor is executed after the manual or automatic creation of a new approach. It can be used to add locus requests. This site attribute is defined automatically when upgrading to 9.9.4 (or higher).

New MISPL function Approach.AddLocusRequest

The new Approach.AddLocusRequest(*LocusName*) MISPL function can be used for the above mentioned **Creation trigger**.

- The input parameter is a locus name and can be a gene, a gene panel, etc.
- The configured locus requests are added to the approach request pane upon the creation of an approach. The origin of the approach requests added by this function is **Manual**.
- If the MISPL defined for the creation trigger contains a locus request that is already configured on the approach itself, the approach request from the MISPL is not added again.

Example

This function returns YES if the locus was added successfully:

```
.AddLocusRequest("Chr17") ;  
.AddLocusRequest("NIPT Karyotype");  
RETURN YES;
```

Remove warning that locus/variant is already requested for a certain patient (GLIMS_GENX_LAB-00431)

Issue

When adding an approach for a patient, a check was done to verify that the requested locus/variant has not been tested yet. If the locus/variant already existed for that patient, the message "<LocusName> was already requested for this patient, do you still want to add it again?" appeared. This warning is unnecessary e.g. in a scenario where a certain locus needs to be requested for a certain patient every three months.

This issue was detected in two cases:

1. After adding an approach to a genetic exam, the user added the same approach to the same genetic exam again.
2. After adding an approach to a genetic exam, the user manually inserted a not yet requested locus to that approach and repeated the same with another approach and the same locus within the same genetic exam.

Solution

In the aforementioned scenarios, this warning is not shown anymore. Users can now add the same locus request repeatedly.

Implementation of GeneticResultDetail columns for VariantResult grids (GLIMS_GENX_LAB-00435)

New functionality

Before this modification, the concept of GeneticResultDetail columns in the Results screen only existed for the locus results grids. This modification adds the functionality to show the extra customisable columns in the VariantResult grids as well. Users can now configure a property of data type **Genetic List**, select a **List type** (content type, i.e. **Sequence variant** or **CNV**) and create List detail types to display them as customised columns for the corresponding variant result grids.

The columns for variant results will be added following the same logic as the columns for locus results:

1. If a short name is defined for the list detail type, it will be shown as the column header.
2. If not, the list detail type mnemonic will be shown as the column header.
3. If users have defined a choice list for the list detail type, the column cells will function as drop down lists with enumerated choice values.
4. If no choice list is defined, the cells will allow free text input.

For variant results only: the value of the list detail type columns is saved as an annotation on the variant result (only on GLIMS v9.9).

Tip

See related 9.9.4 modification [GLIMS_GENX_LAB-00444](#) for the corresponding new MISPL function VariantResult.GetDetailValue().

Fix rich text and text expansion related issues and improve (rich) text results functionality (GLIMS_GENX_LAB-00437)

This modification fixes several issues with the rich text / plain text functionality and introduces a number of improvements.

Issues with rich text results and normal text results

1. The **Preview** button in the texts browser opens the rich text preview in the large rich text editor. It is accessible via the genetics results screen, if a genetic exam contains a genetic procedure with configured text results, or via the **Preview** button in the texts browser ribbon (via **Start > System Management > Texts**).
2. Attempting to open the classic text browser on a (rich) text in a genetics screen via **SHIFT+Insert** does not lead to errors anymore, but an informational message is shown that this is not supported any longer.
3. Adding a text expression as value for a dynamic property in the genetic exam, genetic result and the specimen info screen by using **Insert** now opens the result-based text browser (and not a list of all texts as before).
4. Before this modification, newline characters were not handled correctly in plain text inside rich text. This has been corrected.
5. For backwards compatibility, the behavior of **Insert** and **CTRL+F** inside rich text or normal text results in the Genetics module was updated to be consistent with other parts of GLIMS (i.e. the Pathology screen).

Inserting text modules (CTRL+F)

An extra space was added in front of the text if the text box was empty before inserting text via CTRL+F. This issue has been corrected.

Note

When using result codes, note that the user is only able to insert multiple result codes via CTRL+F or Insert if Allow multiple result codes is enabled on the corresponding property. Otherwise the insertion of code will replace the existing content of the text box.

Inserting dynamic text (Insert)

1. Dynamic text was not expanded, this did not correspond to the expected behavior.
2. Dynamic text always added unnecessary expansion characters ({}), even if the text contained fixed text.
3. Dynamic text was always retrieved in the User interface language. If there was no text available in that language, an error appeared. To determine the language in which the text is expanded in the dynamic properties, the same logic for both result code and text expansions should be used, which is the following:
 1. Use the **Report language** defined in the Order tab of the order entry
 2. If not available, use the language of the order issuer (specified in the **Correspondent** record)

3. If not available, use the language of the site (**System management > Customize > MATE**)
4. If not available, use the language of the user

These issues have been corrected.

Tip

- Several preconfigured text modules are now available on the general Rich text results page and can be implemented for reporting.
- MISPL functions that can be used to report locus and variant results for the extended Genetics module are described on the page Site functions for reporting.

Known issues for Rich text properties

- Inserting {<txtmodule>} in the HTML source text leads to invalid HTML and is known to cause issues.
- Users should **not** edit the HTML source text directly. Instead, they should use the provided rich text editor.
- For now, including rich text inside rich text is not supported. Only plain text can be used within rich text, see the point below.
- It is **expressly** not recommended to use unnecessarily complex expressions in the rich text editor.

This means: the use of spaces, quotation marks, brackets, etc. within MISPL expressions like
`{=IfKnownString(.AllelicState.Name)}` would not work.

Example: `{=IfKnownString("(" + .AllelicState.Name + ")")}`

Fixed MISPL compilation error for VariantRetestStatus (GLIMS_GENX_LAB-00438)

In a previous modification, the enumerated status values for VariantRetestStatus were updated as follows:

- From: **Not requested, To do, Success, Failed**
- To: **Not requested, To do, Confirmed, Not confirmed**

This change caused a compilation error and a warning message pop-up when attempting to run a MISPL function containing the new values for VariantRetestStatus.

This issue has been fixed.

New MISPL function VariantResult.GetDetailValue() (GLIMS_GENX_LAB-00444)

From now on, a new MISPL function VariantResult.GetDetailValue(*Mnemonic*) allows users to retrieve the values of the configured list detail types on variant results.

The input parameter *Mnemonic* is the mnemonic of the genetic result detail as configured in the list detail type (**Property > List type > List detail types**). For more information on the genetic result detail functionality for variant results, consult the 9.9.4 modification [GLIMS_GENX_LAB-00435](#).

Example

```
RETURN .GetDetailValue("SV_Extra_Column");
```

Warning

Do **not** use the VariantResult.SetAnnotation / VariantResult.GetAnnotation MISPL functions to retrieve the values of the configured list detail types.

Such a configuration will no longer be compatible when upgrading to a newer version of GLIMS.

Wrong sequence of result properties in Genetic results screen after result repeat (GLIMS_GENX_LAB-00454)

An issue was detected in the Genetic results screen: if a result property was filled in and the user chose to repeat this property, it was moved to the back of the panel.

The sequencing of the result properties has been fixed. From now on they remain in the same position, even after a result repeat.

Tip

In this panel, the sorting is done according to the sequence number defined by the user. If no sequence number is used, the sorting is done by mnemonic.

Fixed Pedigree behavior when updating family and genetic exam records (GLIMS_GENX_LAB-00456)

In the following scenario, the Pedigree frame of the Family screen did not respond correctly when users updated genetic exam and family records:

- Enter the pedigree screen
- Select a family member with genetic exams
- Select a genetic exam and discontinue it in the ribbon
- The pedigree screen would either close or switch to another family.

This behavior has been fixed: from now on, updating family and genetic exam records does not cause the pedigree screen to close or to switch to another record.

Column chooser pop-up for Genetics grids updated to display all available columns (GLIMS_GENX_LAB-00459)

An issue was detected with the column chooser for grids with many columns within the Genetics module. When clicking on the column chooser, the pop-up had a fixed (default) size and did not display all available column headers. The size of the column chooser pop-up had to be readjusted each time a user clicked on the corresponding icon.

This issue has been solved: from now on, the column chooser pop-up dynamically adjusts its size based on the amount of available columns.

Fix inconsistent behavior of GetLocusResult and GetVariantResult MISPL functions (GLIMS_GENX_LAB-00465)

Several issues were detected where the MISPL functions GetVariantResult() and GetLocusResult() did not behave consistently with regards to certain parameters passed compared to other MISPL functions in GLIMS. The following changes have been implemented to resolve this issue:

- If the parameter *MinimalStatus* is not specified, the lowest status will now be assumed (*Expected* for locus results and *Available* for variant results), while previously it was *Validated*.
- The parameter *Index* must now always be specified and has to be different from 0.
- Previously, if no *MinimalStatus* was passed to the GetVariantResult function, it never returned any variant results. This has been fixed.
- Previously, the GetLocusResult() function on GeneticExam or Object could not be used to retrieve all results. When it was used without specifying a locus name it returned the error message "Locus with name '?' doesn't exist". This has been fixed.

Examples

The following GetLocusResult MISPL construct was previously not possible (valid on GeneticExam and Object):

```
RETURN .GetLocusResult(?, ?, ?, 1).TestedLocus.Name;
```

The following GetVariantResult MISPL construct was previously not possible (valid on GeneticExam, Object and Approach):

```
RETURN .GetVariantResult(?, ?, ?, ?, ?, 1).Variant.Name;
```

The behavior of the MISPL functions GetVariantResult() and GetLocusResult() on GeneticExam, Object and Approach has been fixed. These issues occurred since GLIMS v9.9.0.

Allow moving columns within the Genetics module grids (GLIMS_GENX_LAB-00471)

An issue was reported where users were not able to move columns (or, more precisely, column headers) within the Genetics module grids.

This issue has been fixed. From now on, it is possible to move columns and the new column position is saved in the 'large' user interface preferences of the user. Each screen and each grid have a separate configuration.

Notes

- When moving a column to a position after a dynamic column, the column is placed before the fixed columns after reopening the screen.
- Dynamically configured columns in the **Variant results** and **Locus results** grids of the genetic results / advanced work list screens are immovable. An attempt to move these will result in an error message.

Warning

For GLIMS 9.9.4 this new functionality is not backwards compatible with the **Variant results** and **Locus results** grids in the genetic results /work list screens.

The column width saved in GLIMS 9.9.3 will be restored to the default width since the grids are now saved for each configured ListDetailType (see [GLIMS_GENX_LAB-00435](#) for more information about ListDetailTypes).

Extend automatic approach plan selection for genetic exams (GLIMS_GENX_LAB-00474)

Issue

An issue was detected where the automatic selection of an approach plan for a genetic exam failed in some cases, even though there was only one possible approach available. The automatic selection of the single possible approach plan did not happen when the approach plan usage of this approach had no defined specific genetic procedure (**Only for genetic procedure**) and no specific material (**Only for material**), but did have an **Extra condition function**. This problem occurred since GLIMS 9.9.2.

Solution

From now on, the automatic selection is no longer restricted based on the field values for **Only for genetic procedure**, **Only for material**, **Extra condition function**. The latter will be checked for availability. If this condition function returns FALSE or NO, the approach plan will not be available for the automatic selection.

Instead, the approach plan usage score will be taken into account for the automatic selection. The highest available **Score** will be automatically selected, if not already used and if it is the only logical option (no other entry with identical score).

Examples

A list with four approach plan usage entries with the following scores: 1, 10, 10, 30.

> There is only one entry with the highest score, so the approach plan usage with the score of 30 is automatically selected.

A list with four approach plan usage entries with the following scores: 1, 10, 30, 30.

> There are two entries with the highest score of 30, so no approach plan usage is automatically selected.

Fixed error that occurred after opening a pedigree for the first time in a GLIMS session (Pedigree-00004)

An issue was detected in the Pedigree pane of the Family screen, where upon opening a pedigree for the first time in a GLIMS session, the error "ZoomLevel is undefined" was shown. This issue has been corrected.

MISPL

Avoid MISPL error during execution of Order.GetOrderToDoItems MISPL function (GLIMS-12679)

An issue was reported where the MISPL execution error "Missing start buffer (Fetch .ord_Id)" occurred during the execution of the MISPL function Order.GetOrderToDoItems via the **Trigger when reviewed** field of an **Order review list**.

This issue has been corrected.

Microbiology

No more error for carrier test with AddIsolation MISPL trigger (GLIMS_BAC-01681)

In the microbiology work screen, if a user attempted to change the value of a carrier test which had an AddIsolation MISPL trigger linked to it, multiple error messages would appear ("Unable to update wb_CarrierTest Field. (141)").

This issue has been corrected.

Exclude carriers of discontinued microbiology actions from message sent in reply to carrier query (GLIMS_BAC-01691)

Upon reception of a specimen query (from Kiestra) requesting carriers, GLIMS did not take into account the status of the microbiology action when composing the reply message. Consequently, the carriers of discontinued microbiology actions were included as well.

This has been corrected: the reply message will now no longer contain the carriers of discontinued microbiology actions.

Synchronization of GLIMS microbiology work screen with WASPLab (GLIMS_BAC-01696)

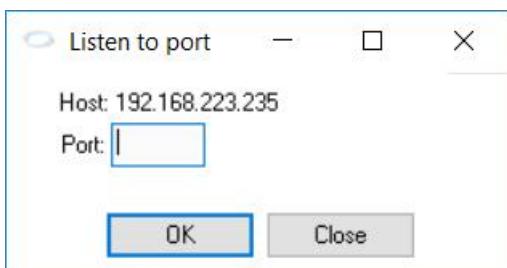
Introduction

GLIMS now offers the functionality to synchronize the microbiology work screen with an application screen of the WASPLab system. When a specimen is inspected for growth on the WASPLab system, the GLIMS microbiology work screen needs to open with the information of the specimen being inspected.

Opening the microbiology work screen in "listen" mode

The microbiology work screen can now be launched in "listen" mode to ensure that it receives and responds to synchronization messages from the external application. The setup screen that is required for this purpose

1. displays the IP address of the device GLIMS is currently running on and
2. requires the user to enter an unused port number.



Clicking **OK** in the setup screen opens an empty microbiology work screen with the host and entered port visible in the top right area of the screen. As long as this screen remains open, it will synchronize to the ASTM messages received from the external application on the entered port.

Accessing the setup screen

It is required to add a new ribbon item or menu item for a tool that

1. has its **Table / Function table** set to **gp_Site**,
2. has its **Function mnemonic** set to **RunProcedure**,
3. has its **Function parameter set** configuration set to **MicrobiologyScreenSync**.

Select the new ribbon or menu item to open the setup screen for the synchronization of the microbiology work screen.

Example messages

The message sent by the external system includes the specimen ID used to synchronize both screens. This ID should always be found in the Q.3 or O.3 segment of the message.

```
H|\^&|||LIS||||WASPLAB  
P|  
O||20180315-0003202|  
L|
```

When the message includes a CLOSED instruction in the specimen ID's segment, all data will be removed from the microbiology work screen in GLIMS, and the screen will await a new message to synchronize to.

```
H|\^&|||LIS||||WASPLAB  
P|  
O||20180315-0003202 ^CLOSED|  
L|
```

Synchronization of GLIMS microbiology work screen with Kiestra (GLIMS_BAC-01697)

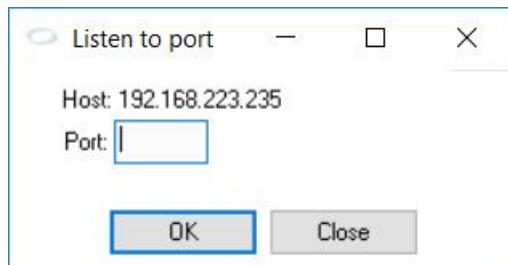
Introduction

GLIMS now offers the functionality to synchronize the microbiology work screen with an application screen of the Kiestra system. When a specimen is inspected on the Kiestra system, the GLIMS microbiology work screen needs to open with the information of the specimen being inspected.

Opening the microbiology work screen in "listen" mode

The microbiology work screen can now be launched in "listen" mode to ensure that it receives and responds to synchronization messages from the external application. The setup screen that is required for this purpose

1. displays the IP address of the device GLIMS is currently running on and
2. requires the user to enter an unused port number.



Clicking **OK** in the setup screen opens an empty microbiology work screen with the host and entered port visible in the top right area of the screen. As long as this screen remains open, it will synchronize to the ASTM messages received from the external application on the entered port.

Accessing the setup screen

It is required to add a new ribbon item or menu item for a tool that

1. has its **Table / Function table** set to **gp_Site**,
2. has its **Function mnemonic** set to **RunProcedure**,
3. has its **Function parameter set** configuration set to **MicrobiologyScreenSync**.

Select the new ribbon or menu item to open the setup screen for the synchronization of the microbiology work screen.

Example messages

The message sent by the external system includes the specimen ID used to synchronize both screens. This ID should always be found in the Q.3 or O.3 segment of the message.

```
H|\^&|||LIS||||Kiestra
```

```
P|
```

```
O||20180315-0003202|
```

```
L|
```

When the message includes a CLOSED instruction in the specimen ID's segment, all data will be removed from the microbiology work screen in GLIMS, and the screen will await a new message to synchronize to.

```
H|\^&|||LIS||||Kiestra
```

```
P|
```

```
O||20180315-0003202 ^CLOSED|
```

```
L|
```

Remove selection of isolation comments after insert or F6 (GLIMS_BAC-01699)

Problem description

1. Open the microbiology work screen.
2. Add an internal or external comment in the isolation browser of the microbiology work screen.
3. Use **F6** to open the text editor or **Insert** to open a Text selection browser.
4. Close the text editor.
5. The text in the internal or external comment fields of the isolation browser is selected.

Issue: the user risks overwriting the selected comment when they continue to type while the selection is still active.

Solution

After using **Insert** and closing the Text selection browser,

1. without having selected a Text, the cursor is set to where it was originally,
2. when having selected a Text, the cursor is set to after the newly added text.

After using **F6** and closing the text editor, the cursor is set to the end of the comment field.

Warning regarding comment change incorrectly shown in microbiology work screen (GLIMS_BAC-01713)

An issue was reported where a warning message informed the user that the comment in the microbiology work screen had been changed by another user when this was not the case.

This issue, which occurred when selecting the radio button of another procedure, has been corrected.

Miscellaneous

Improved performance of loading station configuration (GLIMS-12052)

If a lot of stations of type concentrator or LAS and a lot of download groups were configured in GLIMS, loading this configuration at startup could be slow.

This has been corrected: the startup performance of GLIMS should now be better.

Improved performance of order review and microbiology action queries (GLIMS-12599)

The performance of the following queries has been improved.

Order review query

The order review query was slow when the selection contained orders in different statuses. This issue only occurred in the Progress version of GLIMS.

Microbiology action query

The microbiology action query was slow when a material and very few other query options had been specified. This issue occurred in both the Progress and Oracle version of GLIMS.

Support setup of function parameter set for gp_Site.OrderToDoItems() (GLIMS-12601)

When using the gp_Site.OrderToDoItems() function in a Tool, it was not possible to setup a function parameter set because of the message "The Order to-do items browser is not available as a Classic browser!".

This issue has been corrected.

Fixed slow performance of CTRL-F in "Orders by short ID" browser (GLIMS-12673)

Opening the **Orders by short ID** browser and using CTRL-F to navigate to a record in the browser was slow.

This issue, which occurred since GLIMS 9.8.12, has been corrected.

Default issuer type and agent type were not taken into account in Hungarian version of GLIMS (GLIMS-12691)

In the Hungarian version of GLIMS, the default **Issuer type** and **Agent type** as specified in the order entry options were not taken into account.

This issue has been corrected.

Performance issue when loading browser results (GLIMS-12697)

An issue was detected where loading browser results impeded the performance of, among other things, the order review.

This issue has been corrected.

Check on Hungarian social security number: use identification instead of matriculation (GLIMS-12745)

Since [GLIMS 9.9.2](#), Hungarian customers can check the social security number of the patient during order entry by sending a request via a web service to the platform of the Hungarian National Health Insurance Fund.

To perform this check, the matriculation of the payment agreement was initially used. This is now no longer the case: the identification of the object that is issued by the national PIN provider is now used.

Correction of requested code conversion for pending orders created in GLIMS v8 (GLIMS-12887)

A new fallback mechanism is now in place that is activated during the requested code conversion for pending orders created in GLIMS version 8 when the reference time of a requested code could not be determined. Previously, the creation time of the related request was used. Now, the lowest object time of the order is used.

Escape HTML characters in fast positioning text (MATE-06718)

When using HTML characters ("<" for instance) as fast positioning text in a browser, these characters are now escaped to ensure that the fast positioning functionality works correctly.

Expand dynamic text in rich text editor in the language of the user (MATE-06766)

For a rich text editor containing dynamic text references, selecting the ribbon item **Preview** in the ribbon tab **Review** did not expand the dynamic text in the language of the user.

This has been corrected: the language of the user is now taken into account when expanding dynamic text in the rich text editor.

Generate document preview window prevented the user from opening other windows (MATE-06792)

If the **Preview** window of the Generate document function was open, the user could not open for instance a browser without first having to close the **Preview** window.

This has been corrected: it is now possible to open other screens and browsers while the **Preview** window remains open.

Fixed site attribute creation for tables of a certain type (MATE-06797)

An issue was reported where it was not possible to create site attributes on tables of a certain type (e.g. the tables Gene, Chromosome, Variant etc.)

This issue has been fixed.

Fixed error that occurred when site function contained "&" in its description (MATE-06848)

An issue was reported where an error occurred when saving a site function of which the description contained the character "&".

This issue has been corrected.

Norms

Norms with Eligibility site function were not evaluated correctly (GLIMS-12611)

An issue was detected where, since [GLIMS-11833](#), norms with an **Eligibility** site function were not evaluated correctly. Consequently, the Result.NormSeverity was no longer set when entering a result value that was outside the reference range.

This issue has been corrected.

Order entry

Improved error handling during manual order entry when evaluation after scheduling is used (GLIMS-11405)

When an order is created manually and the Evaluation after scheduling MISPL expression tries to add a non-derivable request on the specimen of the order, an "Order save error" occurs because the request cannot be derived from that specimen.

However, this "Order save error" caused "Invalid handle" errors and blocked the order entry screen.

This issue, which occurred since GLIMS 9.9.0, has been corrected.

Fixed "Auto prompt on extra info" option for requests added to existing specimens (GLIMS-11941)

An issue was reported where the Auto prompt on extra info option did not work for requests that were added to an already existing root specimen.

This issue, which occurred since GLIMS 9.8, has been corrected.

Correction of discriminator-related issues (GLIMS-12188)

The following discriminator-related issues have been solved:

1. Non-time discriminator of additional request ignored and not saved when reusing an existing action during scheduling.

When adding a request with a specific (non-time) discriminator "Y" to an existing order having a specimen with the discriminator "X", then GLIMS would ignore the discriminator "Y" during scheduling once it became clear that the existing action of the order could be reused for the new request. Consequently, the new request was scheduled on the existing specimen that had a different discriminator.

2. Re-requesting a previous request with a non-time discriminator should not create a new request.

If, for a given order containing a request for the property "TestX", the user requested "TestX" again (same object time) but with a non-time discriminator, GLIMS should "update" the existing "TestX" in the order by setting

- the **Dynamic type** of the corresponding **Result** record to **Discriminator**.
- the provided discriminator on the specimen referred to by the **Result** record of "TestX".

3. Discriminator of existing input specimen ignored during selection of an existing action when scheduling additional requests with a discriminator.

When adding a new request with a non-time discriminator, the action scheduler never checked the discriminator of the existing input specimen of any existing action that was considered as a potential candidate for the new request.

Example

1. If, for
 - an existing order already containing the requested property "TestX" with the discriminator "RED" provided implicitly (i.e. defined on its request definition),
 - a procedure that can assess both "TestX" and "TestY" on the same material,
2. a request for "TestY" is added to the order with the discriminator "BLUE" provided explicitly,
=> GLIMS scheduled "TestY BLUE" on the existing action scheduled for "TestX".

Fixed visualization error in order entry for order created via specimen reception scan (GLIMS-12501)

The following visualization issue, which occurred in order entry since GLIMS 9.8, has been corrected:

1. Open the specimen reception scan.
2. Enter a station and a material.
3. Make sure that the specimen reception scan option **Allow creation** is enabled.
4. Enter a barcode that does not yet exist and click the **Scan** button.
5. Open the newly created order from an Order browser.
6. The order entry screen showed duplicate specimens while the order outline only showed one and only one had been saved to the database.

Incorrect action status of sub specimen after confirmation of root specimen (GLIMS-12588)

Issue

Configuration

1. Procedure with a material as input and another material and a property as outputs
 - The **Auto start** option of the procedure is enabled.
 - The **Auto login** option is enabled for the procedure output of the output material.
2. Procedure with the output material of the first procedure as input and a property as output
 - The **Auto start** option of the procedure is disabled.

Routine

Open order entry and request the material that is input of the first procedure (root specimen) and the property that is output of the second procedure.

Issue

The specimen (aliquot) that is output of the first procedure and input of the second procedure is available but the derived action of the second procedure has the status **Inputting** instead of **Pending**.

Solution

This issue, which occurred since GLIMS 9.8.11, has been corrected.

Object time should not be filled in when selecting a person with encounter during order entry (GLIMS-12606)

When selecting a patient with an encounter during order entry and no requests had been added yet, the object date and time were filled in automatically since GLIMS 9.9. However, at this point in the order entry process, the object date and time should not be filled in yet.

This issue has been corrected.

Possibility to easily switch between searching for order issuers using their identification or LANR (GLIMS-12706)

Context

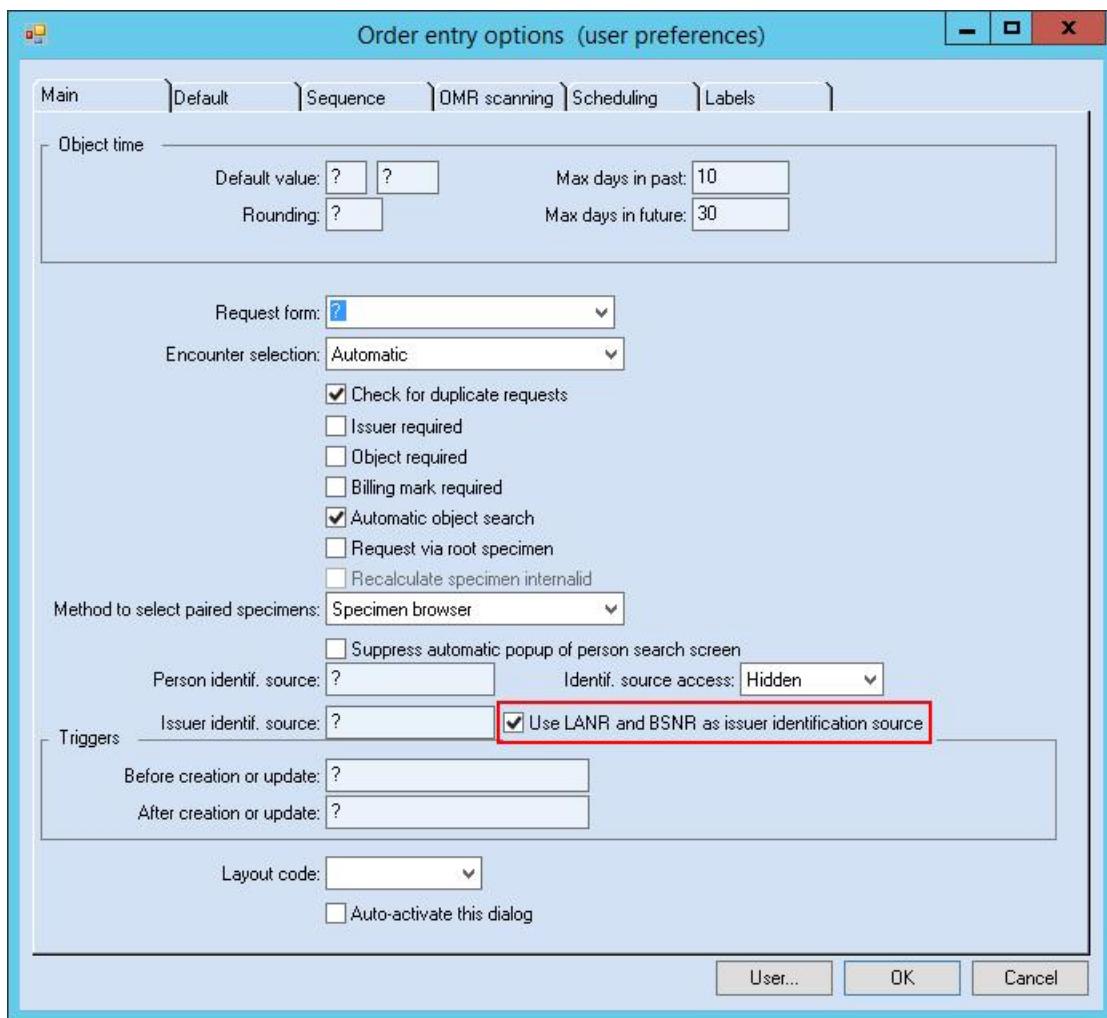
Since [GLIMS-12036](#) in 9.9.1, German laboratories wanting to look for order issuers during order entry

1. using their identification, had to fill in the field **Issuer identif. source** in the order entry options,
2. using the **LANR** and **BSNR** fields, had to leave the field **Issuer identif. source** empty (but fill in the fields **Provider for LANR** and **Provider for BSNR** in the general settings).

New functionality

To allow the user to easily enable or disable the search for order issuers using the LANR and BSNR fields, the new option **Use LANR and BSNR as issuer identification source** is now available in the order entry options.

By default, this option is disabled. Moreover, it is only visible when the fields **Provider for LANR** and **Provider for BSNR** are filled in.



For more information, see Order entry: main fields - Order info.

Discontinued results that are requested again were not updated electronically (GLIMS-12712)

If a request in an order was discontinued but added again, then its result - when imported electronically - was not added to the order in GLIMS.

Example

1. Create an order in GLIMS via electronic order import that contains the requests "potassium" and "sodium".
2. A result value is received electronically for "potassium" and confirmed.
3. "potassium" is discontinued and requested again.
4. Result values are received electronically for "potassium" and "sodium".
5. Issue: the result value for "potassium" is not added to the order.

This issue, which occurred since GLIMS 9.3, has been corrected.

Removed unnecessary message in order entry when overriding the default billing mark (GLIMS-12728)

Context

The Correspondent editor allows the user to specify a default **Billing mark** that will be used for orders that are created for this issuer.

Issue and solution

If, during order entry, the user manually entered another billing mark, thus overriding the default billing mark, the message "Are you sure you want to override the issuer billing mark?" was shown.

As this message is considered unnecessary, it will now no longer be shown.

Ensure correct property output evaluation upon specimen confirmation (GLIMS-12875)

When the property outputs of a child specimen both have a trigger that updates the specimen (example: .SetStorage, .SetMeasuredSize, .SetReplacementLevel), an error occurred upon confirmation of the specimen.

Error message

Value xxx too large to fit in INTEGER.

Line xxxx in ProcessPropertyOutput spmn_cnf.

This issue has been corrected.

Electronic order entry: panel scheduling on imposed specimen (GLIMS_OI-00838)

Problem description

The following manual order entry scenario ...

Manually enter the following pending order:

- Request the material "root_mat".
- Request a panel containing only properties ("prop1" and "prop2") on the "root_mat" specimen.
- Request a second "root_mat" material.
- Request the property "prop3" on the second "root_mat" specimen.

Scheduling outcome:

An order with two specimens for "root_mat": the panel properties are scheduled on the first specimen while the separately requested property "prop3" is scheduled on the second specimen.

... resulted in a different scheduling outcome during electronic order entry: upon activation of the electronically entered pending order, the separately requested property and the panel members were scheduled on the same specimen, that is, the specimen referred to by the property request.

Solution

For this scenario, electronic order entry has been aligned with manual order entry.

GLIMS receives an order import message for a new order:

- SpecimenList containing two specimens for the same material
 - Specimen 1: MatA
 - Specimen 2: MatA
- RequestList
 - Request 1: panel (Prop1, Prop2) on specimen 1
 - Request 2: property (Prop3) on specimen 2

Scheduling outcome:

- The properties of the panel are scheduled on specimen 1
- The separately requested property is scheduled on specimen 2

The very specific situations involving panel request definitions

- that do not contain any material request codes as panel members and
- that are requested with a provided (root) specimen list containing one explicitly provided specimen

will now have the expected outcome of all its members being scheduled on the specified specimen.

Order review

Improved performance of order review (GLIMS-12695)

An issue was detected where order review could be slow when a lot of orders needed to be skipped because they had been validated in another session.

This issue, which occurred since GLIMS 9.8, has been corrected.

Domain Undefined not evaluated correctly during order review (GLIMS-12718)

An issue was reported where the order review program did not take into account correctly the domain **Undefined (?)** when the latter was selected in the query options. As a result, properties not belonging to a domain were not taken into consideration in GLIMS' decision regarding the completeness of an order.

This issue, which occurred since GLIMS 9.6, has been corrected.

Orders

Order lowest object time was not updated when specimen sampling time was changed electronically (GLIMS-12469)

For an order containing a panel that is composed of

- a blood request,
- a property linked to a specimen,
- and an informative property (that is not linked to the specimen),

the order lowest object time was not updated when the sampling time of the specimen was updated **electronically** (for instance when the specimen is marked as sampled in CyberLab).

This issue has been corrected.

See also: [GLIMS-12731](#).

Urgency monitor should take into account the result creation time for order due time calculation (GLIMS-12594)

Context

In the urgency monitor, the order due time is calculated based on the **Receipt time** or **Sampling time** of the specimen. This can be indicated via the **Due time start** query option of the **Urgency monitor**.

Issue

An additional request that is added to an existing order for an existing specimen could be displayed immediately in red.

Solution

The urgency monitor will now check if the result creation time is more recent than the specimen receipt time or specimen sampling time. If so, the order due time will be calculated based on the result creation time. This way, a request that has been added to an existing order for an existing specimen will now no longer be displayed immediately in red.

Fields ord_ExpertSystemFlags and ord_InsurabilityRqstDate not checked anymore when saving an order (GLIMS-12682)

An issue was reported when an external expert system (e.g. Valab) updated either one of the **Expert system flags** (ord_Exper-
tSystemFlags) or the **Last request date insurability** (ord_InsurabilityRqstDate) order fields while an end user updated that order manually. After a warning message, an error occurred and the users were unable to save their changes to the order.

This issue has been corrected.

Order lowest object time was not updated when specimen sampling time was changed manually (GLIMS-12731)

For an order containing a panel that is composed of

- a blood request,
- a property linked to a specimen,
- and an informative property (that is not linked to the specimen),

the order lowest object time was not updated when the sampling time of the specimen was updated **manually**.

This issue has been corrected.

See also: [GLIMS-12469](#).

Invalid value was filled in for Order.Sampler when sampler is not known (GLIMS_OI-00848)

When receiving an electronic order import message containing a sampler that is not known in GLIMS, the value "0" was filled in the field Order.Sampler.

Consequently, when using this field in a MISPL expression to retrieve the HC provider linked to the order sampler, the error "HC provider not found" occurred.

This issue, which occurred since [GLIMS 9.9.0](#), has been corrected: the value "?" is now filled in in the **Order** field **Sampler** when the sampler is not known.

Phone list

Make "Only orders with results" available in phone list query setup (GLIMS-12565)

An issue was reported where the Only orders with results query option was not available in the function parameter set of the tool that was being configured for the gp_Site.PhoneList function.

This issue has been corrected.

Quality control

Fixed memory problems caused by QC result upload (GLIMS-12821)

An issue was detected where QC results uploaded from an analyzer and resulting in the creation of reagent lot usage records caused memory problems.

This issue, which occurred since GLIMS 9.8, has been corrected.

Correction of calculation of coefficient of variation if standard deviation is 0 (GLIMS_QC-00945)

In the rare case of a standard deviation of 0, the coefficient of variation calculated during QC audit creation was "?" instead of 0.

This issue, which occurred since GLIMS 9.6, has been corrected.

Apply rounding to statistical values only (GLIMS_QC-00948)

Since GLIMS_QC-00681, the **QC precision** of the assessment method was applied to the statistical values and to certain **Configuration**-related fields in the QC population editor. For instance: if the user entered a target value of 12,34 while the **QC precision** was set to 2, then the value displayed in the reopened **QC population** editor was 12,00.

The configured **QC precision** is now only applied to the statistical values. The **Configuration**-related values will now be displayed as entered.

Closing a QC evaluation period: correction of the start date of the created QC audit (GLIMS_QC-00954)

When closing a QC evaluation period and creating a QC audit (**Create QC audit** is active in the **Close QC evaluation period** window), the start date of the QC audit used to be 01/01/1900. This date was set automatically by GLIMS as this scenario did not allow the user to enter a start date.

This issue has been corrected: the lowest availability date of all the linked QC results is now set as the QC audit's start date.

Correction of error in channel quality monitor that occurs when date format is ymd (GLIMS_QC-00958)

An issue was detected where an error occurred when opening the channel quality monitor while the date format in the session.pf file was set to ymd (year-month-day).

This issue has been corrected.

Report Builder

Digitally signing GLIMS Report Builder PDF reports via carte CPS (GLIMS-12126)

Background

In some countries (for instance: France), legislation requires PDF reports to be signed digitally (and no longer physically).

New functionality

PDF reports generated via GLIMS Report Builder can now be signed digitally using a smart card. **Currently, only carte CPS is supported.**

Required configuration

Default report

- **Electronic signature:** new option to allow the user to indicate if and how PDF reports should be digitally signed.
- **Report medium** should be set to **E-mail** to have the signed PDF report sent to the HC provider's e-mail address.

Report template

E-signing GLIMS Report Builder PDF reports implies that the report template's

- **Generator** needs to be set to **GLIMS Report Builder** and
- **File type** needs to be set to **PDF**.

Routine

1. E-signing a PDF report

Automatically during report generation

If an e-signature is required (according to the default report), the report will be signed automatically during its generation.

Note

If the report generation option **Preview** is enabled and the **Cancel** button is clicked in the preview window, the report will not be signed. Clicking **Send** in the preview window is required to have the report digitally signed.

Manually via the context function on Report

The context function **Sign generated PDF** on **Report** can be used to digitally sign a generated PDF report (even if an e-signature is not required according to the default report).

Note

When an e-signature is added manually, the PDF report cannot be previewed.

2. Selecting a certificate for authentication

If more than one certificate is found (for instance after having switched cards), the user needs to select the correct certificate.

3. Entering the PIN code

The user is prompted to enter their PIN code.

4. Opening the digitally signed report

The digitally signed report is e-mailed to the HC provider and, if the report generation option **Output to file** was enabled, saved to file as well.

Tip

The digitally signed PDF report can be attached to the order: set the Report template option **Archive mode** to **Archive as PDF document** and enable the report generation option **Mark output**. This feature requires a separate license.

Logging

Audit > Log entries

Each successful signing operation is logged. Select **Audit > Log entries** in the Tools tab of the contextual ribbon for a **Report** record to view the log entries that are scoped to the current record.

Report editor

Status tab

The **Electronic signature** section informs the user about the **Signature status**, **Signature time**, **Signature method**, **Signer** and **Signature issuer**.

Details tab

Contains information about the authentication certificate.

Restrictions

- Digitally signing PDF reports is only possible
 - one by one,
 - on a Windows machine,
 - in interactive GLIMS sessions,
 - without PDF encryption.
- The e-signature is not visible when the PDF report is opened in a browser, it is only visible when opened via a PDF viewer such as Adobe Acrobat Reader.

Process subsequent reports when report generation fails (GLIMS-12576)

If an error occurred during the automated generation of multiple GLIMS Report Builder reports and the error prevented one of the reports from being generated, then the subsequent reports were not generated either.

This issue, which occurred since GLIMS 9.8.1, has been corrected.

Completeness time of attachment report of electronic report was always set (GLIMS_ARep-00302)

Context

GLIMS allows to send an additional report as attachment of an electronic report. For more information, see Attachment reports for electronic reports.

Issue

An issue was reported where the **Completeness time** (under the **Status** tab of the **Report** editor) of the attached GLIMS Report Builder report was always set, even when the report was not complete.

Solution

This issue, which occurred since [GLIMS 9.9.0](#), has been corrected.

Fixed unnecessary generation of GLIMS Report Builder reports (GLIMS_ARep-00306)

An issue was reported where the generation of a GLIMS Report Builder report was triggered unnecessarily. This happened, for instance, when a result with status **Initial** or **Expected** was discontinued whereas the **Trigger status** of the default report was set to **Available**.

This issue has been corrected.

Report style of property classification node was ignored in Report Builder's adaptive XML output (GLIMS_ARep-00313)

The **Report style** that can be configured on the **Property classification node** was ignored in Report Builder's adaptive XML output if **Rich text** was enabled for the linked property. The report style was exported correctly in the <MetaData> section but not in the <Data> section of the output. In the latter section, "Rich text" was shown instead of the report style of the property classification node.

This issue, which occurred since GLIMS 9.9.0, has been corrected. Moreover, the "Rich text" value depended on the language of the logged in user. This is now no longer the case: **any jasper template referring to the translated value of "Rich text"** (for instance: "Texte enrichi") as report style needs to be updated and should now refer to "Rich text" instead.

Primary sample collection manual generated via Report Builder should contain codes of property (GLIMS_PSCM-00034)

When generating a primary sample collection manual, the generated report did no longer contain the codes (defined via coding systems and code sets) of the property.

This issue, which occurred since GLIMS 9.8, has been corrected.

Finalize the first report generation request before a second request can be launched (MATE-06867)

An issue was reported where consecutively clicking on two different ribbon items, both sending a request for report generation to a Report Builder Service, resulted in errors and even in the termination of the GLIMS session. This was due to the second request being processed while the first one had not yet been finalized.

This issue has been corrected: the first request needs to be finalized before a second request can be launched.

Reports

Reference range of properties without result value was not included in online reports (GLIMS-12635)

When exporting an order to an external system via an online report and the houl translator, the reference range of the properties without a result value was not included in the report. The unit was not included either.

This issue, which occurred since GLIMS 9.8, has been corrected.

Report completeness time should not be set for reports of orders having only discontinued results (GLIMS-12677)

Issue

For reports of orders having only discontinued results, the fields **Last output time** and **Completeness time** (under the **Status** tab of the **Report** editor) were set upon report generation even when the Default report option **Report discontinued results** was disabled.

Solution

The **Last output time** and **Completeness time** are now no longer set for reports of orders having only discontinued results if the **Default report** option **Report discontinued results** is disabled.

Error during online reporting of isolation external comment (GLIMS-12736)

The **Report template** field Isolation comments did not overrule the isolation's external comments in online reports generated with this report template.

This issue has been corrected.

Value of ImageServerDir was added to absolute file path of image result (MATE-06778)

When the ImageServerDir environment variable was set in the application startup file (.glimsrc on UNIX or progress.ini on Windows) and a GLIMS Report Builder report containing results of properties with data type **Image** needed to be generated, then the image path verification failed if the Result.Value contained an absolute image path. The image location of the ImageServerDir variable was added to the absolute path of the image results, which resulted in an incorrect image path.

This issue has been corrected.

Results

Result import should continue when a non-fatal error occurs (GLIMS-12668)

An issue was reported where an error occurred when running the result import via **Start > System management > Data-base > Specific import > Results** for a property with a request definition containing a discriminator. Since GLIMS 9.9.0, the error caused the termination of the entire import process whereas previously the import process would continue.

This issue has been corrected.

Choice list drop down as list detail type displayed no options defined on external table (GLIMS-12873)

An issue was reported where an additional column with a choice list was configured in the locus/variant result grids of the genetic Results screen. The choice list drop down was configured so that the available options originated from a specific configuration table (e.g. Disorder), but it displayed only the manually added options, if any at all. The items from the alternative configuration table were not shown.

This issue (which occurred since GLIMS 9.9.2) has been fixed.

Example

1. Configure a property as a choice list, with a linked alternative table (e.g. Disorder)
2. Add that choice list property to the list type details of a genetic list property on a genetic approach
3. Request the genetic procedure and the approach via an order (and confirm specimen)
4. Navigate to the genetic results screen
5. Check the corresponding result column choice list in the locus/variant result grids, whether it contains the choices form the alternative table

Warning

The choice list will now contain the choice options defined on an alternative table, but none of the manually defined choices.

Specimens

Specimen review: updating a confirmed result should discontinue-repeat the result (GLIMS-11886)

An issue was reported where updating the value of a confirmed result in Specimen review did not trigger the discontinuation-repetition of the confirmed result.

This issue has been corrected.

Rescheduling in case of specimen creation via UnknownSpecimenTrigger during specimen scanning (GLIMS-12572)

Specimen creation via the Station.UnknownSpecimenTrigger, which typically uses the CreateSpecimenOrder MISPL function, during specimen reception scanning did not trigger rescheduling even though the general option **Reschedule when specimen becomes available** was active and the specimen was set to available.

This issue, which occurred since GLIMS 9.5, has been corrected.

Correction of material creation trigger (GLIMS-12657)

An issue was reported where the Creation trigger of a **Material** was not executed when a specimen of this material was created via barcode scanning.

This issue, which occurred since GLIMS 9.8.11, has been corrected.

Procedure output results pointed to direct parent specimen instead of actual root specimen (GLIMS_GENX_LAB-00411)

An issue was detected where in case of a sub specimen as an procedure input, the procedure output results pointed to the direct parent specimen of that sub specimen instead of the actual root specimen.

Example

Specimen 1 > Action 1 > Specimen 2 > Action 2 > Result 1

Result 1 points to Specimen 2 as root specimen. Instead, the root specimen should be Specimen 1 (which is the parent specimen of Specimen 2).

This flaw was observed with various procedures in GLIMS, including pooling activity procedures in the approach plan context of genetic exams.

This issue has been fixed: procedure results now point to the correct root and sub specimen.

Statistics

Fixed high memory usage in Statistics module (GLIMS-12700)

This modification fixes the high memory usage that occurred when generating result statistics and, in the layout screen, a MISPL function was used that checks the sex of the object.

Stock management

Avoid error about unavailable qwb_PurchaseOrderInvoice record during check-in (GLIMS_STCK-00619)

This modification fixes the error "No qwb_PurchaseOrderInvoice record is available. (91)" which occurred since GLIMS 9.8.0 when the user entered a column of the integrated [Items](#) browser when checking in unsolicited products.

System management

Lack of fixed extent for new areas added to a database with After Imaging (MATE-06691)

When migrating from GLIMS 9.8 to 9.9, two new areas are added to the database: an Instance Lob Area and a Template Lob Area.

For new areas, a fixed extent and an overflow extent should have been added. However, to avoid an issue in OpenEdge from occurring when After Imaging is enabled, a workaround was implemented in GLIMS 9.9.0. Due to this workaround, only an overflow extent was added but not the fixed extent that should have been added first.

This issue has been corrected.

Synchronize Registered devices browser with Allowed / Denied machines of upgrade plan (MATE-06859)

GLIMS supports [upgrading GLIMS Windows clients automatically](#).

The **Registered devices** browser that can be opened from the **Upgrade plan** via the contextual menu item **Show all... > Registered devices** is now synchronized with the **Allowed machines** and **Denied machines** that are configured in the **Upgrade plan**.

User interface

Fixed issue with caching of "Show property descriptions" order entry user option (GLIMS-12173)

An issue was reported where refreshing the .NET version of the Incomplete results browser caused its **Property** column to switch between displaying the property short name and the property description. This was due to a problem with the caching of the order entry user option Show property descriptions.

This issue, which occurred since GLIMS 9.8.4, has been corrected.

Request definition browser did not show updated description of panel request definition (GLIMS-12725)

When the **Description** of a panel request definition was updated in the **Request definition** editor that had been opened from the request definition browser, the latter did not show the updated description, not even after refreshing or closing and reopening the browser.

This issue has been corrected.

Minimum screen size has precedence over screen size stored in user preferences (MATE-06678)

If the screen size as stored in the user preferences is smaller than the minimum screen size, the user has to manually enlarge the screen to make it fully visible. In order to avoid this, the minimum screen size now has precedence over the size that is stored in the preferences.

Fixed display issue in property classification tree view (MATE-06787)

An issue was reported where the property classification tree view did not load until the user moved the mouse pointer over the tree view area.

This issue has been corrected.

Work lists

Work list did not always sort the outputs of an action by output sequence number (GLIMS-11986)

An issue was reported where a work list with a **Dynamic** grid type listed a result before a result of the same action but with a lower sequence number.

Example

Procedure configuration

1. Procedure with the material BLOOD as input and the properties BLD (output sequence number 10) and REMARK (output sequence number 20) as outputs.
2. Procedure with the material BONEMARROW as input and the properties BM (output sequence number 10) and REMARK (output sequence number 20) as outputs.

Order creation

1. Order containing BLD and REMARK.
2. Order containing BM and REMARK.

Work list generation

For the second order, REMARK was listed before BM despite its sequence number.

This issue, which occurred since GLIMS 9.8, has been corrected.

Work list generation via a command did not take into account the specified directory (GLIMS-12739)

When generating work lists via a command (using the `WorkListTemplate.GenerateWorkList()` function), the **Directory** parameter of the configured function parameter set was not saved. In fact, the specified directory was replaced with the `{TmpDir}` variable.

This issue, which occurred since [GLIMS 9.9.3](#), has been corrected.

Additionally, an error was corrected which occurred while using different **Layout type** and **Format** options.

Fixed work list generation in batch mode with function parameter set to print (UNIX only) (MATE-06675)

This modification fixes a programming error which only occurred on UNIX systems.

When generating work lists via a command in batch mode and the function parameter set is set to **Print**, an error appeared in the service log file. This will no longer be the case.

Version 9.9.3

Important modifications

Reporting norms without limits not taken into account anymore for normal / abnormal results (GLIMS-12412)

The modification GLIMS-11833 ensured that a result is no longer marked as abnormal if its value lies within the limits of the norm for reporting.

However, this implied that if a norm was defined for reporting and its limits were set to ?, all numeric result values were considered normal.

To avoid such a situation, norms that are used for reporting and which do not have their limits specified are now no longer taken into account when determining whether or not a result value is normal / abnormal.

Note

The first reporting norm with limits will be considered as the normal value range. The reporting norms are sorted in descending order of their severity. It is therefore recommended to assign - among all the reporting norms of a property - the highest severity to the reporting norm with the normal value range.

Resizable isolation browser in microbiology work screen (GLIMS_BAC-01669)

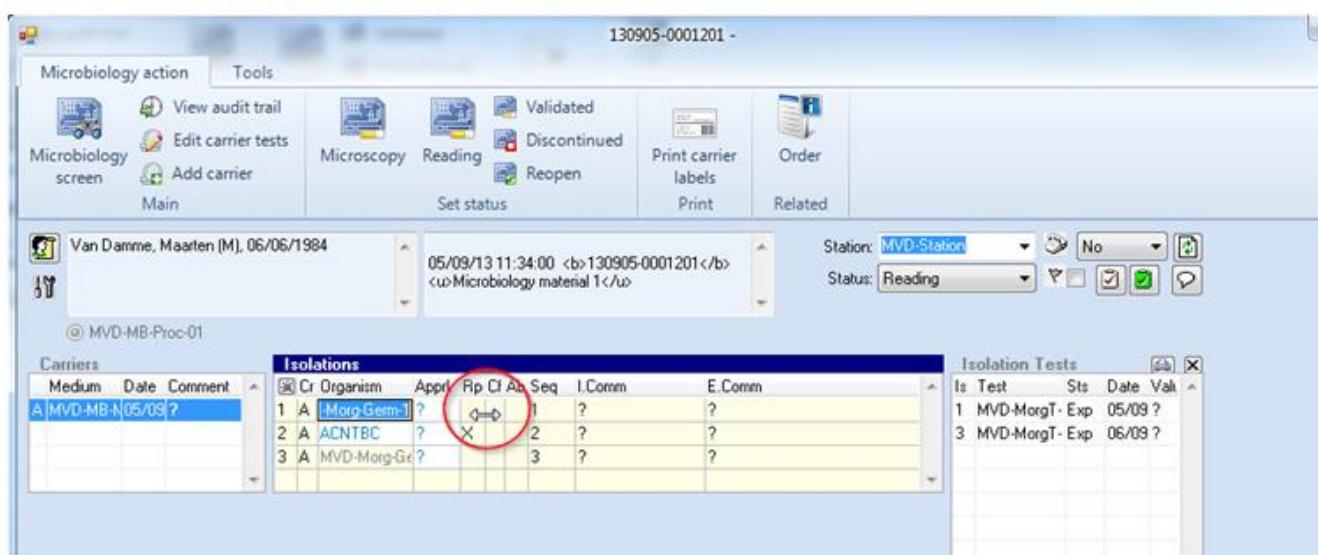
Context

In a previous GLIMS version, column resizing was disabled for the integrated isolation browser of the microbiology work screen. See release note below.

Release notes 9.1.11 - No "resize" cursor in isolation window of microbiology screen (GLIMS-06271)

As the [isolation window of the microbiology work screen](#) contains many small columns, the cursor very quickly switched to "resize" modus, which made it hard to change the actual data.

To solve this, column resizing has been disabled in this particular window.



Enhancement

It is now possible to resize the integrated isolation browser of the microbiology work screen.

Warning

For this modification to work, ResizeInCell=NO needs to be added to the MA Section of the progress.ini file.

Financial export in RIZIV format: file not created in case of fatal errors (GLIMS_BILL-03744)

If a fatal error occurs during the export of financial data in the **RIZIV** format, the shipment file is now no longer created and the shipment's status is no longer increased to **Fixed**.

Customers should check the logging for errors and correct them so that the file can be created.

D phenotypes: "partial" and "variant" (GLIMS_BTM-01076)

This modification introduces a change regarding D phenotypes: both **Partial** (short value **par**) and **Variant** (short value **var**) are now available in addition to Pos, Neg, Not assigned and Weak.

This modification

- allows German customers to use **Partial** while customers in other countries (where **Partial** is interpreted differently) can continue to use **Variant**.
- is visible in the
 - blood bag typing editor,
 - person medical record,
 - blood bag editor,
 - blood bag query browser.

Moreover, the blood rhesus pattern is affected as well:

- blood donor rule editor
- blood product order advice editor
- blood recipient type editor
- and their related browsers

Note regarding variant / partial indication in browsers

In some browsers (for instance: blood bags by internal ID), the **Rh. phenotype** column will now indicate **Dv** for **Variant** and **Dp** for **Partial**.

Note regarding the use of "*" for blood rhesus pattern

As the new blood rhesus pattern **Partial** is situated between the existing blood rhesus patterns **Variant** and *****, the internal id of ***** has incremented by 1.

As a consequence, all tools that are using function parameters or query parameters specifying ***** for blood rhesus pattern need to be adjusted once (open the related setup and change **Variant** into *****).

The blood rhesus pattern is used in blood donor rules, blood product advices and blood recipient types.

Warning for German customers

- When starting GLIMS 9.9.3 for the first time, **Partial** will have become **Variant**. To make sure that German customers see the word **Partial** for existing records, the procedure ap_BloodRhesusConvertVariantToPartial should be run via **Start > Development > 4GL > Run procedure**.
- When importing blood bags in DGTI format, **Dp** will be imported as **Partial**.
- Eurocode barcodes scanned with indicator "4" will be created with rhesus "partial".

Several retest status values for variant results were renamed (GLIMS_GENX_LAB-00358)

The names of the retest status values for variant results were updated as follows:

Previous status	New status
Not requested	Not requested (no change)
To do	To do (no change)
Success	Confirmed
Failed	Not confirmed

After selecting a variant result in the results screen of a genetic exam, the updated retest status values are available in the drop-down menu of the **Retest** column .

Improve handling and visualization of prenatal variant and locus results (GLIMS_GENX_LAB-00382)

Context

The previous implementation of foetus specimens did not entirely fulfill the requirements when it came to creating variant and locus results for a foetus. Locus/variant results were always linked to the object of the genetic exam. As a result, these results were not visible on the foetus in the Pedigree screen. These types of results were always shown on the mother, without any indication that it is a foetus related result.

Solution

Foetus object on locus/variant results

When a locus/variant result is created in an approach linked to a foetus specimen, an object record is created and linked to the foetus specimen (if such an object does not yet exist). Subsequently, the result object is filled out with this newly created object.

Manual conversion script

If customers have been using the Genetics module delivered with the 9.9.2 version of GLIMS, they need to manually run the conversion script after upgrading to a version higher than 9.9.2. **No automatic conversion is included** due to the very limited number of affected customer sites.

1. Navigate to **Start > Development > 4GL > Run procedure**
2. Fill in the name of the conversion script "cv99_FoetusSpecimenObject.p"
3. Confirm this action
4. An overview of the conversion should appear on your screen.

Previous specimens

The **Other specimens** pane in the genetic exam screen from now on contains the specimens of the objects from when they were a foetus.

Contextual Change object option on an order

When the object of an order is changed, only the locus/variant results which are linked to the object of the order are updated as well. Locus/variant results linked to the foetus object will not be updated.

Fixed incorrect "Code Complete" value for Edifact v1.0 reports: completeness no longer based on order status in GLIMS (G_EDIRX-00024)

Issue

The completeness of an Edifact report (IDE.2 field) is currently based on the status of the order in GLIMS, even though it is not guaranteed that all the properties of the results in the order are included in the EDIFACT property classification.

This can lead to the situation where all the reportable results in the order are complete, but because of other non-reportable results that are not yet finished, the status of the order remains "incomplete".

Solution

The **Default report** field **Completeness status** is now taken into account to determine whether or not an Edifact report is complete.

Warning

This means that the Completeness status of the default reports used for Edifact reporting will have to be set manually and preferably to **Validated** in order to obtain backward compatible behaviour.

Note

If the **Completeness status** is not set, GLIMS will look at the Trigger status of the default report:

- If the **Trigger status** is higher than **Available**, the Minimal result status will be taken into account if it is equal to or higher than **Available**.
- If the **Trigger status** is lower than **Available**, the **Completeness status** is considered to be **Validated**.

Application management

No more errors when importing identifications (GLIMS-12396)

An issue was reported where errors occurred when importing identifications via [Start > System management > Database > Specific import > Identifications](#).

This issue has been corrected.

Fixed Lock monitor to detect batch sessions on Windows (MATE-06612)

The Lock monitor was designed to skip locks on its own task when executed as a cron job. However, the mechanism to detect such a situation failed on Windows servers.

This issue has been corrected.

Billing

"Insurability date" field only visible for customers using MyCareNet functionality (BILX_CARE-00014)

The **Insurability date** field in the **Extra** tab of the order entry screen is only intended for customers using the MyCareNet functionality in GLIMS. To avoid confusion among customers who are not using this functionality, this field is now only visible for customers having the "MyCareNet Insurance Verification/Update" or the "MyCareNet XML Insurance Verification" license.

Strip spaces and non-numeric characters from national patient identification numbers used in insurability requests in XML format (BILX_CAREVXML-00012)

Context

GLIMS allows to verify and update the payment agreements of a patient by consulting the MyCareNet platform.

Issue

If a request to obtain patient insurability information contained a national patient identification number with spaces and non-numeric characters, MyCareNet replied with an error message.

Solution

GLIMS now strips spaces and non-numeric characters from the national patient identification number before sending it to the MyCareNet platform.

This correction only applies to insurability requests in XML format!

Import of MyCareNet insurability data should close existing payment agreements (BILX_CAREVXML-00021)

After the import of new payment agreements from MyCareNet, the end date of the payment agreements that were already available for the same patient and the same fund was not set. Consequently, there was more than one valid payment agreement for the same period in time.

This issue has been corrected.

Financial export in KVDT format: different BESA and RVSA records for LG shipments (BILX_GKVDT-00418)

For LG KVDT shipments, the BESA and RVSA records will now be exported as follows:

- The BESA record now contains one BSNR (the BSNR of the Firm which is also part of the file name) and no longer the BSNR of the internal departments.
- The RVSA record now contains the BSNR of the Firm as well. The external issuers are no longer listed in the RVSA record.

BESA Satz:

BSNR (firm)

0203 Bezeichnung= Firm Name

LANR(associate1)

LANR(associate2)

LANR(associate3)

0205, 0208 etc. contact information from firm (correspondent)/

FOR LG, the BSNR and LANR of the external HC provider are added as well (as before)

n x BSNR ext1

m x LANR ext1

RVSA Satz

BSNR (firm)

Ringversuch info

~~BSNR Executing department 1~~ The BSNR of the executing departments are now skipped for LG

~~— Ringversuch info department 1~~

~~BSNR Executing department 2~~

~~— Ringversuch info department 2~~

Financial export in German "KVDT" format: update Q4-2019 (BILX_GKVDT-00422)

The export of financial data in the German KVDT format (using the FinancialShipment.Send function) has been updated to support the changes (quarter 4, 2019) in KBV regulation.

Support for multiple *Bereitschaftsdienst* records (BILX_GKVDT-00429)

Since GLIMS 9.9, the export of financial data in the German **KVDT** format (via the FinancialShipment.Send function) supports *Bereitschaftsdienst* information via an additional 0104 record (based on a text expression) at the end of the generated file. For more information, see [BILX_GKVDT-00381](#).

Up until now, only one 0104 record was supported. To support passing *VorkwartaI* information, it is now possible to add more than one 0104 record in the text expression.

Support for new format of OMIM codes .csv file (BILX_GKVDT-00436)

GLIMS has been updated to support the new format of the OMIM codes .csv file.

Financial export in German "KVDT" format: update Q1-2020 (BILX_GKVDT-00437)

The export of financial data in the German **KVDT** format (using the FinancialShipment.Send function) has been updated to support the changes (quarter 1, 2020) in KBV regulation.

No more error if CheckKVDT() MISPL function detects missing LANR (BILX_GKVDT-00444)

The CheckKVDT() MISPL function gave an error when the LANR number of the official issuer of the order was not specified in the **Referral** tab page of the order entry screen.

In order to align the behaviour of the MISPL function with the export of financial data in the KVDT format (where an empty LANR is exported as LANR=999999900 for FK 4242), such an error now no longer occurs.

Financial export in German "KVDT" format: update Q2-2020 (BILX_GKVDT-00457)

The export of financial data in the German KVDT format (using the FinancialShipment.Send function) has been updated to support the latest changes (quarter 2, 2020) in KBV regulation.

Financial export in German "KVDT" format: avoid error when using characters with umlaut (BILX_GKVDT-00458)

This modification avoids the error "Array subscript 0 is out of range. (26)" which occurred since GLIMS 9.9.0 during the export of financial data in the German **KVDT** format (using the FinancialShipment.Send function with the **File Check** option activated) if, for instance, the patient's address contained a character with an umlaut.

Financial export in "Infohos v2" format: official issuer identification code + campus (BILX_INFOHOS2-00008)

The export of financial data in the **IH-2** (Infohos v2) format using the FinancialShipment.Send function has been updated to enable GLIMS to include the official identification code of the issuer and the campus in the blood record.

Official issuer identification code

When the option **Extended issuer identification** is enabled,

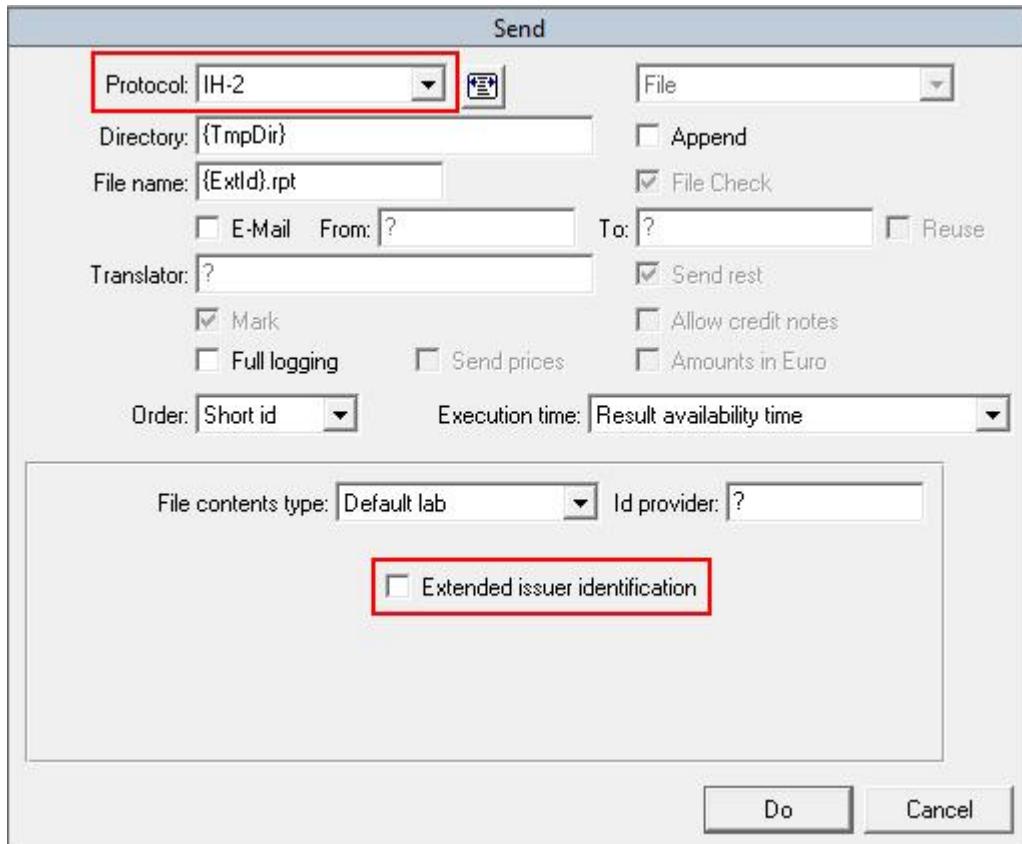
1. the identification code (valid at order receipt date and assigned by the **HC code provider** specified in the general settings) of the issuer of the order is exported in field 16 "PrescriberOgNumber".
Note: If the exported identification code exceeds 8 characters, it will be truncated automatically.
2. field 16 "PrescriberOgNumber" is mandatory.

Note: There is NO fallback mechanism to use the internal ID of the Correspondent if no identification code is available.

Campus

Field 17 "Campus" needs to be filled via MISPL (BillingItem-based site function called "Send_BLD_Values"). For instance: RETURN "\17=1";

If the maximum length (one character) of the field is exceeded, a warning message will be shown.



No more error when exporting financial data in Vektis or RIZIV format (BILX_VEKTIS9-00016)

An issue was reported where the error

- System.ApplicationException or
- Field was missing from FIELDS phrase

occurred when exporting financial data in the **Vektis** (ZH308 and OS301) or **RIZIV** (MyCareNet) format.

This issue, which occurred since GLIMS 9.8.10, has been corrected.

Fixed detection of missing billing codes for microbiology/pathology request definitions (GLIMS_BILL-03730)

If, during tariffication, GLIMS cannot find a billing code (assignment) for a request definition of type **Microbiology** (or **Pathology**) that is marked as **To charge**, an error message will now be shown.

A billing code (assignment) must be found: via the request definition, the procedure or a child record (for instance: Carrier.Medium).

Payment agreement no longer overwritten in order entry screen (GLIMS_BILL-03736)

An issue was reported where a payment agreement that had been selected for an order was deselected unintentionally.

This happened if an order had two or more payment agreements and one of the payment agreements was being edited via its editor (opened from the **Billing** tab page of the order entry screen). When selecting another payment agreement in the **Billing** tab page while the **Payment agreement** editor was still open, the latter was not synchronized. Consequently, when closing the **Payment agreement** editor, the selected payment agreement in the order entry screen was overwritten.

This issue, which occurred since GLIMS 9.8, has been corrected.

Store BSNR, ASV and LANR numbers of original issuer in dedicated fields (GLIMS_BILL-03752)

For a manually entered order, the specified BSNR, ASV and LANR numbers of the **Original issuer** (via the **Referral** page of the order entry screen) were still stored in the composite field **Referral.OriginalIssuer** even though dedicated fields (**Referral.OriginalIssuerBSNR**, **Referral.OriginalIssuerASV**, **Referral.OriginalIssuerLANR**) are available.

This has been corrected: the entered BSNR, ASV-Teamnummer and LANR values are now stored separately in the dedicated fields.

Warning

MISPL expressions and filters should now use the separate fields and not the composite field as the latter is no longer filled.

Note

The composite field **Referral.OriginalIssuer** is still used for existing orders during the export of financial data in the **KVDT** format (if the dedicated fields are empty and the composite field is filled).

See also: [GLIMS_BILL-03775](#).

No more error during export of financial data in the RIZIV format if the Contract No of a payment agreement is not filled in (GLIMS_BILL-03756)

If the MyCareNet reply containing the requested insurability information in XML format did not contain the **PaymentApproval** field, GLIMS was unable to store the value of this field as the **Contract No** of the payment agreement. The **Contract No** is included in the export of financial data in the **RIZIV** format. However, if the **Contract No** was not filled in, GLIMS produced a fatal error during the export assuming that the field was missing.

This issue, which occurred since GLIMS 8.11.20, has been corrected: no fatal error occurs anymore during the export of financial data in the **RIZIV** format if the **Contract No** field is not filled in. Moreover, a warning message is now logged when receiving insurability data without the **PaymentApproval** field.

Update order set information when changing the order's object (GLIMS_BILL-03760)

An issue was detected where, in certain scenarios, the order set information in the **Billing** tab page of the order entry screen was not updated when changing the object of an order.

This has been corrected. For an unsaved order:

- the data in the **Billing** page is now reset when the patient is cleared.
- the **Order set defaults** MISPL function (**Start > System management > Customize > GLIMS Billing**) is re-evaluated and its new value is shown in the **Billing** page when a new patient is entered while the **Billing** page is open.

Support for 2-digit billing marks in Correspondent editor (GLIMS_BILL-03768)

Since GLIMS 9.9.0, billing marks consisting of two characters can be used in GLIMS. However, the Correspondent editor did not yet allow the user to enter a 2-digit billing mark.

This has been corrected.

Credit note creation: delete empty, unnumbered invoice summaries as well (GLIMS_BILL-03772)

When a credit note is created for an invoice (with the option **Delete not yet fixed invoices** enabled), the unnumbered invoice summaries that are left without invoice(s) are now deleted as well.

This modification was made because, since GLIMS 9.8.8, the remaining, empty invoice summaries were no longer deleted.

Store BSNR, ASV and LANR numbers of original issuer in both composite field and dedicated fields (GLIMS_BILL-03775)

This modification is related to [GLIMS_BILL-03752](#) and ensures that the **Referral** page of the order entry screen now correctly recognizes the BSNR, ASV and LANR numbers of the **Original issuer** as stored in the composite field Referral.OriginalIssuer and updates the dedicated fields (Referral.OriginalIssuerBSNR, Referral.OriginalIssuerASV, Referral.OriginalIssuerLANR) accordingly.

The composite field (Referral.OriginalIssuer) is now updated as well if the entered numbers change.

In addition, when importing order-related data (LDT), both the composite field and the dedicated fields are now filled to avoid ambiguous values.

Blood transfusion

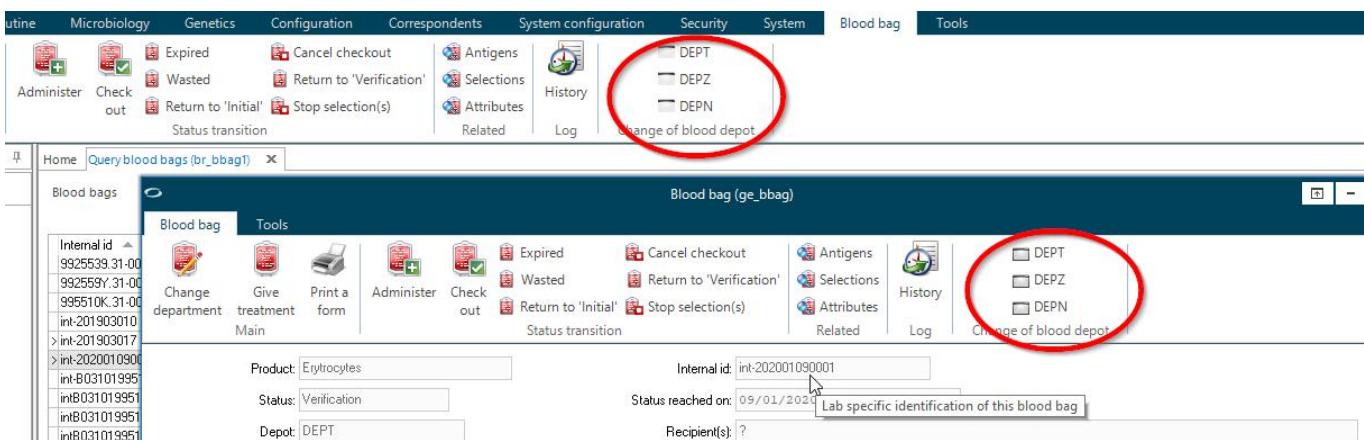
Correction of sorting issue in .NET blood selection browser (GLIMS-12421)

An issue was detected where the sorting order of the records in the .NET version of the blood selection browser was not correct when the browser was sorted based on order internal id, positive screening, blood group or rhesus.

This issue has been corrected.

New BloodBag function "Set department" (GLIMS_BTM-01062)

The function **Set department** is now available for blood bags. It can be accessed via the contextual menu / ribbon on a **Blood bag** and it allows the user to move multiple blood bags from one department to another. The function can be preconfigured so that, for instance, ribbon items can be configured to easily move blood bags to another department (blood depot).



Note

We recommend using the **Set department** function and no longer the already existing **Change department** function, the latter not being preconfigurable.

New BloodBag function PrintTransfusionForm (GLIMS_BTM-01064)

Introduction

The function Print transfusion form is now available for blood bags. It can be accessed via the contextual menu / ribbon on a **Blood bag**.

Purpose

This function allows the user to print a GLIMS Report Builder report based on a template and generate the report at different points in a work flow (for instance: if the blood product requires several treatments before it can be administered and a report needs to be generated upon completion of each treatment), even when the blood bag is not (yet) assigned to a receiving patient.

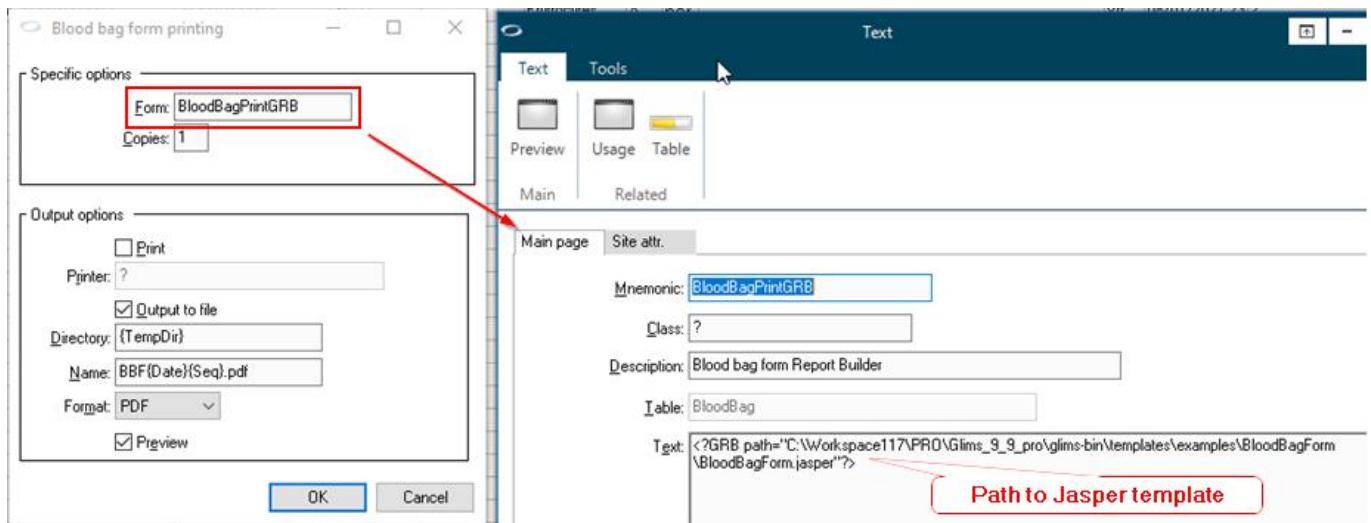
Notes

- It is currently not possible to use this function from within MISPL.
- The existing BloodSelection-based **Print transfusion form** function cannot be used for this purpose as it requires the blood bag to be linked to an object.

Jasper template

A Jasper example template (.jasper) is available in the **templates\examples\BloodBagForm** directory.

The **Blood bag form printing** window allows the user to specify the **Form** to be used. The **Form** field gives access to a browser of BloodBag-based texts. For the Jasper template to be used, the specified **Text** should reference it.



New generic blood bag import protocol (GLIMS_BTM-01088)

Introduction

In order to avoid that a specific import protocol has to be developed for each customer, a general blood bag import protocol that each customer can use is now available.

Import file

The import file should consist of:

1. a header containing the name and the version of the import protocol.
2. consecutive blocks starting with BLOODBAG-BEGIN and ending with BLOODBAG-END containing the data of each blood bag.

For instance:

```

GLIMS_BLOODBAG_IMPORT
VERSION=1.0
BLOODBAG-BEGIN
BLOODBAG.DELIVERYNUMBER=434155
BLOODBAG.MANUFACTURER.MNEMONIC=B0310
BLOODBAG.BATCH=BATCH123
BLOODBAG.SUPPLIER.MNEMONIC=B0310
BLOODBAG.RECEIPTTIME=20200121
BLOODBAG.EXTERNALID=B031019952550M
BLOODBAG.EXTERNALIDASBARCODE==B03101995255000
BLOODBAG.SPECIFICATION.MNEMONIC=E5862V00
BLOODBAG.SPECIFICATION.BARCODE==<E5862V00
BLOODBAG.EXPIRATIONTIME=20201110235959
BLOODBAG.PRODUCTIONTIME=20200115102300
BLOODBAG.PREPERATIONTIME=20200116144921
BLOODBAG.QUANTITY=347
BLOODBAG.UNIT.NAME=mL
BLOODBAG.BLOODGROUP=A
BLOODBAG.RHESUS=+
BLOODBAG.ANTIGENLIST=D+ C+ c- E+ e- Jk-a+ S- M+ K+ CMV-
BLOODBAG.DONATIONTYPE=Normal
BLOODBAG.DONOR=123456789
BLOODBAG.COMMENT=Mustermann Helmut
BLOODBAG.ATTRIBUTE=CIT:6
BLOODBAG.ATTRIBUTE=HIV:POS
BLOODBAG-END

```

The "Directed to" person should be provided in the format <identification code>:<pin provider>.

Example

```
BLOODBAG.DESTINEDPERSON.PIN=123456789:INS-A
```

Attributes can be provided as follows:

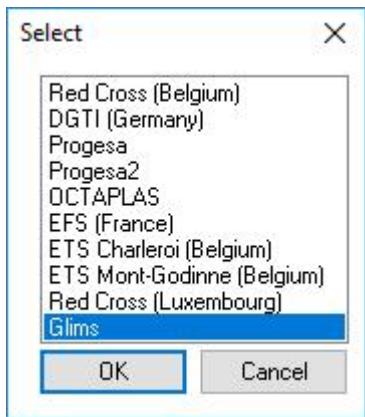
<attribute name>	The attribute will be shown as being present.
<attribute name>:<Y N>	The value after the colon will decide on the attribute's presence.
<attribute name>:<info>	The attribute will be shown as being present and will have extra information.
<attribute name>:<Y N> <info>	The attribute will be shown as being present or not and will have extra information.

Field mapping

The field mapping is described here.

Import program

1. Select **Start > Transfusion management > Entry > Read supplier diskette**.
2. Select **Glims**.



3. Select the import file.
4. The blood bags are displayed and imported according to the data in the import file.

Communication

Disabled assessment methods shall have no effect on the station's LAS status colour display (GLIMS-12114)

Context

Since GLIMS 9.8.0, the LAS status in the **Station** and **Assessment method** browsers is displayed on a coloured background.

Issue

For stations, the LAS status **Connected** is displayed on an **orange** background when both

- the LAS status of the station is **Connected**
- and the LAS status of at least one of the station's assessment methods is **Disconnected**.

However, assessment methods with the status **Disabled** were also taken into account when determining the background colour of the LAS status.

Solution

This has been corrected: disabled assessment methods no longer have an effect on the background colour of the LAS status of the **Station**.

ASTM result message with two reagents created only one Result reagent usage record (GLIMS-12525)

If an ASTM result message was received containing one result (R segment) and two reagents (M segments), only one **Result reagent usage** record (accessible via the contextual function **Show all > Reagent lots used** on a **Result**) was stored in GLIMS for the updated result.

This issue has been corrected.

Correction of performance issue during ALL query processing for cancelled / finished tests (GLIMS_ANLZ-01416)

Every time GLIMS receives an ALL query requesting for cancelled- and/or finished tests, the receipt time of the query is stored in two hidden Station-based fields (one for cancelled tests and one for finished tests). This way, when receiving the next query, GLIMS only has to look for actions having changed in between two subsequent ALL queries.

However, a performance issue was detected which was due to GLIMS always using the lowest of both receipt times if both were specified (if a query only requests for cancelled or finished tests, only the corresponding receipt time field is updated). Consequently, as the number of ready actions increases over time, the number of actions to process increases as well, which has a negative impact on the processing time of ALL queries.

This issue, which occurred since GLIMS 9.5, has been corrected.

Actions of client stations were no longer sent in reply to ALL query for concentrator (GLIMS_ANLZ-01418)

Upon reception of an ALL query for a concentrator, GLIMS did no longer reply with the actions scheduled on the client stations of that concentrator. In order to have GLIMS send the correct work order reply message, the user was forced to use assessment method codes.

This issue, which occurred since GLIMS 9.9.0, has been corrected.

Correspondents

Improved performance of encounter / stay processing (GLIMS-11196)

This modification improves the performance of

- closing a lot of encounters
- executing the MISPL function Person.Stay() on a lot of **Person** records

The improved performance is mainly noticeable in GLIMS for Oracle.

Person merge: fix automatic selection of next block of look-alikes (GLIMS-12454)

An issue was reported where, in the double patients browser, the next block of look-alikes was no longer displayed with an alternating background colour and hence no longer easily recognizable after merging a block of look-alikes.

This issue, which occurred since GLIMS 9.6.0, has been corrected.

Support for executing a function on a calculated person relation record (GLIMS_HLA-00058)

Context

The person relation browser can contain calculated person relation records. For instance, a calculated person relation is created when a person's mother is specified via the Person editor.

Issues

GLIMS does not allow viewing / editing of a calculated person relation or executing a function on it. Moreover, after merging persons, the calculated person relation can get lost.

Solution

Executing a function on a calculated person relation is now fully supported. In addition, when trying to view / edit a calculated person relation record, GLIMS will now issue a warning and propose to open the related **Person** editor instead.

CyberTrack

Stopping a transfusion via CyberTrack should set validation user of report property result (GLIMS_CBT-00293)

An issue was reported where the validation user of the result of the report property was not set when registering the end of a transfusion via CyberTrack. As a result, the report's **Needs checking** flag was not set and the end of the transfusion was not reported.

This issue, which occurred since GLIMS 9.8.0, has been corrected.

Genetics

Fixed family member selection after zooming in on the pedigree screen (GLIMS_GENP-00008)

An issue was detected where the user could not select family members in the pedigree screen after zooming in (when holding the Ctrl key and scrolling mouse up and down). The selection didn't work correctly and was not displayed in the right hand side of the pedigree screen.

This issue has been corrected.

Advanced work list: support printing locus/variant result and specimen collection related information (GLIMS_GENX_LAB-00137)

Context

The work list functionality did print the specimen and results, but it could not print the locus/variant results even after the adjustments for the Genetics module. Additionally, it was not possible to print out the specimen collection info in the same context. The functionality had to be expanded to ensure that work list printing would include the locus and variant result values, as well as the specimen collection information.

Extended support for

Variant/locus results

When printing a work list in the Genetics module context, users will from now on be able to print the variant and locus results out as well.

The new fields for the variant/locus results, which will also be included in the XML and thus can be added to the PDF using a jasper report are:

Approach: name of the approach plan, start time, end time, status

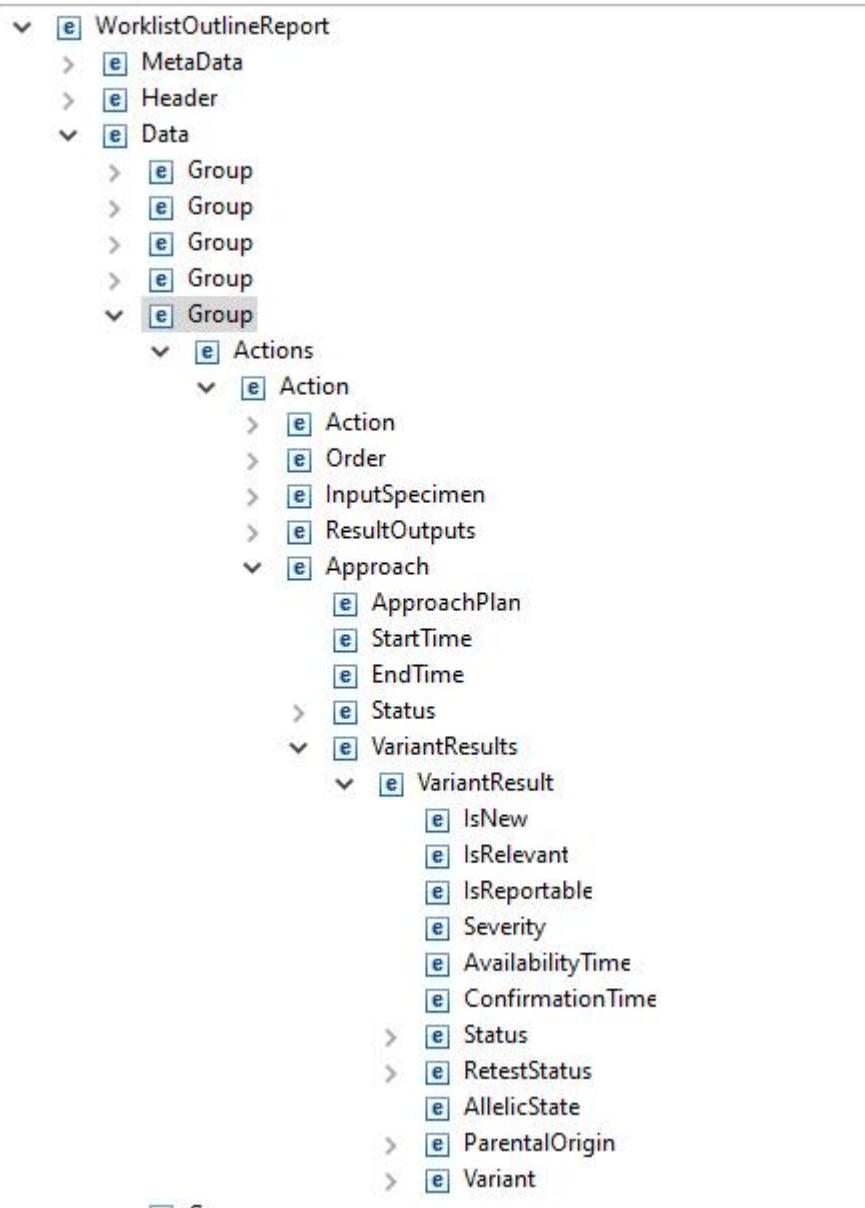
Locus results: raw value, IsReportable, severity, information about the linked locus (described below), availability time, confirmation time, status, genetic result details (from the lists that add columns to the locus result grids)

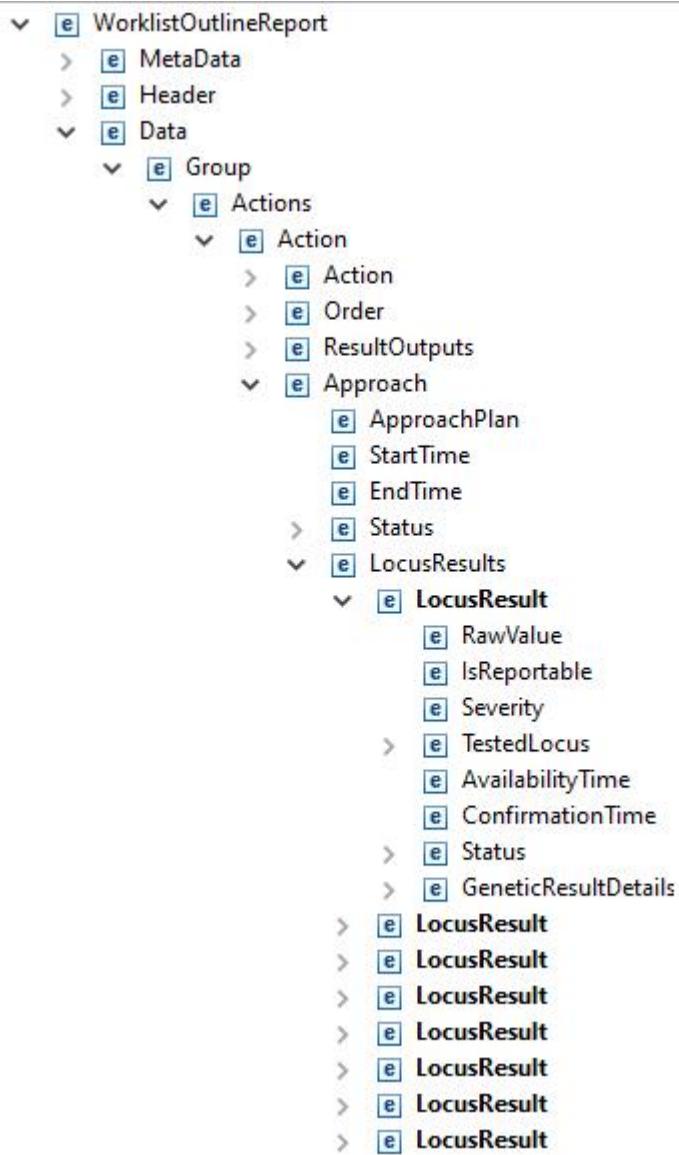
Tested locus: creation user, creation time, last update user, last update time, version, name, active, type, extra information about the locus type (e.g. in case of a gene, the default transcript)

Variant results: IsNew, IsRelevant, IsReportable, classification, severity, availability time, confirmation time, status, retest status, allelic state, parental origin (extra info on the variant that is being tested, described below)

Variant: creation user/time, last update user/time, version, found in community, found outside community, found internally, active, classification, name, start position, stop position, type, approval date time, DNA change type, size unit, extra information about the locus that the variant is a variant of, extra information about the variant (e.g. in case of a CNV, the copy count)

The structure is as follows:





Specimen collection information

From now on, the following specimen collection information will be included (if available) when printing in the context of an advanced work list:

Specimen collection info: received quantity, sampler value, container count, quality, foetus (this is the person record), sampling location, sampling address (this is the correspondent), sampler (this is the HC provider)

Specimen container definition: name

Specimen container cap: name

Specimen container type: name

The parent specimen of a sub specimen will always be included as well. If the DNA has been extracted in the lab, the user will be able to see the DNA specimen as well as the root material that it was extracted from.

The structure is as follows:

✓	✓	e SpecimenCollectionInfo
		e ContainerCount
		e ReceivedQuantity
✓	✓	e SpecimenContainerDefinition
		e Name
	✓	e SpecimenContainerCap
		e Name
	✓	e SpecimenContainerType
		e Name
		e SamplingLocation
✓	✓	e SamplingAddress
		e Id
		e Type
		e InternalId
		e Name
		e Soundex
		e ProtectImportedData
		e UnitPreference
		e SuppressAutoComments
		e ManualValidation
		e InterimReportCount
		e CompleteReportCount
		e InvoiceCopyCount
		e CreationUser
		e CreationTime
		e LastUpdateUser
		e LastUpdateTime
		e Version
	✓	e Lab
		e Id
		e Mnemonic
		e Name
		e Internal
		e ExecutorsAreAssociates
		e ValidatorIsExecutor
		e ConfirmExecutor
		e Version
		e CreationUser
		e LastUpdateUser
		e CreationTime
		e LastUpdateTime

Specimens

After an update, instead of filling out **Parent specimen** with whatever was stored in the parent specimen field, from now on users will see **Root specimen** and **Direct parent specimen**. The root specimen is from now on the root specimen that the sub specimen is derived from in a broader sense, while the direct parent specimen is the specimen that the sub specimen was directly derived from.

Example

Root

 Sub specimen 1

 Sub specimen 2

1. For root we have no other root specimen or direct parent specimen. This is the origin of the sub specimen in a broader sense.
2. For sub specimen 1 we only have one root specimen = Root.
3. For sub specimen 2 we have Root = root specimen, direct parent = sub specimen 1.

Advanced work list: support printing locus/variant result and specimen collection related information (GLIMS_GENX_LAB-00137)

Context

The work list functionality did print the specimen and results, but it could not print the locus/variant results even after the adjustments for the Genetics module. Additionally, it was not possible to print out the specimen collection info in the same context. The functionality had to be expanded to ensure that work list printing would include the locus and variant result values, as well as the specimen collection information.

Extended support for

Variant/locus results

When printing a work list in the Genetics module context, users will from now on be able to print the variant and locus results out as well.

The new fields for the variant/locus results, which will also be included in the XML and thus can be added to the PDF using a jasper report are:

Approach: name of the approach plan, start time, end time, status

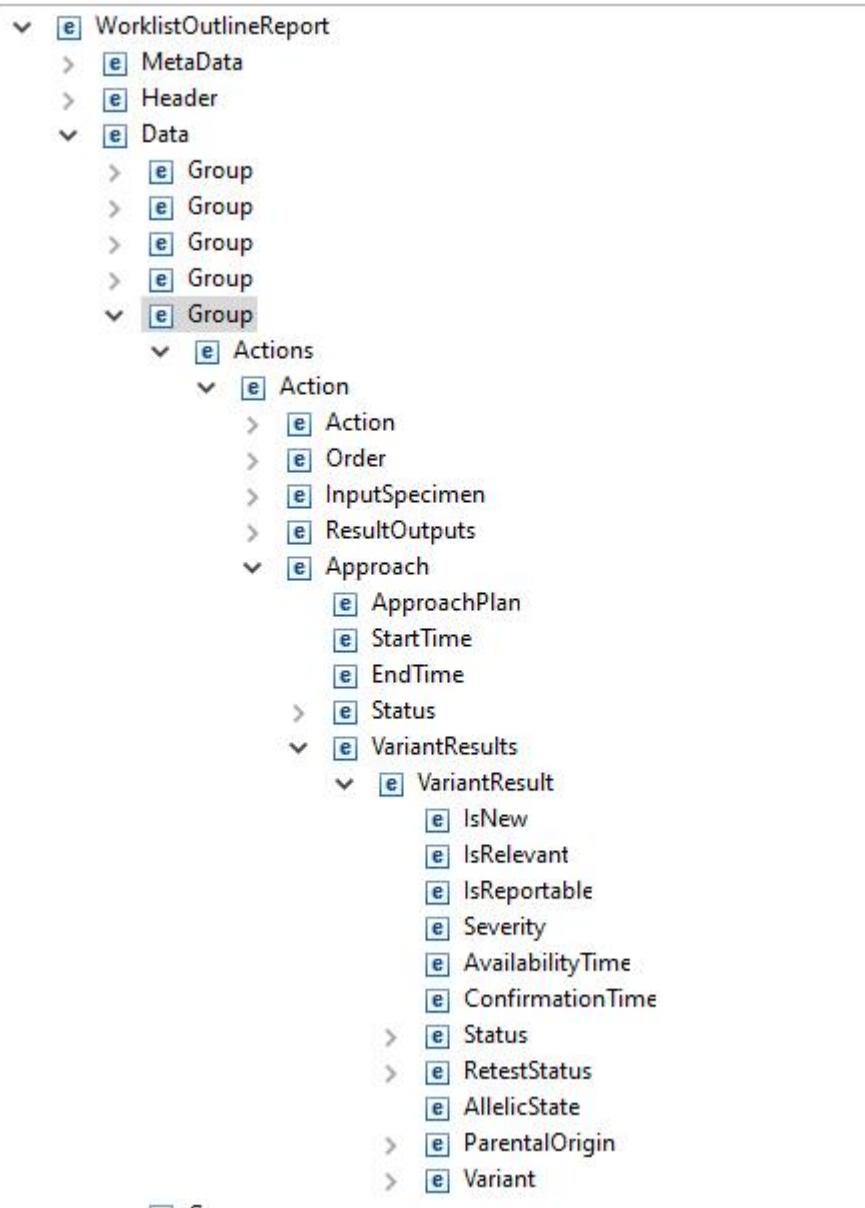
Locus results: raw value, IsReportable, severity, information about the linked locus (described below), availability time, confirmation time, status, genetic result details (from the lists that add columns to the locus result grids)

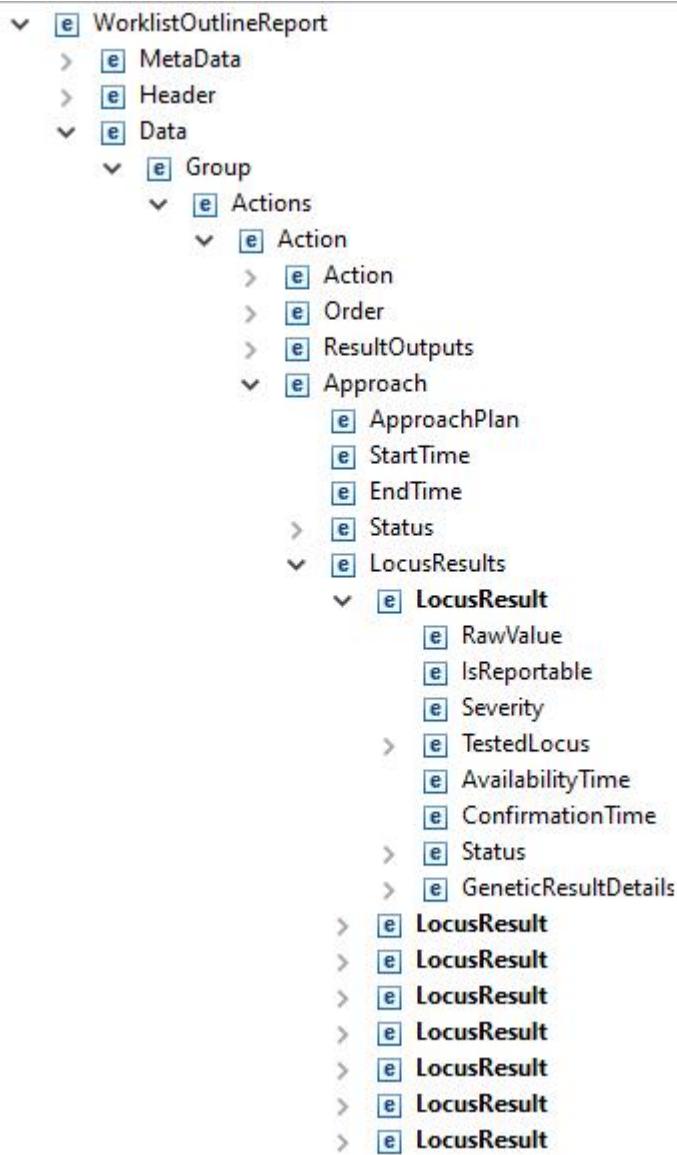
Tested locus: creation user, creation time, last update user, last update time, version, name, active, type, extra information about the locus type (e.g. in case of a gene, the default transcript)

Variant results: IsNew, IsRelevant, IsReportable, classification, severity, availability time, confirmation time, status, retest status, allelic state, parental origin (extra info on the variant that is being tested, described below)

Variant: creation user/time, last update user/time, version, found in community, found outside community, found internally, active, classification, name, start position, stop position, type, approval date time, DNA change type, size unit, extra information about the locus that the variant is a variant of, extra information about the variant (e.g. in case of a CNV, the copy count)

The structure is as follows:





Specimen collection information

From now on, the following specimen collection information will be included (if available) when printing in the context of an advanced work list:

Specimen collection info: received quantity, sampler value, container count, quality, foetus (this is the person record), sampling location, sampling address (this is the correspondent), sampler (this is the HC provider)

Specimen container definition: name

Specimen container cap: name

Specimen container type: name

The parent specimen of a sub specimen will always be included as well. If the DNA has been extracted in the lab, the user will be able to see the DNA specimen as well as the root material that it was extracted from.

The structure is as follows:

✓	✓	e SpecimenCollectionInfo
		e ContainerCount
		e ReceivedQuantity
✓	✓	e SpecimenContainerDefinition
		e Name
	✓	e SpecimenContainerCap
		e Name
	✓	e SpecimenContainerType
		e Name
		e SamplingLocation
✓	✓	e SamplingAddress
		e Id
		e Type
		e InternalId
		e Name
		e Soundex
		e ProtectImportedData
		e UnitPreference
		e SuppressAutoComments
		e ManualValidation
		e InterimReportCount
		e CompleteReportCount
		e InvoiceCopyCount
		e CreationUser
		e CreationTime
		e LastUpdateUser
		e LastUpdateTime
		e Version
	✓	e Lab
		e Id
		e Mnemonic
		e Name
		e Internal
		e ExecutorsAreAssociates
		e ValidatorIsExecutor
		e ConfirmExecutor
		e Version
		e CreationUser
		e LastUpdateUser
		e CreationTime
		e LastUpdateTime

Specimens

After an update, instead of filling out **Parent specimen** with whatever was stored in the parent specimen field, from now on users will see **Root specimen** and **Direct parent specimen**. The root specimen is from now on the root specimen that the sub specimen is derived from in a broader sense, while the direct parent specimen is the specimen that the sub specimen was directly derived from.

Example

Root

 Sub specimen 1

 Sub specimen 2

1. For root we have no other root specimen or direct parent specimen. This is the origin of the sub specimen in a broader sense.
2. For sub specimen 1 we only have one root specimen = Root.
3. For sub specimen 2 we have Root = root specimen, direct parent = sub specimen 1.

Improved grid behavior for columns in Genetics screens (GLIMS_GENX_LAB-00310)

Issues

The behavior of the grids that are used in the Genetics screens was not consistent with the behavior of the browsers in GLIMS:

1. When users adjusted the column width in one of the Genetics screens grids, this was not saved as a user preference, which meant that the column width was reset to default every time that screen was closed and re-opened.
2. Not all columns were re-sizeable and there were issues with columns moving after users selected them.
3. When an enumerated value is linked to a column, e.g. enumerated status values, the column should filter on this value (instead always filtering on the name, i.e. alphabetically).

Solutions

The following solutions have been implemented to solve the aforementioned issues:

1. The grid preferences for column width are from now on stored in the **Large preferences**, which are e.g. used to store .NET browser preferences. For each grid in a certain screen a separate record is created.
2. The user can reset the screen to the default layout by clicking on the **Reset screen** ribbon item in the contextual Tools ribbon tab.
3. Status columns (e.g. action status) are from now on sorted on their respective enumerated value.

Reset genetics screens to default layout using the Reset screen button (GLIMS_GENX_LAB-00322)

The GLIMS 9.9.0 functionality (modification [MATE-06274](#)) which allows users a screen layout reset to the default settings did not work correctly for the genetics screens.

The users were not aware of the fact that they would be removing certain preferences, e.g. the location of splitters or the columns which were selected to appear in the grids.

This issue has been corrected: when opening a genetics screen, the user can click on the reset screen button in the contextual tools ribbon and confirm the reset. This will close the screen in question and when re-opening that screen, it will be reset back to the default layout settings.

Note

In screens that do not save changes continuously after they are applied, the user will be prompted to save or discard any updates before the screen is closed.

For the advanced work list, pedigree and results screens any previously made changes are not saved if the user confirms a layout reset.

Update of rich text result with image will not result in abnormal behavior (GLIMS_GENX_LAB-00326)

Context

The following issues were detected in the Specimen info and the Genetic exam screens after adding an image to a confirmed rich text result. They have been corrected.

Image issue

The following scenario resulted in the rich text result being entirely cleared of any content, which was not the expected behavior:

1. Open a rich text editor and enter a value.
2. Click outside the field and the editor should now be in status 'available'.
3. Confirm the rich text result.
4. Add an image to the rich text result in the large rich text editor.
5. Confirm the result again.
6. Delete the image in the small editor. Confirm the result.
7. Add an image in the large rich text editor again.

Focus issue

In the following scenario, the specimen info screen did not save correctly and the user was asked if the changes should be saved, which was not the expected behavior:

1. Open the specimen info screen for a specimen which has rich text properties in its property classification.
2. Enter a value for one of the rich text properties.
3. Save the screen and confirm the result in the result browser.
4. Reopen the screen, open the large rich text editor and add an image.
5. Save and close the large rich text editor using F2, then immediately press F2 to save the specimen info screen.

Genetic exam browser: corrected focus issue while navigating through Genetic exam records (GLIMS_GENX_LAB-00327)

An issue was detected when using the arrow keys to scroll through records in the genetic exam query browser while a genetic exam screen was open, the focus would occasionally stop and stay on a particular record.

This issue has been corrected. From now on, when the genetic exam screen is opened the focus is no longer on the Approaches and requests grid. Instead, it allows the user to continue navigating through the browser records.

Genetic exam: entering results via F6 resulted in "Invalid handle" errors (GLIMS_GENX_LAB-00333)

The following issue was detected while using F6 to enter results in the Genetic exam screen:

1. Enter a value for a result in the genetic exam via the dynamic controls (e.g. into a field of the Information pane on the left-hand side).
2. Use F6 on this result, this will open the result modify screen. Click on **OK** to confirm the result.
3. Enter another value for a second result via the dynamic controls (e.g. into another field of the Information pane on the left-hand side).
4. Use F6 on this result. This will lead to an "invalid handle" error.

This issue has been fixed: no more invalid handle errors will appear in this scenario.

UI elements issues fixed in the work list screen (GLIMS_GENX_LAB-00335)

Issues

Several display issues have been detected in the extended work list screen:

1. Users opened the work list screen and collapsed the splitter for the actions on the left-hand side of the screen. Then they closed the screen, which saved the aforementioned layout preferences. After re-opening the screen, the actions grid was hidden as the splitter was still collapsed. When users reactivated the actions list splitter, all of the actions were deselected.
2. When users scrolled down in the actions list with a lot of actions and selected an action, the scroll bar moved, so that the active row ended up positioned at the bottom of the visible rows.
3. When the screen was opened and minimized, the accordion tabs re-sized incorrectly.

Solution

These issues have been corrected:

1. Open the work list screen, collapse the splitter for the actions, and then close the screen which will save the preferences. Open the screen and the actions grid should be hidden as the splitter should still be collapsed. Open the splitter, and none of the actions will be deselected anymore.
2. Open a work list with a lot of actions, scroll down and select/deselect one of the actions. The scroll bar will not move.

3. Open the work list full screen, then minimize. When you re-open the screen, the size of the accordion tabs will adjust to the provided space.

Fixed unclear error message pop-up during order activation (GLIMS_GENX_LAB-00338)

When creating an order using a user-defined MISPL, it was possible to receive a specific warning message "Error(s) encountered during activation of order". This warning message did not state what actually went wrong.

This issue has been fixed, if this warning message appears it will from now on correctly inform the user of the error.

Family screen: no more unexpected behavior when canceling changes made to a family (GLIMS_GENX_LAB-00340)

An issue was reported where the Family screen stopped working after changes were made and users attempted to cancel these changes via the **Cancel** button. The panes on the left and right were cleared and any subsequent actions led to error messages.

Example

1. Open the pedigree screen from any family (Start > Genetics > Families > pick a Family record > Pedigree (in the ribbon above))
2. Make any changes in the screen, e.g. adding a family member.
3. Click the **Cancel** button on the bottom of the screen, which triggers a "Changes detected in Family" pop-up.
4. In this pop-up, click **Cancel**.

This issue has been fixed: canceling changes and closing the family screen will not result in errors or in the clearing of any panes.

Corrections for Locus result browsers and the Locus search screen (GLIMS_GENX_LAB-00344)

Issues

An issue was detected where locus results without result values (status initial) were shown in the locus result browsers when they shouldn't be.

Additionally, there was an issue where the **Name** column for the selected locus results was not being shown in the locus search screen.

Solution

These issues have been fixed:

1. From now on, only results with a status > expected are displayed in the following locus result browsers: LocusResultsOfLocus, LocusResultsOfLocusResults, LocusResultsOfObjectByAvailabilityTime.
2. In the locus search screen, the selected loci grid now displays the **Name** column for loci of all types.

Variant results: calculation for IsReportable did not perform as planned (GLIMS_GENX_LAB-00348)

Issue

The IsReportable and IsRelevant fields for locus and variant results were not implemented correctly. Previously, IsReportable was always set to 'NO', even in cases when IsReportable should have been 'YES'. IsRelevant would be set to YES by default in most scenarios.

Solution

For variant results:

- Now there is a parameter for IsReportable which can be used to set the correct value. Via manual entry, users can set IsReportable to true (assuming the classification is of an appropriate level).

- When importing from a file, the correct value can be provided based on what was available in the file.
- The calculation for IsRelevant is the same as for IsReportable, and is done simultaneously next to IsReportable.

Tip

If variant results are added with classification 1, 2 or 3, the default value for IsReportable and IsRelevant is false.

If variant results are added with classification 4 or 5, the default value for IsReportable and IsRelevant is true.

If the classification of the variant result is changed, this has no impact on the value of IsReportable and IsRelevant.

The report still shows only the reportable variant results based on the (un)changed default logic of IsReportable.

For locus results:

- If locus results are added automatically via the approach plan, the default value for IsReportable and IsRelevant is false.
- If locus results are added manually, the default value for IsReportable is true.

Fixed AddRequest for genetic exams in the Consults browser (GLIMS_GENX_LAB-00350)

Issue

When users attempted to add a genetic exam to a specific consult order via the AddRequest function, an error appeared stating that the urgency is not set: "Urgency is mandatory, but has unknown (?) value. (110)".

Scenario:

- Create a new empty consult ([Start menu > Routine > Register consult](#))
 - The parameters for this new consult do not matter, as long as it is created.
- Go to the consult browser and look for the consult that was created
- With the new consult selected, use the contextual [Add requests](#) function (configured as a ribbon tool)
- In the [Add requests](#) window, enter a request for a genetic exam (either manually or via the request form)

Solution

This issue has been corrected: the request is added to the order correctly and no superfluous errors appear in the process.

MISPL warning fix for genetic procedure activity and additional fixes for approach visualization (GLIMS_GENX_LAB-00352)

A MISPL can be added to an activity, linked to a genetic procedure for a genetic exam. However, when this MISPL resulted in an error (e.g. MISPL parameters did not meet the conditions), the warning was displayed as an empty screen when this procedure was executed in an approach.

Additionally, three other, lesser issues were detected:

1. When a grid was present in a re-sizeable pane, it was possible to have the grid open but resize it until it was almost closed. During this resize the screen got stuck in an infinite loop, making the grid flicker in and out of visibility.
2. When resizing panes it was possible that the old positions of pane items were still visible. That disappeared whenever a mouse hovered over on the corresponding pane. This issue was also detected on other screens (e.g. genetic exam).
3. Upon opening the approach visualization of a genetic exam, the approach request grid was not shown. However, after clicking on anything, the grid reappeared.

All of these issues have been fixed.

Work list: allow inserting locus/variant results if only one action is selected (GLIMS_GENX_LAB-00354)

An issue was detected where it was not possible to insert locus/variant results in the work list screen upon opening it, when there was a preselected action.

The message "This operation is only allowed if one action that is linked to an approach is selected" was displayed, which was incorrect behavior.

This issue has been corrected: the superfluous message is not shown anymore and inserting is allowed when actions are preselected.

No more errors when special characters are used in the components for an approach visualization (GLIMS_GENX_LAB-00361)

An error appeared in the approach visualization and in the genetic exam screen with a visual representation of an approach, whenever special characters (reserved for HTML, e.g. &, >, <) were used in the mnemonic of a material, genetic procedure, transition, etc.

This issue has been corrected: no more errors will be caused by special characters in display names during the visualization of an approach.

Variant search: return variants of all gene regions of a gene (GLIMS_GENX_LAB-00362)

Issue

An issue was detected where when using the variant search to look for variants of a certain gene, no variants of related gene regions were returned.

Solution

This issue has been corrected. When the user searches for a specific gene of a sequence variant:

1. All variants with that gene are returned.
2. All variants with a gene region which is related to the selected gene will be returned.

of a CNV:

1. All variants with a CNV gene for the selected gene will be returned.
2. All variants with a CNV gene region, for which the gene region is related to the selected gene, will be returned.

Functionality to detect changes in the pedigree screen did not work correctly (GLIMS_GENX_LAB-00372)

The following issue was detected: in the pedigree screen, if users followed certain scenarios (described below), the functionality to detect changes in the pedigree screen did not perform correctly.

1. Open the pedigree screen, and make a change (e.g. RMC and add a new family to the pedigree).
2. Re-size the pedigree screen (either move the splitters or change the size of the screen). This will redraw the pedigree.
3. Now close the screen. In this scenario the user should be asked if they would like to save their changes. However, because of the re-size of the pedigree, the user was not asked if they would like to save their changes.

This issue has been fixed: upon attempting to close the pedigree screen after following the scenario described above, users will be asked if they would like to save their changes.

Warning

For this issue to be solved without any further problems, it is necessary to have installed the 9.9.3 version of the web wizard.

Label consistency fix for 'Number of reads' for the Genetic exam result / work list screen (GLIMS_GENX_LAB-00375)

The read counter label for variant results was not consistent between the variant result screen and column labels on a genetic exam result screen or a work list screen. The latter two screens displayed the **Number of reads** label as **Read depth**.

The column labels in the genetic exam result screen / work list screen have been updated to be more consistent. The grids now contain **#Reads**, which is an abbreviation (for improved column width) but is still more consistent with the field label **Number of reads**.

Avoid unique error when adding a person with a new suspected disorder to a family (Oracle only)(GLIMS_GENX_LAB-00377)

When users attempted to add a person to the selected family in the genetic exam screen, GLIMS asked if the suspected disorder should be added to the newly selected family. Upon confirmation, a "unique constraint violation" error appeared. This only happened when using the Oracle version of GLIMS.

Scenario:

1. Create a genetic exam using a genetic procedure which has a suspected disorder.
2. Via the family search in the genetic exam screen, search for a family which currently does not have the suspected disorder configured in the first step as one of the family disorders, but does have at least one other suspected disorder.
3. When you attempt to add the person to the selected family, you will be asked if you want to add the suspected disorder to the newly selected family. If you confirm, a "unique constraint violation" error will appear.

This issue has been corrected.

No more error after deletion of a newly created family in the pedigree screen (GLIMS_GENX_LAB-00380)

An issue was detected where an error appeared in the pedigree screen when users attempted to delete a newly created family structure.

This issue has been corrected.

Link sub-specimen (output) of a genetic procedure with the corresponding parent specimen (GLIMS_GENX_LAB-00394)

Issue

An issue was detected in the following scenario:

1. A specimen was set as an output for a genetic procedure which the user requested via order entry.
2. The user added the input specimen for the aforementioned procedure in the specimen browser of the genetic exam screen (and not directly in the order entry).
3. The user selected an approach plan for the genetic exam and confirmed the specimen availability.
4. In the specimen browser of the genetic exam, the parent specimen could not be seen as the input specimen of the child (output) specimen. As a result, the order behaved as if the parent and child specimens were unrelated.

Additionally, the user could not visually see any references to the parent of the sub-specimen (e.g. in the Material column of the genetic exam specimen browser).

Solution

The issue has been fixed: from now on, the parent specimen is properly linked with the sub-specimen in this case.

Rich text logic support for Unix (GLIMS_GENX_LAB-00399)

An issue was detected where the rich text logic required for the Genetics module was not correctly implemented in the GLIMS package for Unix.

When:

- Printing a report for an order containing rich text
- Generating the work list via batch

The error 'Static instance failed to load' appeared in the AppServer log files.

This issue has been corrected: the code for Rich text support is now included in the GLIMS package for Unix.

New MISPL function LocusResult.GetLocusResultDetail() (GLIMS_GENX_LAB-00402)

New functionality

A new MISPL function LocusResult.GetGeneticResultDetail() was added to get the results of the configured list detail types. As of GLIMS 9.9.0, it was not possible to do so.

In practice, the MISPL will be used as an approach transition evaluation MISPL.

Parameters:

1. Mnemonic

Mnemonic of the genetic result detail as configured in the list detail type. If the mnemonic parameter is provided, the index parameter can be '?'.

2. Index

This is a loop counter variable: when 1, the first GeneticResultdetail is returned (sorted by creation time, most recent one comes first). When 2, the second result is returned and so forth, until the return value becomes unknown. If the index parameter is provided, the mnemonic can be '?'.

Example MISPL (not an actual scenario)

```
integer i;
GeneticResultDetail rsIt;
string text;
rsIt := .GetGeneticResultDetail(?, 1);
i := 1;
WHILE rsIt NE ? DO
    rsIt := .GetGeneticResultDetail(?, i);
    IF rsIt NE ?
        THEN
            text := text + IntegerToString(i, "%d");
            text := text + " Mnemonic: " + IfKnownString(rsIt.ListDetailType.Mnemonic);
            text := text + " | Value: " + IfKnownString(rsIt.Value);
            text := text + CHR(13);
        ENDIF;
        i := i + 1;
    DONE;
RETURN text;
```

Warning

This MISPL function is NOT yet visible in the MISPL builder on this version of GLIMS.

Support export to Excel for grids in the Genetics module (GLIMS_GENX_LAB-00405)

New functionality

From now on, it is possible to export any grid inside the Genetics module to Microsoft Excel. Via the key combination CTRL+E, the selected grid is exported into an Excel file.

Currently, this functionality is only available for the grids displayed in the Genetics module screens.

HyBase

HyBase export: correction of "Export isolation tests" option (GLIMS_HYB-00026)

An issue was reported where the option **Export isolation tests** could no longer be activated if the **Version** of the HyBase export was set to **Extended**.

This issue, which occurred since GLIMS 9.8.11, has been corrected.

Note

When the **Version** is set to **Basic**, the **Export isolation tests** option is not taken into account.

Lab archive

Correction for scanning a specimen to an archive (GLIMS_SERO-00184)

The following issue regarding the storage of specimens in a lab archive has been solved:

1. Three racks are available: r1, r2 and r3 (r2 and r3 both contain expired storage items).
2. The user scans a specimen in the last free position of rack r1.
3. GLIMS asks if the content of r2 should be cleared.
4. The user confirms and scans another specimen.
5. Instead of storing the scanned specimen in the position that has become available, GLIMS asks if the content of r3 should be cleared.

No more error when opening Item storage editor (MATE-06465)

An issue was reported where errors occurred when opening the Item storage editor e.g. from the [Storage query](#) browser.

MISPL

Correction of Order.Attribute("RequestList") for electronically created orders (GLIMS-12344)

An issue was reported where the Order.Attribute("RequestList") MISPL function did not work for electronically created orders if it was used in the MISPL expression calculating the order internal ID.

This issue has been corrected.

Fix memory consumption of .PropertyList MISPL (GLIMS-12404)

An issue was detected where generating order statistics using a **Filter** that applies the .PropertyList MISPL function consumed a large amount of memory.

This issue, which occurred since GLIMS 9.8, has been corrected.

Correction of MISPL function Result.MicrobiologyAction() (GLIMS-12418)

An issue was reported where the Result.MicrobiologyAction() MISPL function incorrectly returned the ID of a specimen instead of the ID of a microbiology action. This happened when the result was not the result of the grafting, microscopy, processing, conclusion or report property of a microbiology action.

Example

An order contains a specimen with

1. a microbiology action and
2. a property

scheduled on it.

The issue occurred when executing the MISPL function on the result of the property.

This issue, which occurred since GLIMS 9.8.11, has been corrected.

MISPL expression builder: entering value for enumerated parameter made more user-friendly (MATE_MISPL-00115)

Entering a value for an (enumerated) parameter during the creation of a MISPL expression via the MISPL expression builder is now more user-friendly.

For instance:

- The user has to provide a value for the **MinimalStatus** parameter and enters **Confirmed** (one of the values of the value list).
- The entered value is now translated automatically into the syntax VariantResultStatus["Confirmed"] and added to the MISPL expression. In previous versions, only the value **Confirmed** was added to the MISPL expression, causing a syntax error.

Microbiology

Fixed issues in "Edit carrier tests" screen (GLIMS_BAC-01468)

This modification corrects a number of issues that occurred in the **Edit carrier tests** screen that can be opened from a microbiology action.

For instance:

- When opening the contextual menu by right-clicking, GLIMS did not select the correct carrier, instead GLIMS selected the first carrier in the screen.
- When the cursor was positioned in an empty cell and the user used the Insert key, an error occurred.
- Using F6 on a carrier test (not the first) opened the editor of the first carrier.

Microbiology work screen no longer opens a browser of micro-organisms of the wrong type (GLIMS_BAC-01531)

The following issue, which occurred since GLIMS 9.8, has been corrected:

Context

An order has one microbiology material and several microbiology actions. The microbiology actions have different types, for instance, one is of type parasite and the others are of type germ.

Issue

Opening the microbiology work screen from one of the microbiology actions of type germ, clicking on the radio button of the microbiology action of type parasite and using Insert in the isolation browser to add an isolation, opened a browser of micro-organisms of type germ (instead of micro-organisms of type parasite).

Basically, the issue occurred when switching between microbiology actions of different types (germ, virus or parasite). It affected the adding of carriers as well. This meant that it was possible to add carriers and isolations of the wrong type and that the correct ones were being hidden.

Note

If the user has added a carrier or isolation to a microbiology action of the wrong type, it will be hidden from view, meaning that all past incorrectly added carriers and isolations are inaccessible.

Isolation without appraisal should prevent microbiology action confirmation (GLIMS_BAC-01644)

An issue was reported where it was possible to confirm a microbiology action with isolations without appraisals in the microbiology work screen. This issue has been corrected.

Issues with isolation comments in microbiology work screen (GLIMS_BAC-01647)

The following issues regarding internal and external comments of isolations in the microbiology work screen have been corrected.

1. Inserting a dynamic text (by using the Insert key) in the **I.comm** or **E.comm** columns of the isolation browser of the microbiology work screen, putting the cursor after the dynamic text and inserting a second dynamic text caused the first dynamic text to be overwritten.
2. Using the F7 key in the microbiology work screen to confirm the screen caused the entered isolation comment to be deleted.

Fixed incorrect message about unsaved conclusion (GLIMS_BAC-01654)

The following warning / error messages that were shown when the user was working in the microbiology work screen have been corrected.

Scenario 1

1. Add a conclusion and close the microbiology work screen.
2. Reopen the microbiology work screen and add a comment.
3. Confirm the microbiology work screen.
4. Warning message: "Conclusion currently not saved".

Scenario 2

1. Add an isolation to the microbiology work screen.
2. Add a conclusion and close the microbiology work screen.
3. Reopen the microbiology work screen and add a comment. Then close it.
4. Reopen the microbiology work screen and alter the comment.
5. Confirm the microbiology work screen.
6. A message saying an appraisal for the isolation is required will appear. Add an appraisal to the isolation.
7. Confirm the microbiology work screen.
8. Error message: "FIND FIRST/LAST failed for table b_MicrobiologyAction".

Fixed issues with arrow key movement in Antibiogram browser of microbiology work screen (GLIMS_BAC-01664)

The following issues that occurred in the Antibiogram browser of the microbiology work screen have been corrected: it is now no longer possible to move the cursor to an empty cell of the Antibiogram browser.

Issue 1

- Suppose the following antibiogram exists (with empty cells) and the option **When inside the antibiogram, sort according to the antibiotic panel of that column** is not set.

Antibiogram			
Antibiotic	C.	1	2
gjm_VA		?	
gjm_TOB		?	
gjm_PEN	R	?	
gjm_TET	?	?	
gjm_LEV	?	?	
gjm_GEN	R	?	
gjm_ERY		?	
gjm_DOX		?	
gjm_CLA	R	?	
gjm_CIP		?	
gjm_CEP		?	

- Go to a column with less antibiotics.
- Use the arrow keys on the top or bottom antibiotic (that applies to the currently selected isolation) to move the cursor up or down.
- Issue: the cursor leaves the cell and shoots up to the top and back.

Issue 2

An issue existed in the Antibiogram browser where entering data in an empty cell (of an antibiotic that does not apply to the currently selected isolation) caused the error "FIND FIRST/LAST failed for table wb_AntibioticResult. (565)".

Antibiotic	C.	1	2	3	4	5
gjm_VA		?				
gjm_TOB		?				
gjm_PEN		?	?			
gjm_TET		?	?			
gjm_LEV		?	?			
gjm_GEN		?	?			
gjm_ERY		?				
gjm_DOX		?				
gjm_CLA		?	?			
gjm_CIP		?				
gjm_CEP		?				

User should not give a reason for changing the reportability of a validated antibiotic result ([GLIMS_BAC-01667](#))

When changing the reportability of a validated antibiotic result in the microbiology work screen, the user will now no longer be asked to give a reason for this change. The user should only give a reason when changing the value of a validated antibiotic result.

Fixed error that occurred when opening "Edit carrier tests" for a microbiology action ([GLIMS_BAC-01673](#))

An issue was detected where an error occurred when selecting the contextual menu / ribbon item **Edit carrier tests** on a microbiology action and the Specimen info text was too long.

This issue, which occurred since GLIMS 9.6, has been corrected.

No more error for ad hoc MB QC test when opening MB QC work list or MB QC result overview ([GLIMS_QCMB-00053](#))

An issue was reported where the error "Lot for QC material xxx on test xxx isn't specified" occurred for each microbiology QC test with **Frequency** set to **Ad hoc** when the user opened the microbiology QC work list or the microbiology QC result overview.

This issue, which occurred since GLIMS 9.8, has been corrected.

Fixed expansion of dynamic text in text editor opened from browser ([MATE-06633](#))

The text editor that opens when using the F6 key in the **I.Comm** / **E.Comm** column of the isolation browser of the microbiology work screen has an Expand icon that allows the user to expand dynamic text. However, an issue was reported where expanding a text resulted in the previously expanded text (which was kept in memory) to be shown.

This issue has been corrected.

Miscellaneous

Correction of visualisation issue in Result browser after using Esc (GLIMS-11523)

An issue was reported where, in the following scenario, an incorrect value was shown in a Result browser after using the Escape key.

1. In an Order browser, select an order and click on the contextual ribbon item **Results**.
2. In the Result browser, click in a result cell that already has a value (for instance: "A").
3. Navigate to the previous / next order (via the page up / page down key or the **Previous** / **Next** button in the contextual **Tools** ribbon).
4. Start typing without first putting the cursor in a cell.
5. Press Esc.
6. "A" is displayed in the result cell.

This issue has been corrected.

Classic encounter browser opens without error (GLIMS-12014)

An issue was detected where the classic Encounters browser or the **Encounters by external ID** browser could not be opened because of an error message.

This issue, which occurred since GLIMS 9.6, has been corrected.

Limit functionality of Dutch address tool to persons only (GLIMS-12231)

The tool to split street and house number information for Dutch addresses will now only take into account Dutch correspondents of type **Person**.

Correction of issue arising when copying a large property classification (GLIMS-12347)

An error sometimes occurred when copying a large property classification. This error, which occurred since GLIMS 8.11 and which was due to a lock table overflow, has been corrected.

Improved performance of HC provider browsers (GLIMS-12383)

An issue was reported where opening a HC provider browser and sorting the records in the browser by **Address** or **Municipality** (in order to determine which HC providers are sharing a practice) was very slow since GLIMS 9.

These browsers are now available again in .NET format. Using the Field chooser, customers should remove the redundant columns from the browser in order to obtain a better performance.

Correction of "Cycle in procedure calls" error (GLIMS-12431)

An issue was reported where the error "Cycle in procedure calls detected" occurred when validating a result.

A modification was made to avoid the occurrence of this error.

Use extended result browser and urgency monitor without AppServer (GLIMS-12559)

In some cases, there was an issue with the .NET version of the Extended result browser and the Urgency monitor when the AppServer was used. This issue resulted in error messages and caused GLIMS to abort.

As a workaround, the use of the AppServer has been disabled for these browsers.

In addition, the issue has been corrected where a fatal error occurred in the Progress version of GLIMS when an issuer/agent was specified in the query options of the urgency monitor.

Correction of error "invalid character unit value" (MATE-06501)

An issue was reported where the error **** Invalid character unit value xxx changed to xxx. (13734)** occurred due to preferences (related to screen size and position) being loaded in a numeric format other than the numeric format in which they had been stored. Since the decimal separator (comma or point) depends on the session format, the stored decimal preferences became different values once loaded in a different numeric format.

A workaround has been implemented: the stored preferences will now be loaded in and converted into the current session's numeric format. This system is currently only used for size preferences of classic browsers and editors. The order entry screen uses this functionality (for its size, the position of the widgets and the column width of its embedded browsers).

Disable caching of most frequently used tables (MATE-06520)

Up until now, when starting GLIMS, the most frequently used tables were cached. However, this optimization caused issues for which workarounds were implemented (for instance: MATE-04341). Unfortunately, these workarounds caused other issues. For instance, opening the quick report for an order when the quick invoice was already open did not work.

To avoid these issues, the most frequently used tables are now no longer cached when starting GLIMS.

Improved performance of browser content export to Excel (MATE-06533)

An issue was detected where exporting browser content to MS Excel was extremely slow even if only a few selected records needed to be exported.

This issue has been corrected.

Correction of browser content export to Excel (MATE-06537)

An issue was detected where exporting browser content to MS Excel / Word could not be cancelled. When GLIMS asked if only the selected records needed to be exported and the user decided to cancel the export, all records in the browser were exported.

This issue has been corrected.

Fixed error which occurred during the conversion of DateTime to String (MATE-06609)

This modification corrects the error which occurred during the conversion of an internal DateTime field to a string representation of the DateTime. This issue affected date times which are close to midnight.

Fixed unhandled exception in array editor (MATE-06624)

An issue was reported where an unhandled exception occurred when an **Unable to display: too many lines per row** warning message had been shown in the array editor.

This issue has been corrected.

Automatically close Find/Replace window to avoid that GLIMS stops working (MATE-06628)

An issue was reported where GLIMS stopped working when closing the **MISPL Syntax Editor** (that had been opened from the **Site function** editor) or the **Site function** browser while the Find/Replace window was still open.

This issue has been corrected.

Correction of issues caused by truncated translations of enumerated values (MATE-06635)

The following issues which occurred in non-English GLIMS versions and which were related to the translation of enumerated values having been truncated unintentionally, have been corrected.

- Creating a task led to an error if the **Recurrence** option was set to **Instantly**.
- Starting a service led to an error if the **Start depending translators** option was set to **Autostart**.
- Exporting table data via **Start > System management > Database > Export** or via the contextual menu / ribbon item **Export** on a table led to an error if the **File name style** option was set to **Table short name**.

Order entry

Explicit request on a specimen: ignore specimen scope for procedure selection (GLIMS-12227)

Context

Since GLIMS 9.8.7, the specimen scope checking during the action scheduling became stricter to make sure that a procedure requiring a material cannot reuse a specimen if Procedure.SpecimenScope and Specimen.Scope do not match.

Issue

Customers are experiencing this behaviour as being too strict. Mainly in the scenario where a request is explicitly requested on a specimen (F9).

Solution

A procedure can now reuse a specimen even though Procedure.SpecimenScope and Specimen.Scope do not match provided that no procedure exists with an empty specimen scope or with the same scope as the specimen.

Order entry screen no longer flickers when entering a panel with a lot of materials (GLIMS-12312)

An issue was detected where requesting a panel with a lot of materials during order entry was followed by multiple refresh actions which resulted in a flickering order entry screen.

This issue has been corrected and the performance of adding a panel with a lot of materials is now better.

Correction of scheduling issue for informational property (GLIMS-12393)

Context

An order containing a property is created electronically. The result value of the informational property is entered, confirmed and validated automatically according to the configuration.

Issue

If an additional property request was added automatically to the order via the Evaluation after scheduling site function, the informational property was erroneously discontinued and repeated when its result should have remained **Validated**.

Solution

This issue, which occurred since GLIMS 9.8, has been corrected.

No more rescheduling when a specimen's availability is implicitly confirmed (GLIMS-12399)

Action rescheduling (which can be activated via the general option Reschedule when specimen becomes available) now no longer occurs if a specimen becomes available in an implicit way. That is, when

- a result value is entered for the property that is assessed on the specimen,
- executing the Specimen-based MISPL function .Confirm().

Rescheduling now only takes place if a specimen's availability is explicitly confirmed.

[-S] must indicate root specimens (GLIMS-12428)

In the request browser of the order entry screen, the **Tp** (Type) column contained "-S" for all specimens. However, the correct behavior is that

- "-S" is shown for root specimens and
- "S" for specimens that are not root specimens.

This has been corrected: when saving and reopening the order, only root specimens are now marked with "-S".

Enhancements for request forms (GLIMS-12448)

Context

This modification is a revision of the functionality introduced by [GLIMS-11569](#).

Enhancements

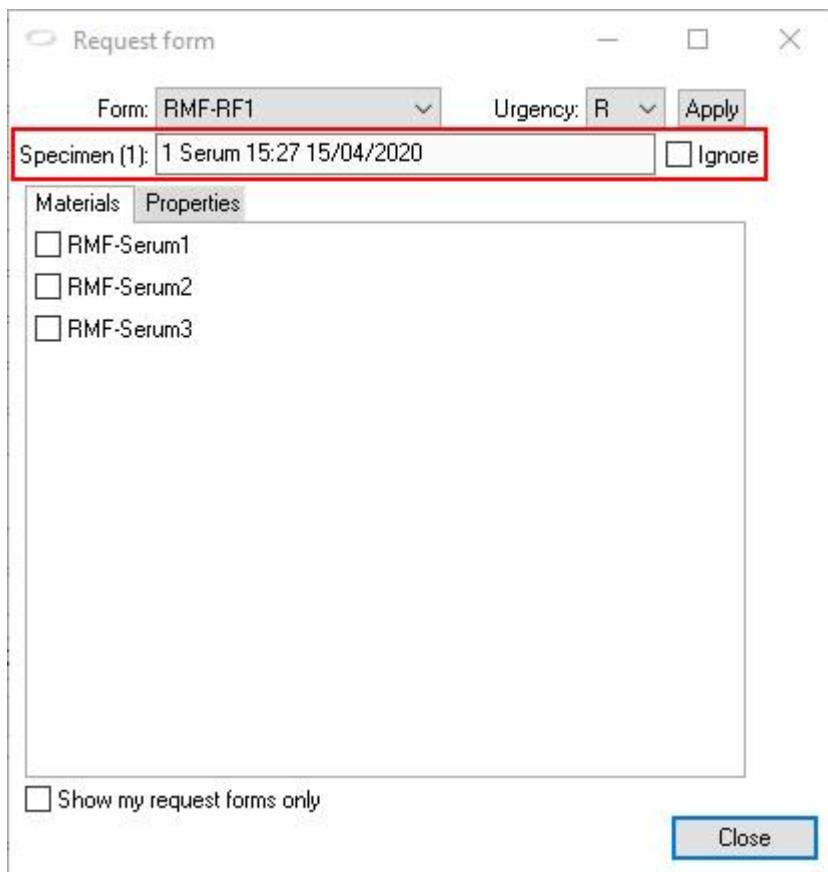
1. A **Specimen** spinner is now available in the Request form that can be opened from the order entry screen. It allows the user to:

- always know which specimen requests apply to without having to look back at the order entry screen.
- cycle through the requested specimens using the up and down arrow keys.
- filter the request form contents, to show the requests referencing the selected specimen.

This field mirrors the **Specimen** field in the order entry screen: selecting a specimen in the **Request form** will select the same specimen in the order entry screen as well.

2. An **Ignore** checkbox is now available (replacing the **Ignore current specimen selection** checkbox that was introduced in [GLIMS 9.9.1](#)).

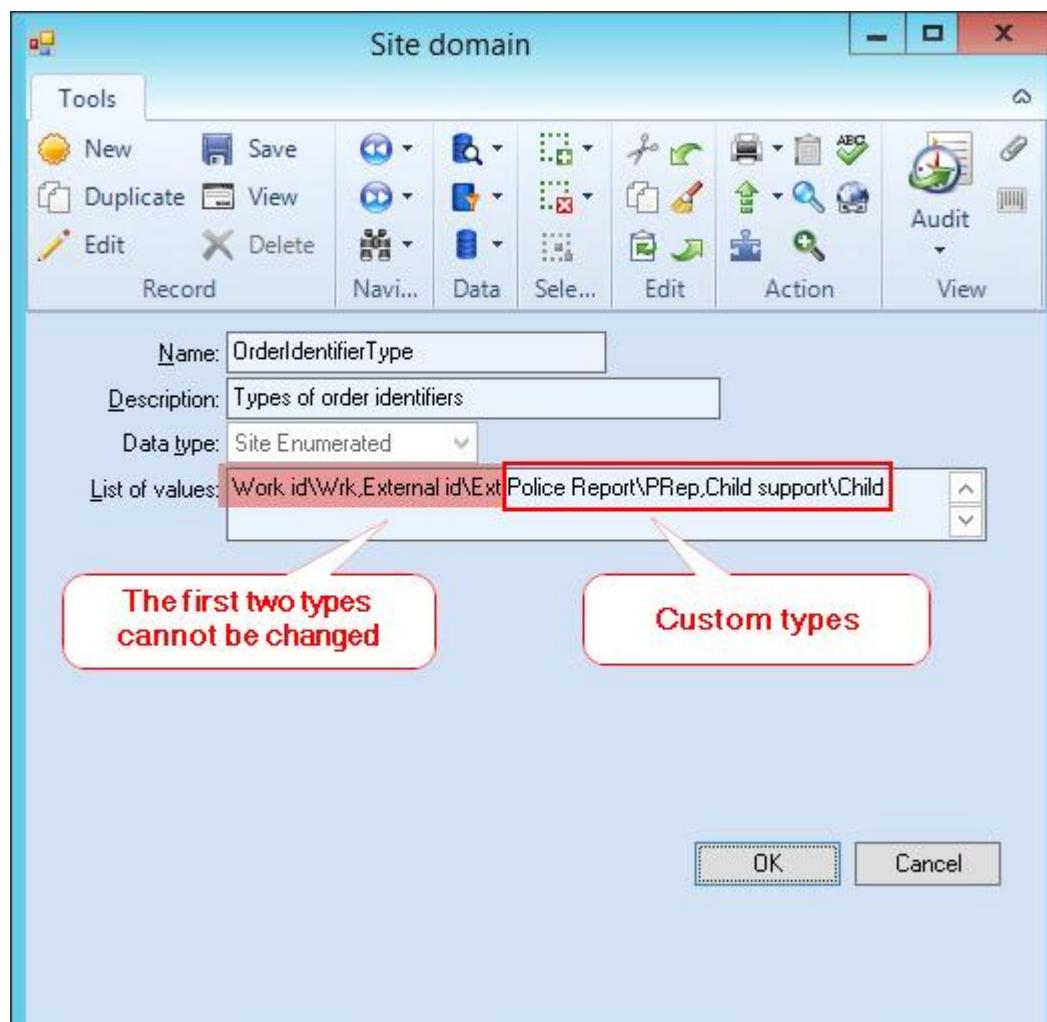
It forces the **Specimen** field to be set to "?" so that the currently selected specimen is ignored. Activating **Ignore** has the effect that no duplicate materials can be selected and requests are not requested onto a material, meaning the scheduler will choose the specimen.



Support for custom order identifier types (GLIMS-12460)

New functionality

A site domain **OrderIdentifierType** is now available in GLIMS. The first two values of the site domain's **Value list** are fixed and CANNOT be changed. Additional values (order identifier types) can be added according to the needs of the site.



MISPL

The defined order identifier types can be accessed via the Order-based MISPL function Order.GetIdentifier.

Purpose

Defining custom order identifier types for which order identifiers can be specified during order entry

A new integrated browser is now available in the **Extra** tab page of the order entry screen. It allows the user to specify the custom identifiers that have been configured via the site domain. Consequently, if no custom order identifier types are defined, the integrated browser will not be shown.

The screenshot shows the 'Extra' tab of the order entry screen. The 'Info' field contains a question mark. To its right is a red-bordered list of order identifiers:

Type	Identifier
PRep	?
Child	?

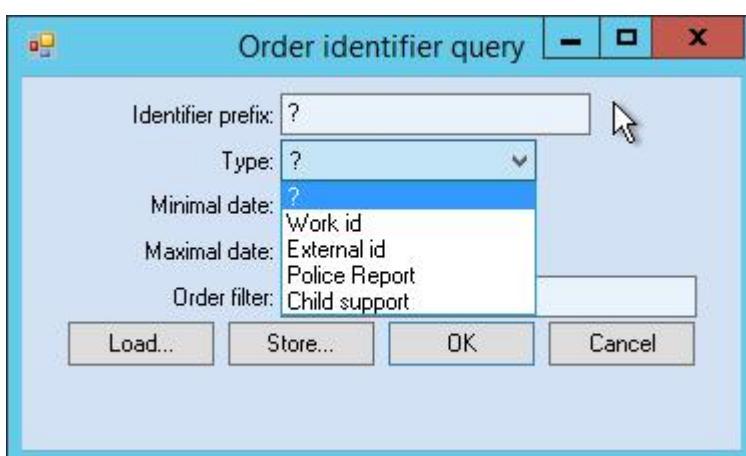
Notes

- The integrated browser (named **IdentifierBrowse**) is available in the Sequence tab of the order entry options.
- The **External id** and **Work id** fields are still available in the **Order** tab page of the order entry screen.

When an order identifier is entered for an order, an order identifier record of that type is saved in the database. From an order, select the contextual function **Show all > Order identifiers** to open a browser containing the order identifiers of that order.

Searching for orders based on order identifier type

The **Type** query option in the query window of the Orders by order identifier browser now allows the user to filter on **Work id**, **External id** or any other custom order identifier type.



Correction of scheduling issue for specimen with modified specimen variables (GLIMS-12486)

An order was scheduled incorrectly if request definition variables were used and, during order entry, the choice of the corresponding specimen variable was changed. In this case, no actions were scheduled on the specimen with the modified variables.

This issue, which occurred since GLIMS 9.8, has been corrected.

Requests should not be merged in case of time discriminators (GLIMS-12596)

In GLIMS 9.9, when entering a request (NA for instance), the request is added to the order correctly. However, when adding NA again with a time discriminator (+01:00 for instance), this request was merged with the original request, which is not the expected behavior.

It is useful to merge the requests in case of character discriminators ("sober" for instance) but not for time discriminators.

This issue, which occurred since GLIMS 9.9.1, has been corrected.

Order review

Correction of incorrect number of selected orders displayed in order review (GLIMS-12537)

An issue was detected in the order review screen where the counter indicating the number of selected orders erroneously included partial orders as well even though the option **Only complete** was active in the query options of the order review screen.

This issue, which occurred in GLIMS for Oracle since version 9.8, has been corrected.

Orders

Improved performance of order to-do items browser (GLIMS-11961)

The performance of the **Order to-do items** browser is now better if the **To-do** query option is enabled and the list contains a lot of items.

Only update the request attributes that have been changed (GLIMS-12220)

When using the contextual function **Apply current request attributes** in the request browser of the order entry screen, the specified request attributes (urgency, billing mark, to charge or flags) are applied to the requested code. However, all the request attributes of the requested code were applied to the requests linked to the requested code.

This is now no longer the case: only the specified / updated request attributes will now be applied to the requests linked to the requested code.

Orders no longer remain in status **Frozen because of invalid electronically received request (GLIMS-12443)**

An issue was reported where orders remained in the temporary status **Frozen** if an electronic message with an invalid request code was received.

This issue, which occurred since GLIMS 9.8, has been corrected.

Quality control

Moving average displayed in Precision and Accuracy page of QC graph (GLIMS_QC-00919)

Since GLIMS_QC-00680, a QC population of type **Moving average** could only be displayed in the **Accuracy** tab page of the Levey-Jennings graph.

To meet customer demand, the moving average is now again displayed in the **Precision** tab page as well. For more information, see Quality control - Levey-Jennings graph.

No more vertical line on QC graph for new serial numbers of reagent lot (GLIMS_QC-00921)

Since GLIMS_QC-00725, each **Reagent lot usage** record that is created for a **Reagent lot** with a new serial number caused the QC graph to show a vertical line. To reduce the number of vertical lines with the same label, the use of a new reagent lot (and no longer the use of a new serial number) now draws a vertical line on the QC graph.

No more error when entering a QC result via a work list for a QC population with an expired QC lot (GLIMS_QC-00930)

An issue was reported where an error message regarding an input-blocking statement was shown to the user, for instance when generating a work list and entering a QC result for a QC population that is linked to an expired QC lot.

This issue has been corrected. The screen that opens as a result of the severity that is raised - in this case - by the expired QC lot has been converted into a .NET screen in order to avoid such an error.

Storing updated precision settings of a QC population (GLIMS_QC-00939)

An issue was reported where updating the precision and accuracy settings of a QC population resulted in only the updated accuracy settings being stored.

This issue, which occurred since GLIMS 9.6, has been corrected.

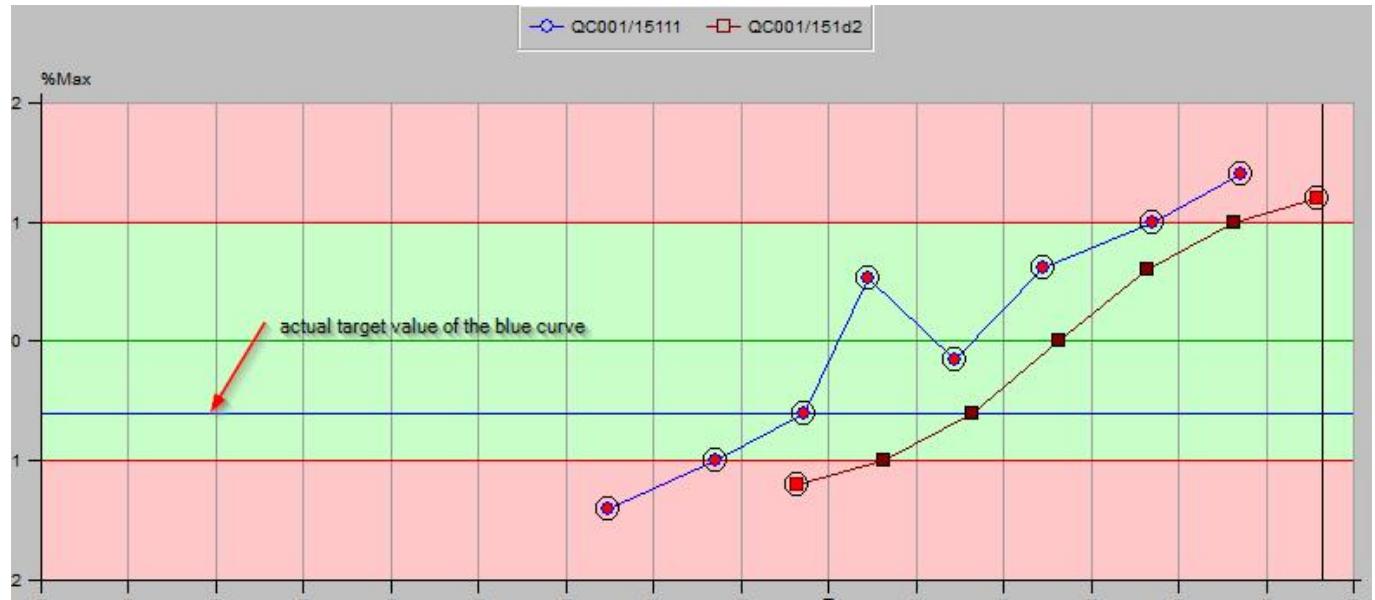
Correction of QC graph for asymmetric QC populations of type Accuracy (GLIMS_QC-00942)

If a QC population of type **Accuracy** was configured with for instance

- Low limit = 90
- High limit = 110
- Target value = 104 (the target value is not in the center of the low limit - high limit zone)

and some QC results were entered with values that violated the specified limits, for instance 94 and 110.9, then 110.9 was erroneously shown in the green zone of the QC graph.

This issue has been corrected. A line is now added in the colour of the curve to indicate the actual target value of the QC population.



Report Builder

Correction of GLIMS Report Builder XML output for cumulative order reports (GLIMS-12302)

An issue was reported where the XML output generated by GLIMS Report Builder was not correct for cumulative order reports in the following scenario:

- Create two orders:
 - for the same patient and issuer,
 - with different object times,
 - with the same properties,
- Fill in a result for each property.
- Repeat one of the results of the least recent order (which implies that a property is discontinued and added again with a new result).
- Generate a cumulative order report for the most recent order.

Instead of one <Detail> element with <ColumnValueX> sub-elements for the results of the property, the XML output contained two <Detail> elements for the repeated property: one with sub-element <ColumnValue1> and the other with sub-element <ColumnValue2>.

This issue, which occurred since GLIMS 9.8.10, has been corrected.

Generation of Report Builder report containing rich text resulted in an error (GLIMS_GENX_LAB-00388)

An issue was detected when generating a report via Report Builder with content in rich text. The error message "Error detected" appeared.

This issue was caused by improperly configured decimal point conversion and has now been corrected. The report containing rich text is generated without any errors.

Avoid loss of styling in Report Builder reports (MATE_RB-00178 / MATE_JRBS-00055)

Version 1.7.2 of the mips-reportbuilder.jar library is now used to ensure that no loss of styling occurs anymore (due to the jasperreports-fonts.jar library not loading correctly) when generating PDF reports via a Report Builder service.

Report Builder: correction of export of site attribute values in XML format (MATE_RB-00183)

An issue was reported where GLIMS Report Builder did not export site attribute values correctly in XML format. For type "Enumerated" and "Reference", the data was correct, but in other cases, the export might contain an incorrect value (for instance: a question mark instead of the value).

This issue has been corrected.

Update to version 1.7.3 of the mips-reportbuilder library (MATE_RB-00188 / MATE_JRBS-00065)

Version 1.7.3 of the mips-reportbuilder library is now used to address the issue where it was no longer possible to extend the classpath with additional font .jar files. This issue occurred since version 1.7.2 of the mips-reportbuilder library and has been corrected.

Ensure that errors are properly returned when not using Report Builder service (MATE_RB-00190)

An issue was reported where errors that occurred during the generation of Report Builder output without the use of a Report Builder service were silently discarded. As a result, the output would not appear, nor the reason of failure.

This has been corrected.

Update to version 1.7.4 of the mips-reportbuilder library (MATE_RB-00195 / MATE_JRBS-00068)

Version 1.7.4 of the mips-reportbuilder library is now used to address the issue in the ReferenceChartCustomizer where the dot was missing if one of the reference values was a negative number. This has been corrected.

Update to version 1.7.5 of the mips-reportbuilder library (MATE_RB-00201 / MATE_JRBS-00078)

Version 1.7.5 of the mips-reportbuilder library is now used to address the issue in the ReferenceChartCustomizer which resulted in an incorrect graphical display of the result value in terms of the property reference values if the reference range of the reported property only contained a low limit or a high limit.

This has been corrected.

Reports

Creation of PDF report without preview no longer fails (GLIMS-12578)

An issue was reported where the error "Unknown or invalid target file specified" occurred when the user tried to generate a PDF report for an order without previewing the report.

This issue, which occurred since GLIMS 9.9.0, has been corrected.

Results

Correction to avoid error during result confirmation (GLIMS-11873)

This modification was made to avoid a system error during result confirmation.

Improved performance of Confirm all / Validate all in Order review and Results of order (GLIMS-12315)

The performance of the Order review and Results of order functions **Confirm all / Validate all** is now better.

Result external comment change enables Needs checking again (GLIMS-12436)

An issue was reported where manually changing the external comment of a validated result no longer enabled the **Needs checking** option of the reports containing this result.

This issue, which occurred since GLIMS 9.8, has been corrected.

Revised refreshing of result browsers after a record is updated (GLIMS-12530)

The Extended result browser and Incomplete results browser now no longer reopen the query to refresh the data when one or more records were updated or processed by a function. The browsers now apply a specific row refresh which is faster than reopening the query (the user no longer has to wait until the entire browser finishes refreshing).

This means that, if a record in the browser is updated,

- and the record does no longer match the current query criteria, then the record is still shown.
- and the record has changed in a way that its position in the browser would change, then the record keeps its current position.

This should improve the performance of the browsers. An explicit refresh (for instance via F5) still reopens the query.

Support for updating the file path of image results for the selected property only (GLIMS-12547)

The tool that allows the user to change the image path of all image results in GLIMS (accessible via **Start -> System management -> Tools -> Update image results**) now has an additional parameter: **Property**.

When specified, only image results (with matching path) of this property will be modified. If not specified, the image results (with matching path) of all properties will be modified, as before.

Specimens

Discontinuing specimens of closed or discontinued orders (GLIMS-11648)

An issue was reported where a discontinued order contained specimens in status **Expected**. However, GLIMS did not allow the user to discontinue specimens of discontinued (or closed) orders.

It is now possible to discontinue specimens that are still in status **Expected** when the order status is **Closed** or **Discontinued**.

Specimen reception scan no longer checks if an order is older than 14 days (GLIMS-12223)

The specimen reception scan program now no longer checks if the order for which a specimen needs to be created has a lowest object time of more than 14 days ago.

In previous versions, the automatic creation of a specimen was not allowed for orders older than 14 days.

Check the chapter Specimen reception scan for more information on the specimen reception scan program.

Error when scanning a specimen twice with "Asynchronous specimen confirmation" (GLIMS-12332)

An issue was reported where the error "record b_Specimen is in use" sometimes occurred when activating a pending order using a scan program - with the scan option **Asynchronous specimen confirmation** enabled - and scanning the same specimen twice.

This issue has been corrected.

Specimen scan: asynchronous confirmation no longer prevents changes made by new internal ID function from being saved (GLIMS-12372)

If the scan option **Asynchronous specimen confirmation** was enabled in the specimen scan program and the (unusual) decision was made to discontinue a specimen via the site function calculating the new specimen internal ID, then it happened that the scanned and discontinued specimen was not discontinued after all because its status ended up being overwritten in the specimen confirmation process.

This issue has been corrected.

Correction of double specimen creation upon pending order activation via specimen reception scan (GLIMS-12390)

An issue was reported where double specimens were erroneously created when using the specimen reception scan program to activate a pending order.

This issue has been corrected. The following scenarios now no longer produce a wrong output.

Scenario 1	Scenario 2	Scenario 3
1	Activate the general option Reschedule when specimen becomes available	
2	Create a pending order containing a property request	
3	Open the specimen reception scan program and activate the scan option Use buffered mode	
4	Scan a specimen on which the pending order's property can be assessed.	Scan two specimens of the same material on which the pending order's property can be assessed
5	Note: The material of the specimen has a Creation trigger (to add an additional property via the Order.AddRequest MISPL function)	
6	Click Save all	

7	In the order activation screen, specify an Object date/time in the future		
8	=> Two specimens of the same material were created with different sampling times	=> Not all specimens had the same sampling time	=> Three specimens were created instead of two

Actions are preselected again when replacing a specimen (GLIMS-12415)

Context

The Specimen.Replace function allows to move non-finished actions from a specific specimen to another specimen of the same material in the same order. When selecting a specimen and hitting the **Replace** button (or double-clicking the target specimen), you will first be presented with a browser of all the unfinished actions on this specimen, with all the actions preselected.

Issue

The actions in the browser were no longer preselected.

Solution

This issue, which occurred since GLIMS 9.6.0, has been corrected: the actions are now preselected again.

Correction of locking issue during specimen creation (GLIMS-12425)

This modification aims at correcting a locking issue that occurred when two GLIMS sessions were creating specimens at the same time and which caused important delays in the processing of the specimens.

Specimen reception scan: material button screen always used the default font (GLIMS-12507)

An issue was reported where the material button screen of the specimen scan program always used the default font even when the dynamic text that defines the button screen used another font.

This issue, which occurred since GLIMS 9.6.3, has been corrected.

Warning

This modification may change the current look and feel of the defined material button screens.

Statistics

Correction of financial statistics output for finance type "Credit" (GLIMS_BILL-03735)

An issue was reported where the generation of financial statistics on invoice items no longer worked correctly for finance type **Credit**: in the output, the column indicating the type incorrectly stated "Debit" and negative amounts were no longer shown. This issue has been corrected.

System management

No more excessive logging regarding ord_Approved during upgrade (GLIMS-12509)

When upgrading to GLIMS 9.9, the conversion procedure will now no longer log for every order the updating of the value of the ord_Approved field in order to avoid excessive logging and to speed up the conversion process.

User interface

Correction of sort issue in classic blood selection browser (GLIMS-11706)

An issue was detected where the sort order in the classic Blood selections browser was not correct if the **Order** column was the active sort column.

This issue has been corrected.

Avoid a flickering result overview screen (GLIMS-12292)

An issue was reported regarding a flickering result overview screen. The flickering occurred if two result overview screens had been opened from different contexts and continued until the focus was changed or the GLIMS session was ended.

This issue, which occurred since GLIMS 9.1, has been corrected.

Fixed focus issue in OpenEdge 11.7 (MATE-06492)

This modification fixes a focus issue that occurred in OpenEdge 11.7 and caused

- the F2 / ESC keys to no longer work properly,
- the active window to lose focus.

Button to open hyperlink available in large editor screen (MATE-06504)

Since GLIMS 9, it was no longer possible to open a hyperlink from the large editor screen that opens for instance when reading internal mail or when using F6 in the **Description** field of a **Material**.

This issue has been corrected: an additional button to open hyperlinks is now available in the large editor screen.

Correction of issue with Page up / Page down navigation in child window (MATE-06506)

An issue was reported where, in the following scenarios, the Page up / Page down keys no longer selected the previous / next record in the browser but selected the previous / next page of records.

Scenario 1

1. Select **Start > Routine > Actions > Browse actions**.
2. Double click on the first action in the browser to open the cell counter.
3. With focus on the cell counter screen: use the Page up or Page down key to go through the actions in the browser.

Scenario 2

1. Select **Start > Routine > Orders > By receipt time**.
2. Select the contextual menu item **Requests > Results**.
3. With focus on the Results browser: use the Page up or Page down key to go through the orders in the browser.

Note

When using Page up / Page down in the parent window (in the scenarios above: the Actions and Orders browser), the previous / next page of records will be selected.

This issue, which occurred since GLIMS 9.9, has been corrected.

Correction of browser refresh functionality (MATE-06565)

An issue was reported where manually refreshing the blood selection query while **Auto refresh** was active caused the application to stop working.

This issue, which was not limited to the blood selection query, has been corrected.

Avoid that patient history hides behind microbiology work screen (MATE-06573)

An issue was reporting where opening the patient history from the microbiology work screen caused the newly opened browser to lose focus and to be displayed behind the microbiology work screen. Consequently, additional clicks were required to display the browser.

This issue has been corrected.

Sorting on case sensitive columns in .NET browsers (MATE-06607)

Some browsers in GLIMS have case sensitive columns (antigen browsers, for instance). Up until now, sorting on case sensitive columns in .NET browsers was not supported. Consequently, selection issues could occur in these browsers.

This has been corrected: sorting on case sensitive columns in .NET browsers is now supported.

Improved startup performance of .NET browsers with a lot of applicable Filter or Style site functions (MATE-06643)

In order to improve the startup performance of .NET browsers having a lot of applicable **Filter** or **Style** site functions, these site functions will now no longer be loaded in the drop-down menu of the **Filter** and **Style** ribbon items of the contextual Tools ribbon tab. Instead, the user can now click on the main button of the ribbon item to open a browser with applicable **Filter** or **Style** site functions.

Conversion script to avoid missing icons (MATE-06550)

In order to avoid the "Image not found" warning messages that were shown since GLIMS 9.9 (when logged in with a role with user type System manager or Developer), a conversion script is now available: **cv99_DetectAndFixIcons.r**.

It should be executed manually via **Start > Development > 4GL > Run procedure**.

The script checks the presence of the

- **Small icon / Large icon** of the Tool
- **Collapsed icon** of the Ribbon group

If the icon cannot be found, the path will be replaced with the default path. The script will create a .csv file containing a list of the updated records.

Warning

This script can only be executed on Windows (not on Unix).

Work lists

Work list generation via a command should take into account the specified file extension (GLIMS-10441)

This modification restores the possibility of generating work lists to a file with a .txt extension.

Since GLIMS 9, when generating work lists via a command, the **Name** parameter of the configured function parameter set was no longer taken into account. In fact, the specified file name was replaced with the default file name: {date}{##}.rpt.

This issue has been corrected.

Reintroduce support for scanning specimens by external ID in work list generation program (GLIMS-12580)

When the **Specimen** option was activated in the work list generation screen and a barcode was entered that matched the external ID of a specimen, then GLIMS returned the error message "Specimen not available".

This issue, which occurred since the introduction of [GLIMS-11154](#) in GLIMS 9.9.0, has been corrected. This means that the External ID barcode can be used again to identify a specimen.

Version 9.9.2

Important modification

Correction of automatic conversion of billing mark list to a comma-separated list (GLIMS_BILL-03747)

This modification corrects the automatic conversion of the billing mark list(s) defined for PolicyClause, PanelRequestable and PanelMember to a comma-separated list. This conversion is required because of [GLIMS_BILL-03709](#) but was not performed correctly.

The SpecificSite-based site attribute **cv99BMListIsConverted** registers whether or not the conversion has run. In the cases below, the conversion should be performed manually. In all other cases, the conversion will be performed automatically.

Upgrade from (the versions in which the issue occurred)	Upgrade to	Procedure
GLIMS 9.8.11	GLIMS 9.8.12 or GLIMS 9.9.2 or higher	<p>Set the site attribute to NO and perform the conversion manually.</p> <p>Select Start > Development > 4GL > Run procedure:</p> <ul style="list-style-type: none">• For GLIMS 9.8: specify cv98_BM.r as File name• For GLIMS 9.9/9.10: specify cv99_BM.r as File name
GLIMS 9.9.0/9.9.1	GLIMS 9.9.2 or higher	<p>Warning</p> <p>The "Run 4GL procedure" tool requires the user type Developer and is reserved for MIPS employees.</p>

Actions

Do not reuse actions if input specimens / results are not reusable (GLIMS-07931)

An issue was reported where GLIMS had reused actions that should not have been reused. This issue has been corrected. In addition to checking whether the procedure, object and object time are identical and whether the action is not yet [Outputting](#), GLIMS will now also check whether or not the input specimens ([Reusability](#) of Material) or input results ([Reusability](#) of Property) of the action are reusable. If not, the action will not be reused.

Application management

Fix excessive logging for log type "Report processing" (GLIMS-12290)

In previous versions of GLIMS, a log entry was added for each report that was being approved. Since these log entries are not useful for customers and moreover are filling up the database, they will not be created anymore upon report approval.

Billing

MyCareNet: no more error due to name of log type being too long (BILX_CAREVXML-00015)

An issue was reported where errors occurred when sending insurability requests to MyCareNet. These errors occurred in an Oracle environment when using GLIMS in French or Dutch and were due to the name of the log type exceeding its maximum size.

This issue has been corrected. The English name of the log types will now always be used: MyCareNet insurance verification request / MyCareNet insurance verification request xml.

MyCareNet: correction of error "No valid matriculation or national number" (BILX_CAREVXML-00018)

The error "No valid matriculation or national number" was erroneously logged when sending an insurability request to MyCareNet for a person with a correct national number but without payment agreements. This issue, which occurred since GLIMS 9.6, has been corrected.

Calculate unbalanced amount of invoice summary without the credited amount (GLIMS_BILL-03069)

If one or more invoices of an invoice summary are credited, the credited invoices will now no longer be taken into account for the calculation of the **Unbalanced amount** of the **Invoice summary**.

The **Unbalanced amount** is now calculated as follows: $\text{InvoiceSummary.UnbalancedAmount} = \text{InvoiceSummary.TotalAmount} - \text{Sum of amounts of linked Balance records} - \text{credited amount}$.

Note

The unbalanced amount of existing invoice summaries will not be converted.

Correction of error occurring during check digit calculation of Belgian national number (GLIMS_BILL-03739)

An issue was reported where the error **Value too large to fit in INTEGER** occurred when

- entering a payment agreement with **Matriculation type** set to **Belgian national number** or
- sending a MyCareNet insurability request

for a person born in 2015 or later. This issue, which occurred since GLIMS 9.6, has been corrected.

Business Activity Monitor

Improved performance of Business Activity Monitor (GLIMS-12131)

A modification was made to improve the performance of the Business Activity Monitor.

Communication

Sort procedure data results according to sequence number of procedure data (GLIMS_ANLZ-01404)

The order of the procedure data results in a work order message is now again based on the (ascending) sequence number of the procedure's procedure data.

Include number of containers during electronic reporting of specimen details (GLIMS_OI-00795)

When replying to a "ReportSpecimenDetails" message (to provide the requesting application with an overview of the electronically created / updated order after its scheduling in GLIMS), GLIMS will now include the number of required containers (specimens) for a material. In addition, the number of containers is included during online reporting as well (provided that the **Specimen details** option is enabled in the **Items to export** screen which can be accessed by clicking on the Report items button in the **Electronic** tab of the report generation screen).

The number of containers is calculated as follows: NumberOfContainers = RoundUp(SpecimenSize/Material.MaxValue).

Order export should export all procedure data properties if multiple are defined on a procedure (GLIMS_OX-00138)

The order export of an order containing an action with two (or more) confirmed procedure data results would result in the outgoing electronic report (i.e. URL-message) containing only one of the procedure data requests.

Example

For an order with a property "TestX" scheduled on a specimen of material "MatA" via an action having two individually requested (= not requested via a panel) procedure data properties "Length" and "Weight" (thus the order has three requested codes: "TestX", "Length" and "Weight"), "Length" or "Weight" would have been exported during the export of the order, but never both.

This issue, which occurred since GLIMS 9.5.12, has been corrected.

Correspondents

Missing information in generated XML of person merge ADT event (GLIMS-12306)

In the resulting XML of a person merge ADT event, the source element did not contain:

1. the information related to the Person Medical Record
2. the information related to the identifications of the person

This issue, which occurred since GLIMS 9.8.10, has been corrected.

Epidemiology

Generating documents for isolations to be reported officially: correction of "Append" option (GLIMS_BAC-01631)

Introduction

GLIMS allows the user to generate documents that can be sent to an issuer / a health office if certain microorganisms are found. For more information, see Epidemiology - Officially reporting isolations.

Issue

When selecting multiple isolations in the isolation browser and choosing the contextual menu item **Generate > Document**, a single file was always generated, even when the **Append** option of the **File specification** screen was not set.

Solution

When multiple documents are generated (multiple isolations are selected),

and the **Append** option is set,

- and there is a pre-existing document of the same name, the new documents are appended to the existing document.
- and there is no document of the same name, the documents are appended together in one single file.

and the **Append** option is not set,

- and there is a pre-existing document of the same name, the new documents will overwrite the existing document.
- and there is no document of the same name, individual files are created for each document.

Microbiology

Order filler number for isolations during online reporting of microbiology orders in IHE format (GLIMS_BAC-01596)

Context

Generation of online reports in IHE format for microbiology orders containing reportable isolations.

Issue

If the Isolation-based site attribute LTWOFNumber did not exist or did not have a value, no order filler number was exported for the isolation during online reporting. This led to empty ORC.2 / ORC.3 and OBR.2 / OBR.3 segments.

Solution

If no order filler number is available for the isolation during report generation, it will now be generated and exported in the correct segment. Thus ensuring that ORC.2, ORC.3 and OBR.2, OBR.3 segments are not blank. The generated order filler number is of the form Specimen.InternalId – Isolation.InternalSequencer.

Miscellaneous

Allow Hungarian customers to check the social security number of the patient during order entry (GLIMS-12160)

Introduction

This modification introduces functionality that allows Hungarian customers to check the social security number of the patient during order entry by sending a request via a web service to the platform of the Hungarian National Health Insurance Fund.

Configuration

Identification of the "Own organization"

The Own organization should have an identification that is assigned by the [Own organization](#).

"External info system" = "Taj"

Set the [External info system](#) in the GLIMS general settings to [Taj](#).

Path to WSDL file

Define an Organization-based site attribute [_TajWSDLFILE](#) (of data type [String](#)) in which the path to the WSDL file (web service descriptive language file) should be specified for the Own organization.

Web service user name and password

Define two Department-based site attributes [_TajUserName](#) and [_TajPassword](#) (of data type [String](#)) in which the user name and password used to connect to the web service should be specified per department.

Status of web service reply

Define an Order-based site attribute [_TajStatus](#) (of data type [String](#)) to store the status of the web service reply.

Certificates

Import the required certificates in the OpenEdge certificate store on the computers that will be performing the check.

DLC: C:\DLC117

```
Inserting C:\DLC117\bin to beginning of path and  
the current directory is  
C:\OpenEdgex86\WRK117
```

```
OpenEdge Release 11.7.5 as of Fri Jun  7 09:05:37 EDT 2019  
proenv>certutil -import c:\docs\neak\ojote1.cer  
Importing trusted certificate to alias name: 76951197
```

```
proenv>certutil -import c:\docs\neak\ojote2.cer  
Importing trusted certificate to alias name: 988a38cb
```

```
proenv>certutil -import c:\docs\neak\ojote1.cer  
Importing trusted certificate to alias name: 76951197
```

```
proenv>certutil -import c:\docs\neak\ojote2.cer  
Importing trusted certificate to alias name: 988a38cb
```

```
proenv>_
```

Note

If the order post-processing is performed on the AppServer, the certificates need to be available on the server running the AppServer as well.

Routine: Checking the social security number during order entry

When the **External info system** is set to **Taj**, a button will be displayed in the order entry screen to allow the user to manually request the checking of the validity of the social security number. The request is sent if the patient has a payment agreement with matriculation. If not performed manually, the checking of the social security number will take place in the post-commit phase of the order.

Enc.: ?	<input type="button" value="Query"/>	<input type="checkbox"/> FSE															
Encounter type: ?	Institution: ?																
Ward: ?	Room: ?																
Info: ?																	
Last name: ?																	
First name: ?																	
Middle name: ?	Title: ?																
Birth date: / /	Age: ?	Sex: ?															
Spouse name: ?	Birth Order: ?	Taj: <input type="checkbox"/> <input checked="" type="checkbox"/>															
<input type="button" value="Name Query"/>																	
<table border="1"> <thead> <tr> <th>Type</th> <th>Internal id</th> <th>LANR</th> <th>BSNR</th> <th>Name</th> </tr> </thead> <tbody> <tr> <td>Issuer: ?</td> <td>?</td> <td>?</td> <td>?</td> <td>?</td> </tr> <tr> <td>Agent: ward</td> <td>?</td> <td>?</td> <td>?</td> <td>?</td> </tr> </tbody> </table>			Type	Internal id	LANR	BSNR	Name	Issuer: ?	?	?	?	?	Agent: ward	?	?	?	?
Type	Internal id	LANR	BSNR	Name													
Issuer: ?	?	?	?	?													
Agent: ward	?	?	?	?													
Receipt time: ?	Prescription time: ?																

The order entry screen will indicate the status of the reply:

Color	Status
Green	Valid number; insured
Red	Valid number; not insured
Brown/olive	Invalid number
Blue	Provided abroad; number temporarily invalid
Yellow	Valid number; limited benefits

Correction of "Cycle in procedure calls" error (GLIMS-12263)

An issue was reported where the error "Cycle in procedure calls detected" occurred if the `Result.ToBePhoned()` function was used in a `ResultOutput`-based site function (for instance in a Property trigger).

A modification was made to avoid the occurrence of this error.

No more creation of unused log type "Read audit Result" (GLIMS-12272)

Opening the results of report browser via the contextual menu item **Result preview** on **Report** now no longer creates the superfluous **Read audit Result** log type.

No more error when opening the color scheme (MATE-06376)

An issue was reported where an error occurred when opening the color scheme. This issue has been corrected.

No more error when choosing Study > Orders in the Quick report window (MATE-06439)

An issue was reported where the error **Invalid handle. Not initialized or points to a deleted object. (3135)** occurred when opening a **Quick report** from an **Order** (via the contextual ribbon item **Quick report** of e.g. an Order browser), right-clicking in the **Quick report** window and choosing **Study > Orders** in the contextual menu.

This issue has been corrected.

Order entry

Improved performance of order entry for orders with a lot of requests (GLIMS-11959)

A modification has been implemented to improve the performance of manual order entry for orders with a lot of requests. It was noticed that each request and result was written to the database twice. This process has been optimized.

Quality control

QCPopulation.Print: Correction of missing QC audit results for specified end date (GLIMS_QC-00895)

Context

When printing a QC population with the option **Store as official audit** enabled, a QC audit is created. Moreover, the QC results of the QC population are also stored as **QC audit results**.

Issue

An issue was reported where the QC results matching the specified end date were not stored as QC audit results.

Solution

This issue, which occurred since GLIMS 9.6, has been corrected: all QC results of the specified date range will now be stored as QC audit results.

Function "Create new QC lot" should not copy inactive QC checks (GLIMS_QC-00901)

When creating a new QC lot, the inactive QC checks of the copied QC populations were copied as well. This is now no longer the case: only the active QC checks will now be copied.

Incorrect display of short value of QC population type in QC journal (GLIMS_QC-00926)

When selecting multiple QC populations of type **Precision** in the **QC populations** browser and clicking on the contextual menu / ribbon item **Journal**, the type's short value ("P") was repeated for the second ("PP") and following ("PPP") QC populations in the QC journal.

Property	Time	Lot	Material	Value	OK	Comment
17/08/2015						
QC Prop2 (ml)	10:33	12345	Reg_QC_Matl P	10.00	Yes	
QC Prop2 (ml)	10:34	12345	Reg_QC_Matl P	10.00	Yes	
QC Prop2 (ml)	10:35	12345	Reg_QC_Matl P	10.30	Yes	
QC Prop2 (ml)	10:36	12345	Reg_QC_Matl P	10.50	Yes	
QC Prop2 (ml)	10:37	12345	Reg_QC_Matl P	10.50	Yes	
QC Prop2 (ml)	10:38	12345	Reg_QC_Matl P	10.60	Yes	
QC Prop2 (ml)	10:39	12345	Reg_QC_Matl P	10.60	Yes	
QC Prop2 (ml)	10:40	12345	Reg_QC_Matl P	10.70	Yes	
QC Prop2 (ml)	10:41	12345	Reg_QC_Matl P	10.90	Yes	
QC Prop2 (ml)	10:42	12345	Reg_QC_Matl P	11.00	Yes	
QC Prop2 (ml)	10:43	12345	Reg_QC_Matl P	11.00	Yes	
QC Prop2 (ml)	10:44	12345	Reg_QC_Matl P	11.00	Yes	
QC Prop2 (ml)	10:45	12345	Reg_QC_Matl P	11.20	Yes	
QC Prop2 (ml)	10:46	12345	Reg_QC_Matl P	11.50	Yes	
QC Prop2 (ml)	10:47	12345	Reg_QC_Matl P	11.60	Yes	
QC Prop2 (ml)	10:48	12345	Reg_QC_Matl P	12.00	Yes	
03/11/2015						
QC Prop1 (ml)	12:21	123456	BG_LABO_1	PP	10.00	Yes
QC Prop1 (ml)	12:21	123456	BG_LABO_1	PP	10.00	Yes
QC Prop1 (ml)	12:21	123456	BG_LABO_1	PP	10.30	Yes
QC Prop1 (ml)	12:21	123456	BG_LABO_1	PP	10.50	Yes
QC Prop1 (ml)	12:22	123456	BG_LABO_1	PP	10.50	Yes
QC Prop1 (ml)	12:22	123456	BG_LABO_1	PP	10.60	Yes
QC Prop1 (ml)	12:22	123456	BG_LABO_1	PP	10.60	Yes
QC Prop1 (ml)	12:22	123456	BG_LABO_1	PP	10.70	Yes
QC Prop1 (ml)	12:22	123456	BG_LABO_1	PP	10.90	Yes
QC Prop1 (ml)	12:22	123456	BG_LABO_1	PP	11.00	Yes

This issue has been corrected: the short value will now only be displayed once for each QC population.

Report Builder

Unnecessary XML reports are no longer printed (GLIMS_ARep-00292)

An issue was reported where unnecessary XML reports were printed if a default printer was defined in the general settings and users tried to generate an electronic report with an attached report.

This issue has been corrected.

Correction of printing of Report Builder report from Report preview and Quick report screens (GLIMS_ARep-00297)

An issue was reported where it was no longer possible to print a Report Builder report to paper using the **Print** button in the **Report preview** or **Quick report** screens.

This issue, which occurred since GLIMS 9.8, has been corrected.

Reports

Correction of errors occurring during electronic report generation (GLIMS-12217)

An issue was reported where - during electronic report generation - the following errors occurred:

- No b_Request record is available. (91)
- Error attempting to push run time parameters onto the stack. (984)

This issue has been corrected.

Results

Avoid unnecessary refreshing of Extended result browser (GLIMS-12214)

The Extended result browser will now only refresh once if the user modified several results. In previous versions, if several results had been modified, the browser refreshed for each modified result.

Improved performance when modifying multiple results in Order review / Results of order (GLIMS-12309)

An issue was reported where entering a result value for multiple results (by selecting multiple results and choosing the contextual menu / ribbon item **Modify**) in the Order review program or the Results of Order browser was slow. This has been corrected and the performance is now better.

System management

Support for automatically upgrading GLIMS clients (MATE-06512)

Introduction

GLIMS clients and AppServer need to be on the same GLIMS version. To facilitate the process of upgrading the clients, GLIMS now supports upgrading GLIMS Windows clients automatically.

Note

The required Windows service, Red Carpet, is installed automatically when upgrading to GLIMS 9.9.2. Customers can use this new functionality for future corrective versions.

Requirements

Red Carpet Windows service

A dedicated Red Carpet Windows service should run on each GLIMS Windows client to establish communication with the server. Red Carpet is installed automatically via the GLIMS installer.

Free disk space

At least 10 Gb of free hard disk space should be available on the GLIMS client and more specifically on the hard disk where GLIMS is installed.

AppServer

The AppServer should be running.

Process for automatically upgrading clients

1. Downloading the corrective service pack

1. Login to the [MIPS support website](#) and download the corrective GLIMS service pack.
2. Store the .zip file on a shared network location.
3. Create a domain account (if none is available) that has access to the file.

2. Changing the Red Carpet request interval (optional)

By default, the Red Carpet service checks every 3600 seconds if there is an active and applicable upgrade plan on the server. Changing the request interval can be done via **Start > System management > Customize > MATE > General tab > RC request interval**.

Note

As soon as the [upgrade plan is activated](#), Red Carpet automatically applies a request interval of 30 seconds.

3. Creating an upgrade plan

Open the GLIMS application on the server and select **Start > System management > Auto upgrade > Create upgrade plan for corrective version**.

Create upgrade plan for corrective version

Name:	<input type="text"/>
Applicable version:	<input type="text"/> 9.9.2
New version:	<input type="text"/> ?
Upgrade file:	<input type="text"/> ?
Account to use to access the upgrade file	
User name:	<input type="text"/> ?
User password:	<input type="text"/> *
Domain:	<input type="text"/> ?

Ok Cancel

Name

Name of the upgrade plan.

Applicable version

The GLIMS client version this upgrade plan applies to. This updateable field is automatically filled with the current GLIMS version. If the **Applicable version** does not match the GLIMS client version, then no upgrade will take place.

New version

The GLIMS version to which the server (manually) and clients (automatically) will be upgraded.

Upgrade file

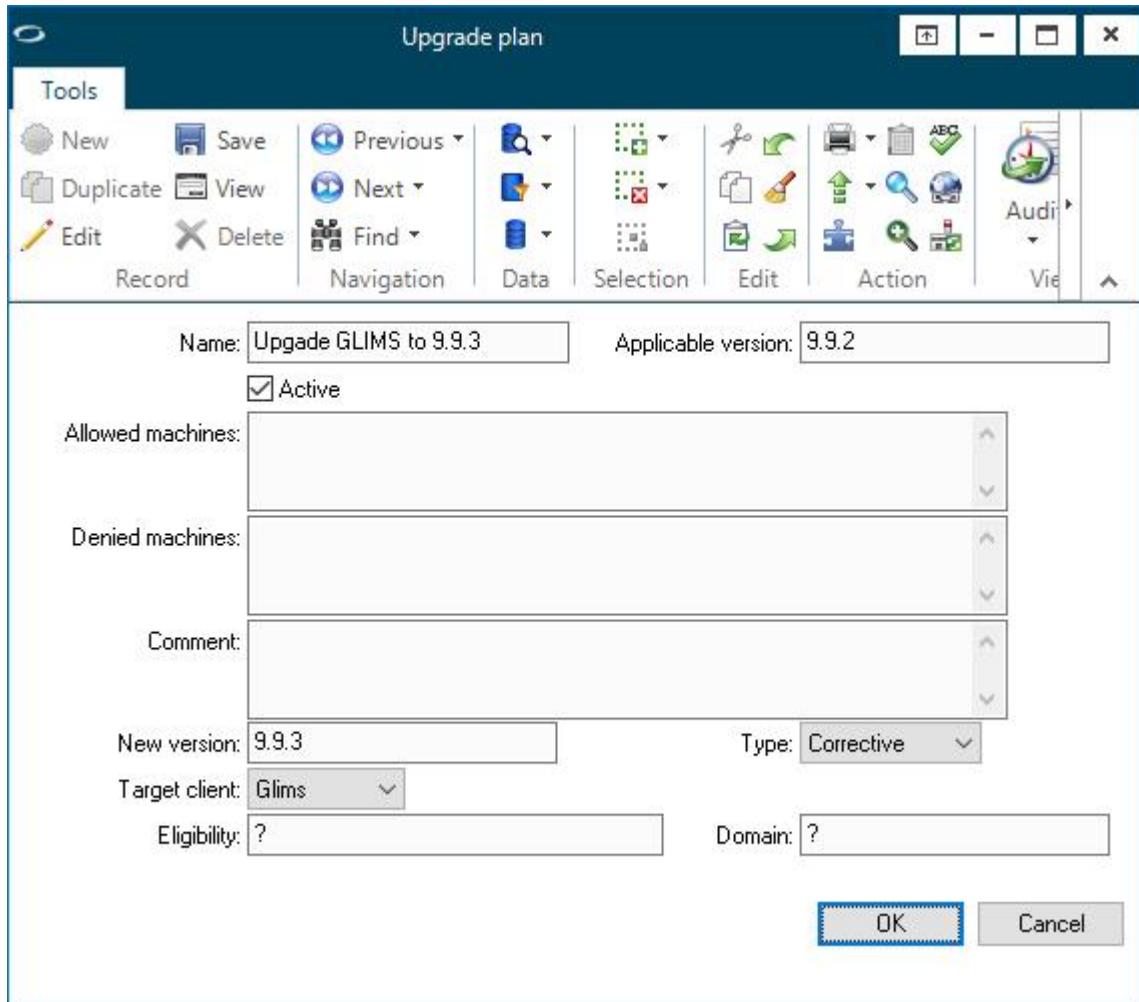
The path to the .zip file that was downloaded and stored in [step 1](#). GLIMS checks the validity of the specified path.

Account to use to access the upgrade file

The domain account that has access to the upgrade file. GLIMS checks if the specified domain account has access to the specified upgrade file.

4. Activating the upgrade plan

If the upgrade plan is created successfully, the **Upgrade plans** browser will open, containing the newly created upgrade plan. Double-click on the upgrade plan to open the **Upgrade plan** editor.



Note

The **Upgrade plans** browser can also be opened by choosing **Start > System management > Auto upgrade > Upgrade plan > Upgrade plans**.

Active

Check this checkbox to activate the upgrade plan.

Allowed machines | Denied machines | Eligibility

By default, the upgrade plan applies to all registered devices (the **Registered devices** browser can be opened from the **Upgrade plan** via the contextual menu item **Show all... > Registered devices**). Narrowing down the list of allowed devices can be done in three ways:

Allowed machines

The upgrade plan will only apply to the specified devices (comma-separated list).

Denied machines

The upgrade plan will not apply to the specified devices (comma-separated list).

Eligibility

A gp_SessionDevice-based site function to filter the allowed devices.

Note

If two or more of the fields above have a value, they will be used cumulatively.

Type

Should be set to **Corrective**.

Target client

Should be set to **GLIMS**.

Domain

For future use.

5. Monitoring the progress of the upgrade process

As soon as the upgrade plan is active, the upgrade process will start. For now, users can continue to work with GLIMS on the clients.

Registered devices browser

The progress of the upgrade process can be monitored via the **Registered devices** browser which lists all devices that have ever connected to the AppServer. To open the **Registered devices** browser, go to the **Upgrade plan** and select the contextual menu item **Show all... > Registered devices**.

Note

Please note that the browser needs to be refreshed manually via F5.

The following columns provide information on the upgrade progress:

Current step status

One of **Busy**, **Success** or **Failed**. This column indicates the status of the current step the name of which is displayed in the **Current step name** column.

Current step name

Each of the devices will go through the following steps:

1. CheckRequirements
2. DownloadFiles
3. PrepareNewVersion

Last update time

The last time Red Carpet communicated with the server.

If, for all devices, the **Current step name** is **PrepareNewVersion** and the **Current step status** is **Success** or if the **Last update time** is more than **RC request interval** seconds ago, then proceed to the following step.

6. Preparing the deployment

Go to the **Upgrade plan** and select the contextual menu item **Prepare deploy begin**.

Note

If GLIMS is being used on the clients, the users will be asked to stop working and close the application. Opening GLIMS on the clients will no longer be possible.

Monitor the progress of the current upgrade step in the **Prepare deploy begin** browser that opens automatically: If, for all devices, the **Current step name** is **WaitAllClientApplicationQuit** and the **Current step status** is **Success** or if the **Last update time** is more than **RC request interval** seconds ago, then stop and upgrade the AppServer, manually upgrade GLIMS on the server, start the AppServer and proceed to the next step.

7. Switching to the new version

Go to the **Upgrade plan** and select the contextual menu item **Switch to new version**. All clients will then switch to the new GLIMS version (this can be monitored in the **Switch to new version** browser that opens automatically). If the switch is successful, the new GLIMS version will be accessible to users.

Note

If certain folders are locked by another process, the client machine will be forced to reboot.

8. Deactivating the upgrade plan

When all clients have been upgraded, deactivate the upgrade plan by unchecking the **Active** checkbox in the **Upgrade plan** editor or delete the upgrade plan.

Tip

If the [RC request interval](#) was changed manually at the beginning of the upgrade process, it can now be reset to, for instance, its default value of 3600 seconds.

9. Manually upgrading the remaining clients

Manually upgrade the clients for which the automatic upgrade failed.

Logging

Logging is available

1. on the clients in the Red Carpet installation folder
2. in GLIMS in the log type named "Auto client upgrade_<name of client>"

User interface

Order update: "Find order" window no longer displayed outside visible screen area (GLIMS-12341)

An issue was reported where the **Find Order** window of the Order update program was sometimes displayed outside the visible screen area. This happened for instance if the order entry screen was maximized or if remote desktop was used. This issue has been corrected.

Version 9.9.1

Important modification

D phenotypes: "partial" replaced by "variant" (GLIMS_BTM-01073)

This modification undoes the terminology change introduced in previous GLIMS versions. **Partial** is now called **variant** again. The short form **par** has been replaced by **var**. A future modification will introduce **partial** as an additional value for D phenotypes.

Warning

MISPL functions, export/import blood bag functions and tables referring to a blood rhesus do not rely on the word *partial* anymore. It is thus necessary to replace *partial* by *variant* in your MISPL functions.

This modification does not apply for customers in Germany. They do not need to update their MISPL functions and will keep seeing the word **Partial** in their user interfaces.

Application management

Fixed creation of unnecessary Log records (GLIMS-12083)

An issue was detected where too many **Log** records were created for the log types **GLIMS_ANLZ**, **MicrobiologyAction** and **Audit Isolation**.

This issue, which occurred since GLIMS 9.8, has been corrected.

Improved performance of PostConversionDuringRoutine task (GLIMS-12206)

A performance issue that occurred during the execution of the PostConversionDuringRoutine task has been corrected.

Anonymise the matriculation of the payment agreement record (GLIMS_ANO-00056)

When running the database anonymizer tool, the **Matriculation** of the **Payment agreement** will now be anonymized as well.

Belgian and German matriculations are randomized taking into account the required length and checksum calculation. All other matriculations will be composed of 16 random digits.

Export configuration data for CyberLab: export Consumption of Property output (GLIMS_CBL-00103)

An issue was detected where the tool to synchronize GLIMS configuration data with CyberLab exported the **Maximal size** of a Material (the maximal filling for a specimen container) instead of the **Consumption** of the Property output (the volume that is required to perform the test) when exporting request codes for CyberLab version v9.11 or higher.

This issue has been corrected.

Do not disable a scheduled task that ended abruptly (MATE-06418)

Since GLIMS 9, if a task executed by a task scheduler ended abruptly, it was disabled to prevent it from abruptly ending again. However, this behaviour is not desired. Therefore, the GLIMS 8 behaviour has been restored: the task is now no longer disabled. Instead, its **Next run** field is set to "?".

If it crashes again, the task will no longer be executed.

If it is successfully completed, the **Next run** time will be recalculated and the task will continue to be executed as scheduled.

Billing

Financial export in "HPRIM XML" format supports non numeric nomenclature codes (BILX_HPRIMXML-00055)

The export of financial data in the **HPRIM XML** format (1.07 and 2.00) via the `FinancialShipment.Send` function now supports non numeric nomenclature codes as well.

If the nomenclature code is

- non numeric and it is linked to a price code = B,
- linked to a price code = BHN or PHN,
- **Outside nomenclature** (set in the billing code's **Reimbursement class**) and linked to a price code = B,

then the nomenclature code is now exported as follows:

```
<bhnPhns>
  <bhnPhn>
    <code>XXX</code>
  </bhnPhn>
</bhnPhns>
```

If the nomenclature code is numeric and it is linked to a price code = B, it is exported as follows:

```
<NABMs>
  <code>134</code>
</NABMs>
```

Financial export in "HPRIM XML" format: fix <montantTotal> element (BILX_HPRIMXML-00059)

This modification applies to the **HPRIM XML** export format of the `FinancialShipment.Send` function. Since **BILX_HPRIMXML-00043**, the validation of the exported file failed because of the incorrect processing of the `<montantTotal>` element (which is only exported for price codes ending in `_Z`).

This issue has been corrected: the `<montantTotal>` element is now exported with the parent element `<montant>`. For instance:

```
<montant><montantTotal>xxx</montantTotal></montant>
```

Synchronize Correspondent.BankAccount with the IBAN of the correspondent's main bank account (GLIMS-12028)

Since GLIMS 9.6, the **Bank account** field is no longer available on Correspondent level (it was replaced with a reference to a separate table). However, the old **Correspondent** field **BankAccount** can still be accessed via MISPL. This hidden field is now synchronized with the **IBAN** of the **Bank account** record that is marked as the **Main account** of the **Correspondent** to avoid that it contains outdated information.

Order import: Order.Referral record available sooner (GLIMS_OI-00827)

During electronic order import (via the LDT translator), the link between the **Referral** record and the newly created **Order** is now established sooner so that it is possible to access the **Referral** record from within the **After creation or update or Order set determination** MISPL expression.

Blood transfusion

Improved performance of blood bag import via disk (GLIMS_BTM-01069)

An issue was reported where the import of blood bags via disk was slow. This issue, which occurred since GLIMS 9.6.0, has been corrected.

Communication

Result update of confirmed/validated result with same value should not result in discontinue/repeat (GLIMS-12269)

If GLIMS receives a message that updates the result value of a confirmed or validated result - for instance during lab-lab communication - and the result value in the message is identical to that of the result in GLIMS, then a discontinue / repeat will now no longer occur.

Fix lock on electronically updated Person record (GLIMS-12276)

Since [GLIMS-11843](#), a database lock was held for a long time on a **Person** record if electronic updates were received for this record. This has been corrected.

Transmit test / order cancellation with action code "C" in O.12.1.1 of internal ASTM protocol (GLIMS_ANLZ-01164)

The work order message field O.12.1.1 (Action code) of the internal ASTM protocol can now have one of the following 3 values:

1. Q: when O.3.1.1 is referring to a QC lot.
2. C: when O.3.1.1 is referring to a specimen and the test is cancelled.
3. N: in any other case.

The ramifications of the new value "C" are noticeable in cases where the work order message is a reply to a ONEORDER query. Instead of 1 O-segment containing all the tests for a specimen (on the same station), GLIMS will now reply with 2 O-segments per specimen (for tests on the same station):

1. An O-segment containing all the cancelled tests => all tests having O.12.1.1 = C
2. An O-segment containing all the non-cancelled tests => all tests having O.12.1.1 = N

Station.UnknownSpecimenTrigger should have access to "ManualId" in ASTM O.4.1.1 (GLIMS_ANLZ-01202)

Context: Retrieving data from the result message sent by the POC analyzer

The **Unknown specimen trigger** (MISPL function) of a Station has access to data in the ASTM result message received from the station's translator. The data is (temporarily) passed as a tagged list in the Specimen.InternalComment. For more information, see Point-of-care connections.

"ManualId" in ASTM O.4.1.1

An ASTM result message can now contain a "ManualId" (i.e. a specimen ID that was manually entered on the instrument) in the field O.4.1.1 of the internal ASTM protocol, the value of which can be accessed by the **Unknown specimen trigger** via the field tag "ManualId".

Example

```

STRING SpecimenList, ManualId;

SpecimenList :=  

ExtractTag("Specimen",  

.InternalComment, "\");  

ManualId :=  

IfKnownString(ExtractTag("Manua  

lId", SpecimenList, "\"));  

...

```

Department of test in ASTM work order reply message for query specific tag "TestDepartment" (GLIMS_ANLZ-01207)

Upon reception of a query message containing the query specific tag "TestDepartment", GLIMS will now reply to this query by sending the (coding system) code of the department of the test in the field O.25.1.3.

Notes

- The coding system defined on the querying station can be used.
- In case of a ONEORDER-query with "TestDepartment": if 2 (or more) tests on the same station were found for the same specimen, but the actions of the tests are for procedures of different departments, then O.25.1.3 will not contain a department code and a warning will be logged in the service log to inform the user about the fact that a TestDepartment cannot be provided for multiple departments in combination with the ONEORDER-option.

Inconsistent specimen urgency in sequential ASTM work order replies for the same specimen (GLIMS_ANLZ-01347)

An issue was reported where the specimen urgency in the ASTM field O.6 of two work order messages sent in reply to two sequential query messages for the same specimen and the same test was not consistent. In some cases, it contained the urgency of the specimen while in other cases, it contained the urgency of the order.

Notes

1. The urgency of a specimen is deduced from the action and/or request a specimen is linked to.
2. The issue was noticed primarily within the context of microbiology (MICRO-query).

This issue has been corrected.

Fix "Mark actions by download group" functionality (GLIMS_ANLZ-01394)

Context

An action (and its result outputs) that has been sent to a station in reply to an ASTM-query is marked in GLIMS via its Download status. An action can be marked as having been sent to:

1. a station
2. a download group

Issue

The download status no longer marked that an action was sent to a download group.

Solution

This issue, which occurred since GLIMS 9.6, has been corrected.

Reduction of database workload during the execution of an ALL-query (GLIMS_ANLZ-01396)

Due to modification GLIMS_ANLZ-01364 in GLIMS 9.8.8, executing an ALL-query on a station which has a lot of open actions increased the workload of the database significantly.

This workload has been reduced by limiting the check on action locks during ASTM-query processing.

Correct LAB-1 Order Status Change notifications (GLIMS_RX-00723)

This modification implements a correction for the Lab-1 Order Status Change message as it was not processed correctly in the following scenario:

1. GLIMS receives an order with one request (with Order Placer code) and one specimen.
2. The specimen is set as **Available**.
3. A status notification LTW-event is generated which is not processed correctly as the outgoing URL does not contain any requests.

Reports are no longer scheduled prematurely for pending orders that are being activated (GLIMS-12072)

It was noticed that the reports of pending orders were being scheduled too early during the activation of the pending order as they were being created before the After activation trigger was executed. This issue has been corrected: the reports will now be created after the execution of the [After activation](#) trigger.

Pending order activation screen does not show result value of informational property (GLIMS-12202)

During pending order activation, the right-hand side of the header zone of the activation screen did not show the result value that had been specified during order entry for an informational property.

This has been corrected.

Lab archive

Correction of Storage query when Archive part is used as a query option (GLIMS_SERO-00169)

An issue was detected where - in an Oracle environment - the Storage query did not show the expected data when **Archive part** was specified as a query option. This issue, which occurred since GLIMS 9.8.1, has been corrected.

MISPL

Result-based MISPL function NumericValue() incorrectly returns "0" (GLIMS-11871)

An issue was reported where the Result-based MISPL function NumericValue() returned "0" for a result value of for instance 34E-11.

Note

Decimals can hold up to 10 digits so the MISPL function will still return "0" for a value of for instance 3456E-14 as 0.0000000003456 cannot be displayed.

Error during execution of OrderToDoItem.Close() MISPL function (GLIMS-11888)

An issue was reported where an error occurred when using the MISPL function .Close() on an Order to-do item record. This issue has been corrected.

Improved performance of Result.MicrobiologyAction MISPL function (GLIMS-11971)

The execution of the Result.MicrobiologyAction MISPL function was slow if it was executed on a result

1. that was not linked to a microbiology action and
2. the action of which had a lot of result outputs.

This has been corrected and the performance is now better.

Error if panel with material is added to an order via AddRequest (GLIMS-12097)

An issue was reported where an error occurred when saving an order if a panel containing a material had been added to it via the Order.AddRequest MISPL function.

This issue has been corrected.

Microbiology

Improved performance of microbiology action query if an Issuer group is used (GLIMS-11984)

An issue was reported where the microbiology action query was slow if an **Issuer group** had been specified in the query options. The performance has been improved.

Correction of errors occurring in microbiology work screen (GLIMS_BAC-01497)

Issues were reported where the following errors occurred in the microbiology work screen:

- No wb_Isolation record is available. (91)
- No query record is available. (4114)

These errors have been corrected.

Correction of issues with the creation and addition of carriers to microbiology actions (GLIMS_BAC-01552)

This modification corrects two issues with the creation of carriers and their addition to microbiology actions:

1. In the following scenario,
 - request of a microbiology procedure whose mnemonic was not unique (i.e. other procedures had the same mnemonic),
 - selection of a specimen on which to execute the action created for the procedure,
 - execution of the Specimen.AddCarriers() function,no carrier was added to the microbiology action.
In the same scenario but with a unique mnemonic, carriers were added to the action.
This issue has been corrected: when the procedure mnemonic is not unique, GLIMS also takes the material linked to the procedure into consideration. That way, the carriers are added to the correct action.
2. When creating a carrier for a microbiology action which had no carrier yet, the new carrier did not get any internal id.
This has been corrected.

New lines of isolation internal comments no more deleted (GLIMS_BAC-01594)

In the following scenario,

1. Create a microbiology order.
2. Add an isolation.
3. Add an internal and external comment via F6 with new lines in the comment.
4. Close the microbiology screen.
5. Reopen the microbiology screen.
6. Clear the external comment.

the new lines of the isolation internal comment were deleted.

This issue has been fixed.

Fixed comment saving when going from one microbiology action to another (GLIMS_BAC-01620)

The following issue has been corrected.

1. Choose **Start > Microbiology > Browse actions**.
2. Select a microbiology action and open the microbiology work screen.
3. In the microbiology work screen, add a comment.
4. Leave the microbiology work screen open and select another microbiology action in the microbiology action browser.
5. GLIMS asks if the added comment needs to be saved.
6. When the user confirms, the comment is saved for the microbiology action that was selected last.

Generating carriers for a specimen may create unnecessary carriers (GLIMS_BAC-01627)

If the following tool is configured and added to the contextual menu of the **MicrobiologyAction** table, then using this tool in the microbiology work screen will now no longer generate the default carriers if the status of the microbiology action is higher than **ReadValidated**.



Antibiogram property erroneously discontinued because of deleted isolation (GLIMS_BAC-01639)

An issue was reported where the antibiogram was no longer reported if three or more isolations were linked to a microbiology action (all of them pointing to the same antibiogram property) and one of them was deleted in the microbiology work screen. The antibiogram property had been erroneously discontinued.

This issue, which occurred since GLIMS 9.8, has been corrected.

Miscellaneous

Correction of Filter field in some query options screens (GLIMS-12069)

An issue was reported where, in the following screens, the **Filter** field did not recognize all characters of the **Description** of the selected site function. Consequently, if - for instance - the first twenty characters of the **Description** of two or more site functions were identical, then a warning message appeared as GLIMS could not determine which site function to use.

- Invoice - query options
- Order archive - query options (via Generic statistics)
- Invoice summary - query options (based on Financial shipment)
- Invoice summary - query options
- Invoice - query options (based on Financial shipment)
- Invoice item - query options
- Financial shipment query
- Standard correspondent query (via Generic statistics)
- Block and slide statistics - Selection criteria (via Generic statistics)
- Assessment method - query options (via Generic statistics)
- Station - query options (via Generic statistics)

GLIMS now takes into account the entire **Description** of the site function when applying the filter. In addition, the following fields have been corrected as well:

- **Custom function** in **Print result** screen (accessible via the contextual menu item **Print on a Result**)
- **Filter expression** in **Order set - query options** screen.
- **QC lot externalization** and **Shift scheme** in QC Setup screen.

Prevent memory leaks during processing of order to-do items (GLIMS-12100)

This modification has been implemented to prevent memory leaks from occurring when order to-do items are processed.

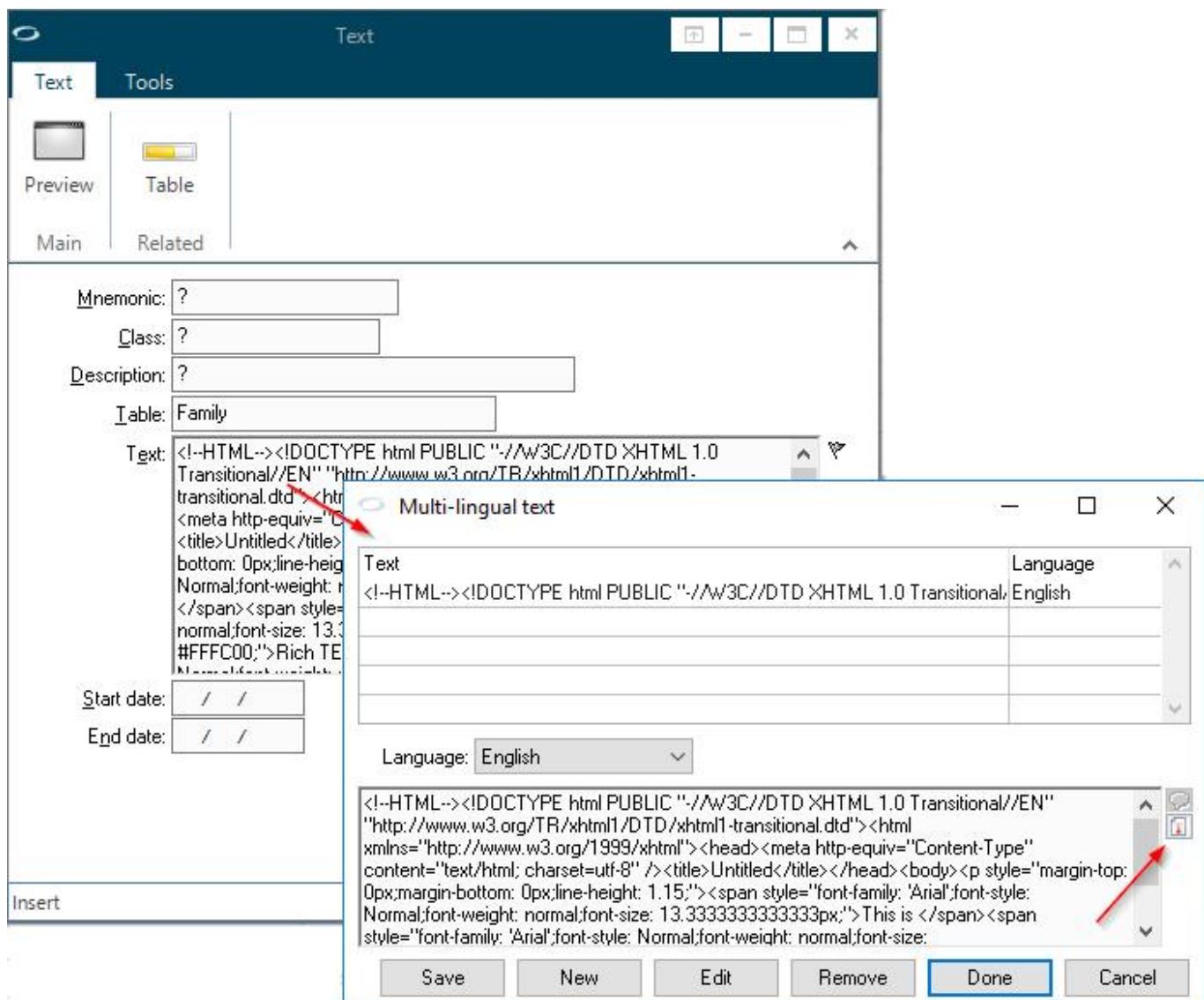
Correction of error occurring when scrolling to the end of the result preview (GLIMS-12176)

The following issue has been corrected.

1. Open an **Order** browser.
2. Select an **Order** and choose the contextual menu item **Reports**.
3. Select a **Report** and choose the contextual menu item **Result preview**.
4. Go to the bottom of the list (by scrolling down or by using the PageDown key).
5. The error "**ReEnter" was not found. (293)** occurs.

Opening the rich text editor from the multilingual text editor (MATE-06367)

The multilingual text editor that can be opened from the Text editor now allows the user to open the rich text editor if a **Table** is specified.



When clicking **OK** in the rich text editor, the HTML code - exported by the rich text editor - is copied to the multilingual text editor.

Customizing the default font size of the rich text editor (MATE-06372)

The rich text editor is used in Consult registration, Genetics and the multilingual text editor. The default font of the rich text editor is Verdana 12. However, the default font and its size can be customized as follows:

1. Define two **gp_Site**-based site attributes:
 1. Choose **Start > System management > Scheme > Tables**
 2. Select the table **gp_Site** and choose the contextual menu / ribbon item **Site attributes**
 3. Use the **Insert** key to add the following site attributes

	Site attribute 1	Site attribute 2
Name	RichTextDefaultFontName	RichTextDefaultFontSize
Data type	String	Integer
Widget	Fill-in	Fill-In

2. Choose **Start > System management > Customize > MATE > Site attribute** to fill in a value for the newly created site attributes.

Note

Make sure to specify a valid font name. The font names that are listed in the drop-down list of the rich text editor are valid font names.

Norms

Do not report a result as abnormal when its value lies within the limits of the reporting norm (GLIMS-11833)

Issue

An issue was reported where a result value was marked as abnormal (N) even though it did not exceed the reference values used for reporting.

Why did this issue occur?

The norms for automatic confirmation and validation can be stricter than the norm for reporting. The norm for reporting can, for instance, only have a high limit while the norm for automatic confirmation and validation may have a low limit as well. A result value lower than the low limit of the norm for automatic confirmation and validation is then marked as abnormal on reports and in the **Results** browser, even though the reference values used for reporting are not exceeded.

Solution

To ensure that a result is now no longer marked as abnormal if its value lies within the limits of the norm for reporting, the **Technical severity** field has been added in the **Result** editor.

- When the value of a patient result is outside the norm range, its **Technical severity** will inherit the **Severity** defined for the norm if the **Norm** option **For severity** is enabled.
- When the value of a patient result is outside the norm range, its **Norm severity** will inherit the **Severity** defined for the norm if the **Norm** option **For reporting** is enabled.

The **Technical severity** is now taken into account as well when calculating the **Result.Severity**, the latter being taken into account for automatic confirmation and validation.

Example

Configured norms

- Norm 1: For reporting, Low limit = 10, High limit = 20, Severity 1
- Norm 2: For severity, Low limit = 12, High limit = 30, Severity 5

Result values and their severities

- Result value 11: Technical severity = 5, Norm severity = 0 (norm for reporting is not violated).
- Result value 25: Technical severity = 1, Norm severity = 1.
- Result value 35: Technical severity = 5, Norm severity = 5.

Order entry

Correction of issues related to object time changes (GLIMS-10999)

The following issues related to object time changes have been corrected:

1. Impossibility to change the object time of an order by hitting the F9 key while the cursor is positioned in the object date or time field of the order entry screen.
2. Incorrect reference times for pending orders with changed encounter times.

Example

1. A patient in GLIMS has an open encounter (start date in the past, end date not specified).
2. Create for this patient and encounter a pending order with an object time in the future.
3. Close the encounter: the end date is set to a date in the past.
4. Reopen the pending order.
5. Click **OK** in the **Object time has been changed to match encounter** dialog.
6. Add a request to the order and save it.
7. Check the reference times of the requested codes: the reference time of the first requested code is still in the future (and thus different from the lowest object time).

This has been corrected: all references times will now be equal to the lowest object time.

In addition, a modification was made to ensure correct object time calculation when a request with an object date and time preceding the current date and time is added to an existing order.

Ensure backward compatibility of request form functionality (GLIMS-11569)

Issue

In GLIMS 9.8, the behaviour of the Request form during order entry was changed which resulted in backward incompatible behaviour in the following scenarios.

Scenario A

1. Request properties by ticking property or panel checkboxes.
2. Request a material by ticking a material checkbox.
 - Since GLIMS version 9.8: all previously selected items become deselected (backward incompatible).
 - **Previous expected behaviour: all selected items remain selected.**

Scenario B

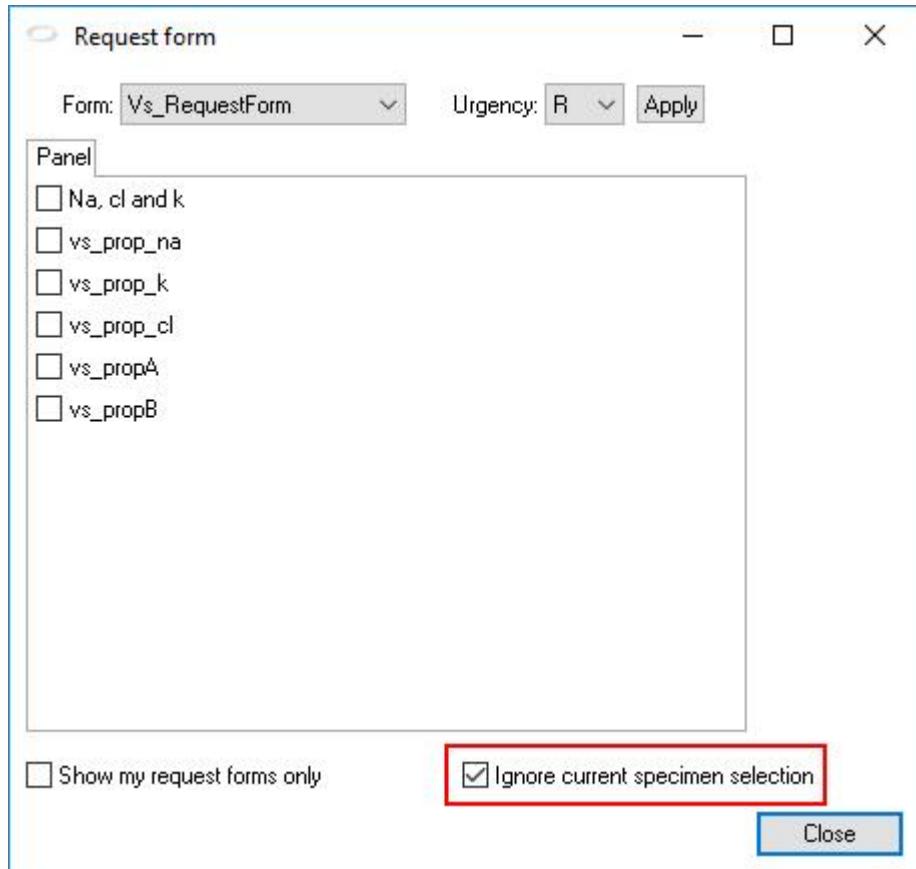
1. Request a material by ticking a material checkbox.
2. Request another material by ticking another material checkbox.
 - Since GLIMS version 9.8: the first selected material becomes deselected. (backward incompatible)
 - **Previous expected behaviour: the first material remains selected.**

Solution

Warning

This is a temporary solution which will be revised in GLIMS 9.9.3.

To allow the user to restore the **previous expected behaviour** and ensure backward compatibility, the option **Ignore current specimen selection** is now available in the Request form. When enabled, the **request form functionality** of GLIMS versions prior to GLIMS 9.8 is restored.



Enable the new option before adding any requests. Adding a request, enabling the new option and then adding or removing a request is not supported.

Incorrect sampling times for panels containing discriminators (GLIMS-11963)

The following issue has been corrected.

Configuration

Three panels are configured. Each panel has a material panel member with a relative time discriminator. For instance:

- Panel 1: Serum +00:30
- Panel 2: Serum +01:00
- Panel 3: Serum +02:00

Routine

Create an order for the configured panels (let's assume that the current time is 10:00).

Actual result

- The target sampling time of Serum is **10:30**.
- The target sampling time of Serum is **11:30**.
- The target sampling time of Serum is **13:30**.

Expected result

- The target sampling time of Serum is **10:30**.
- The target sampling time of Serum is **11:00**.
- The target sampling time of Serum is **12:00**.

Possibility to search for order issuers using their identification instead of LANR (GLIMS-12036)

Issue

Since GLIMS-10459 in 9.8.0, German laboratories with KBV were no longer able to search for order issuers on the basis of an identification.

Solution

Issuer identifier source

When the fields **Provider for LANR** and **Provider for BSNR** were filled in, the field Issuer identif. source in the order entry options was deactivated. This is not the case anymore: it remains active.

If you want to keep looking for issuers using their identification, fill in this field. If you want to use the LANR and BSNR fields, leave this field empty.

Order study

When entering an order study, if the order's patient and the site's default **PIN provider** have not been indicated,

- the **Identification** field appears instead of the LANR and BSNR fields.
- double-clicking in this field allows you to search for identifications. The selectable identifications are those provided by the study correspondent, study issuer or the study responsible.

In the Correspondent search screen the LANR identification field is still displayed.

Order verification: correction of issue with different request codes for the same property (GLIMS-12091)

The following issue, which occurred since GLIMS 9.5, has been corrected.

1. Two request codes / request definitions (A and B) exist for the same property.
2. During order entry, one request code (A) is entered as part of a panel (P1) and the other one as an explicit request (B).
3. When using the contextual menu / ribbon item Verify entry on the order and entering A, the order verification screen incorrectly displayed that differences had been found.

OMR scanning / AddRequest MISPL lead to double specimen creation (GLIMS-12104)

If the environment variable OrderEntryObjectTimeConfirmation was set to YES and in the order entry options

1. OMR scanning was active,
2. an After creation or update trigger was defined using the .AddRequest MISPL function,

and during order entry, an OMR request form was scanned with an object time different from the object time taken into account by GLIMS (that is: the object time entered in the OrderEntryObjectTimeConfirmation screen before the OMR form was scanned), then two specimens were created for the same material:

1. one for the request / object time on the request form,
2. one for the request added via MISPL (object time entered in the OrderEntryObjectTimeConfirmation screen).

This was not correct since the request added via MISPL should also have been requested with the object time on the request form so that the results of both requests can be derived from one and the same specimen (since both properties are output of the same procedure with the same input material).

This issue, which occurred since GLIMS 9.8.9, has been corrected.

Order entry options to execute action scheduling, post-scheduling and report scheduling locally or on the server (GLIMS-12125)

Introduction

Three new options are now available in the Scheduling tab of the Order entry options. They allow the user to determine for each phase of the order post-processing if it should be executed locally or on the server. A local execution is recommended if, for instance, interaction with the user is necessary via interactive MISPLs.

GLIMSRMoteCalls

The new order entry options are applied if the GLIMSRMoteCalls environment variable is set to YES. If GLIMSRMoteCalls is set to NO, then the action scheduling, post scheduling and report scheduling will be executed locally, regardless of the **Action scheduling mode**, **Postscheduling mode** and **Report scheduling mode**.

New order entry options

Action scheduling mode

This option determines how the action scheduling and the evaluation after scheduling are executed. Possible values are:

Local

Execution on the client. Use this option if interaction with the user is required in the procedure eligibility, result output or evaluation after scheduling MISPLs.

Serversync (default value)

Use this option

- when no interactive MISPLs are used and
- when the user may need to specify material variables for the implicit specimens created during action scheduling or
- when the post-scheduling or report scheduling phase will be executed locally.

Serverasync

Use this option when interaction with the user is not necessary during the entire order post-processing. This option is only possible when the post-scheduling and report scheduling phases are executed on the server as well. The entire order post-processing will then be executed asynchronously on the server while the user can continue working in GLIMS.

Note

Material variables for implicit specimens that have been created during action scheduling cannot be asked for, and the values of auto-prompt results that have been added automatically cannot be asked for.

Postscheduling mode

Local

Use this option if interaction with the user is necessary via interactive MISPLs.

Server (default value)

Execution on the server which is faster than execution on the client but interaction with the user is not possible.

Note

The post-scheduling phase consists of:

- Microbiology action post-processing (**Next station** MISPL of microbiology procedure and carrier generation)
- Genetic exam post-processing (approach plan creation)
- Order set determination
- Specimen size calculation
- Label printing
- Obtaining patient information from external systems

Report scheduling mode

Local

Use this option if interaction with the user is necessary via interactive MISPLs.

Server (default value)

Execution on the server which is faster than execution on the client but interaction with the user is not possible.

New 'Mark as Synchronized' order entry option (GLIMS-12179)

Background

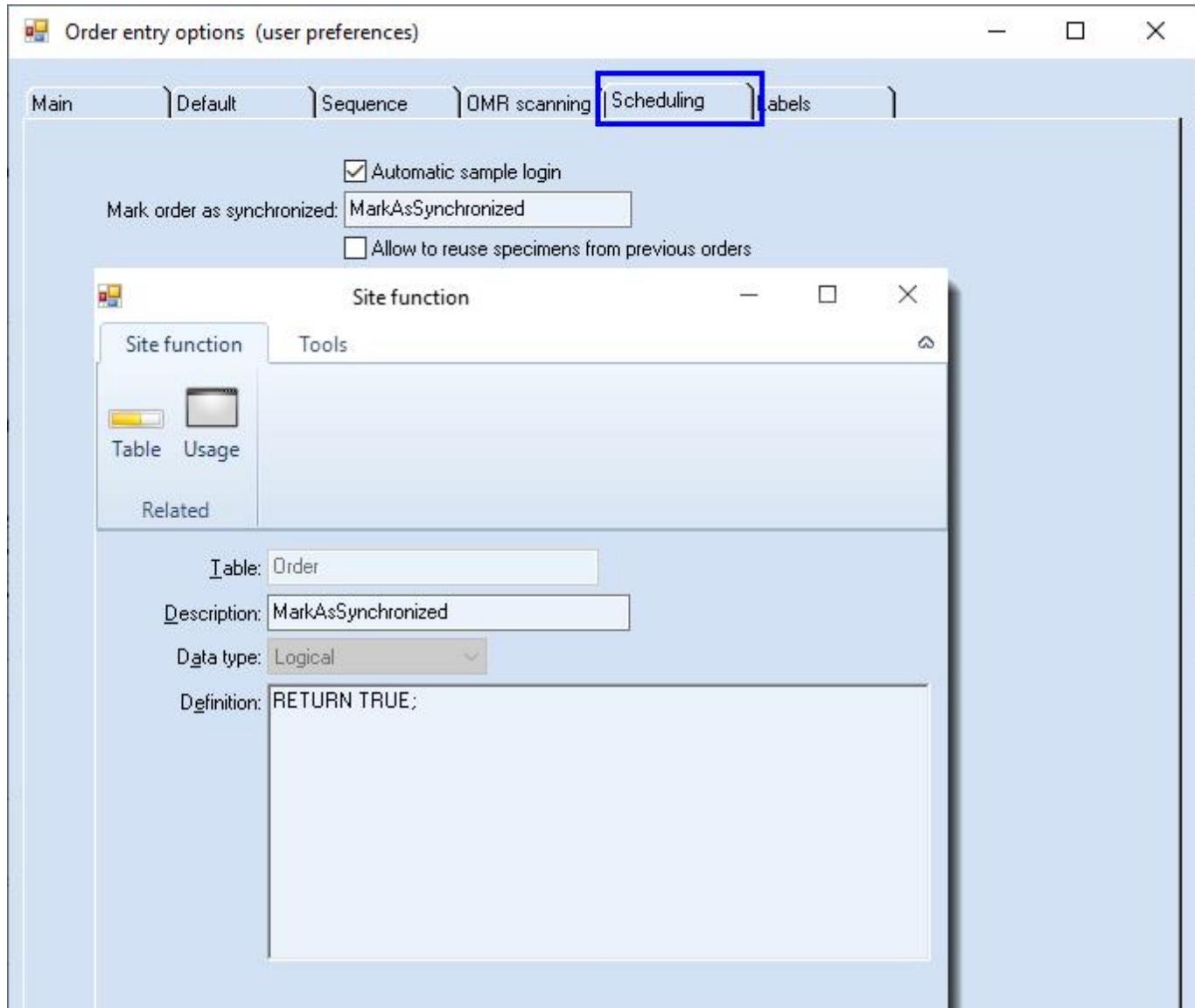
Some customers filled their orders out manually, with the **Automatic sample login** option activated. For example, a lab receives the samples together with the form for the requested tests. Upon creating the corresponding order, the necessary specimens are created and marked as available, since the samples were received together with the requests.

The sampling time on the specimens was from that moment on fixed, no more changes to the sampling time were intended. However, at that moment the **Synchronized** flag of the order still was not set. This meant that when secondary samples were received from a distributor where the **Synchronize backward / Synchronize forward** flag was active, the sampling times of these primary samples still could change.

If however the order flag **Synchronized** would already have been set, the enforced forward / backward synchronization would not take place. The order **Synchronized** flag was, however, hidden and could not be adapted by an end user.

New order entry option

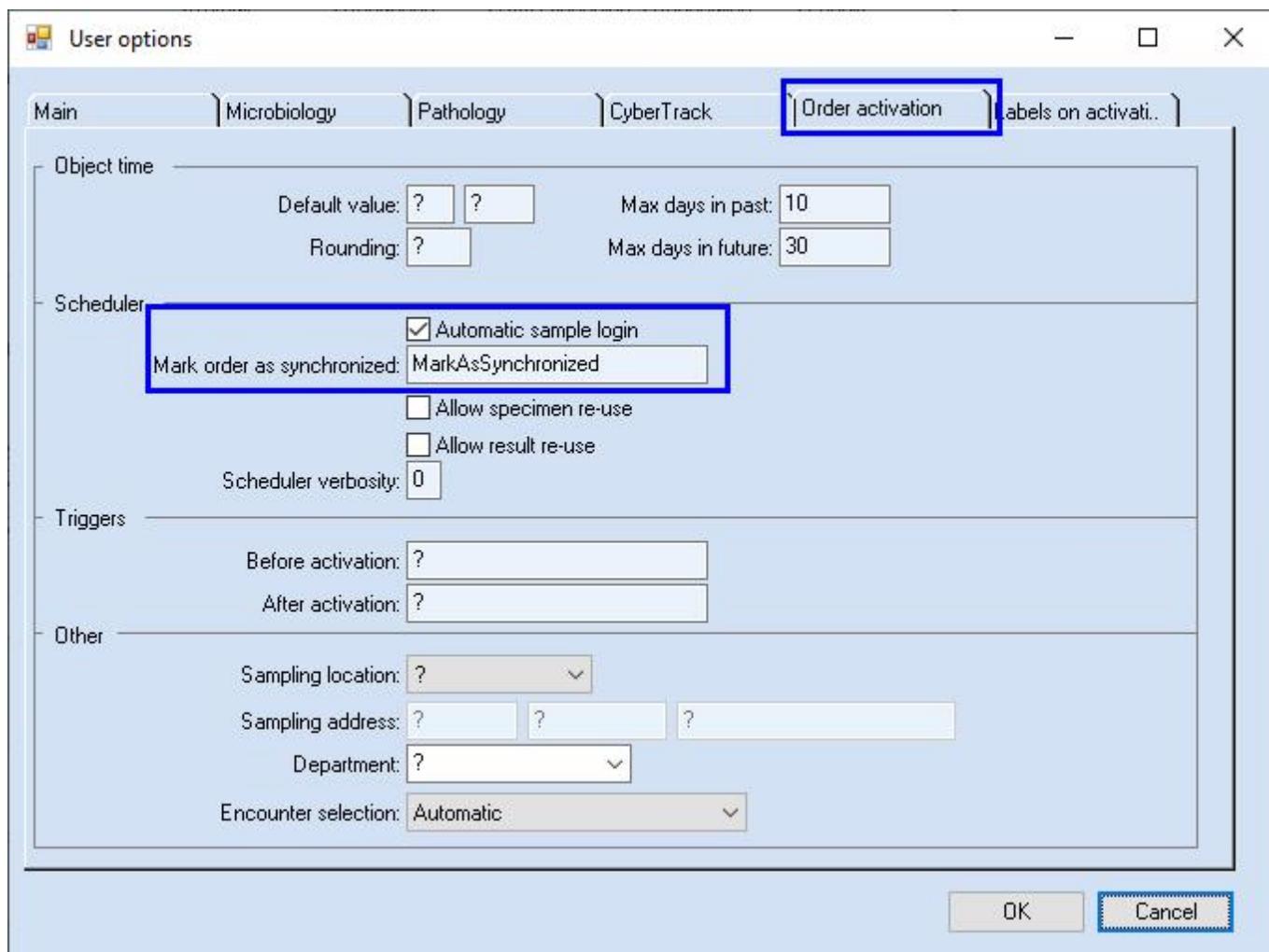
In the order entry options, the user can define an Order table site function in the **Mark as synchronized** field, which returns a Logical value. For this site function to perform, the **Automatic sample login** option needs to be active. It is available in the Scheduling tab of the Order entry options:



MISPL

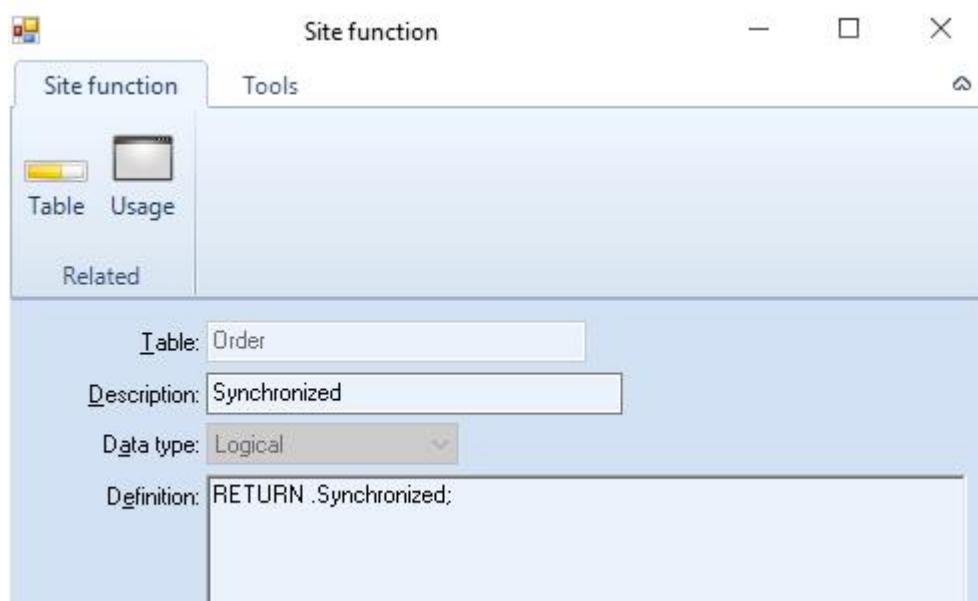
```
RETURN TRUE;
```

This functionality is also available for the Create order series function, via the User options ([Order entry](#) > button [User...](#) > [Order activation](#)):



If the Logical is True, the order will be marked as **Synchronized** upon creation. Any subsequent forward / backward synchronization will have no further influence on the order.

The **Synchronized** value of an order can be checked with the following site function on the Order table, which returns a Logical value:



MISPL

```
RETURN .Synchronized;
```

Root specimen correctly scheduled when requesting a work specimen (GLIMS-12196)

An issue was reported where the root specimen was not automatically scheduled when the user requested a subspecimen of this root specimen in the order entry. Additionally, this led to error messages concerning the specimen internal id in the order entry screen.

This issue has been fixed: if a user requests a subspecimen in the order entry, the root specimen will be scheduled accordingly.

Allow adding requests before the order lowest object time (GLIMS-12266)

The following issue has been corrected:

Configuration

- A procedure Proc1 exists with material M1 as input and property P1 as output.
 - For the procedure output of material M1, the option **Auto login** is active.
 - For the procedure output of property P1, a default value is configured.
 - For property P1, the following **On result entry** trigger is defined: RETURN .CascadeRequest("P2");
- A procedure Proc2 exists with material M2 as input and property P2 as output.
- A procedure Proc3 exists with material M3 as input and property P3 as output.

Routine

1. Request property P3 during order entry and save the order.
2. Reopen the order and request property P1 but at a time in the past (for instance: current time minus 2 hours).
3. Check the sampling time of the materials:
 1. Actual result:
 - The sampling time of material M1 is the current time - 2 hours
 - **The sampling time of material M2 is the current time**
 - The sampling time of material M3 is the current time
 2. Expected result:
 - The sampling time of material M1 is the current time - 2 hours
 - **The sampling time of material M2 is the current time - 2 hours**
 - The sampling time of material M3 is the current time

Orders

Conversion of Order-based site attribute Approved (GLIMS-11724)

Context

When an order is sent from CyberLab to GLIMS in order entry:

- If it is validated in CyberLab, the order will be marked with **Approved = Yes** in GLIMS.
- If it is not yet validated in CyberLab, the order will be marked with **Approved = No** in GLIMS.

In GLIMS, the approval status reflects the validation status from CyberLab and can be used for billing purposes.

Site attribute conversion

The Order-based site attribute **Approved** has been converted into a real database field. It is now available in the **Extra** tab of the order entry screen. Possible values:

?	Order approval mechanism not used or old order
No	Approval pending or Unapproved
Yes	Approved

When upgrading to GLIMS 9.9, the value of the site attribute will be copied into the database field.

Improved performance of specific .NET Order browsers with Department-based shielding enabled (GLIMS-11752)

The performance of the following .NET browsers is now better when department-based shielding is enabled and less than 99 departments are to be shielded. Consequently, the use of large numbers of departments in GLIMS may have a negative impact on the performance of these browsers.

- Orders by internal id
- Orders by receipt time
- Orders by short id, receipt time

Double browser entries fixed in the Order query browser (Oracle only) (GLIMS-12088)

An issue was fixed for the classic Order query browser where after filtering by property classification and using the keyboard shortcut CTRL + C, double records were displayed.

Improved performance of Orders by receipt time browser if an Internal id prefix is used (GLIMS-12094)

An issue was reported where the **Orders by receipt time** browser was very slow if an **Internal id prefix** was specified in the query options. The performance has been improved.

Error when adding an order to-do item to an order to-do list (GLIMS-12166)

The following issue has been corrected.

Configuration

- Order to-do list,
- Order-based ribbon item that is linked to a tool with the function **AddOrderTodoItems** and a function parameter set that refers to the above-mentioned order to-do list.

Routine

1. Open an **Order** browser.
2. Select an **Order** and open the **Quick report** via the contextual menu / ribbon.
3. Click on the user-defined contextual ribbon item to add an order to-do item to the order to-do list.
4. An error occurs.

Improved performance of .NET Order browsers (GLIMS-12329)

The performance of the .NET Order browsers in a Progress environment is now better.

Phone list

Avoid warning when disabling the "Phone results" option of an order (GLIMS-11965)

If an order had been created with the option **Phone results** enabled, the warning message **The phone status of property X cannot be reset if the current status is 'done'**. was shown when the user disabled the option and the order already contained results with their phone status set to **Done**. The user disabled the option because the most important results in the order had been phoned and the remaining results did not need to be phoned anymore. The warning message was shown for every result that had already been phoned.

As of now, if the scenario above occurs, the warning message will no longer be shown.

Automatically marking results with phone status set to No as To be phoned should be possible (GLIMS-12027)

The phone status of a result which had been manually set to **No** was never automatically set to **Yes** again, for instance, if the result value changed and its urgency or severity should have triggered the result to be marked as **To be phoned**.

This has been corrected: such a result can now automatically be marked as **To be phoned**.

Quality control

The Statistics section of the QC populations of a newly created QC lot should be empty (GLIMS_QC-00909)

The contextual functions Create new QC lot / Create new lot on QC lot allow the user to create a new **QC lot** from an existing one. The QC populations of the original **QC lot** are copied as well and linked to the new **QC lot**. However, the **Last QC result time** and **Statistics calculation time** of the **QC populations** of the new **QC lot** was set (copied from the original ones) while these **QC populations** did not have any results.

This has been corrected.

Error when opening the median results browser for a day median QC population (GLIMS_QC-00914)

An issue was reported where the error **Invalid character in numeric input** occurred when clicking on the contextual ribbon item **Median results** from a QC population with **Sub type** set to **Day median**.

This issue, which occurred since GLIMS 9.8, has been corrected.

Report Builder

Fix remote printing of work lists using Report Builder (GLIMS-12025)

An issue was reported where it was not possible to use the same printer for:

1. printing PDF reports via a Report Builder service that is running on a server (where the printer is configured as well),
2. printing PDF work lists via Report Builder from a client PC (where the path to the printer does not exist),

In the latter case, the error **Printer does not contain a valid Windows path** occurred because GLIMS assumed that printing would take place on the client PC and failed to validate the path to the printer.

This issue has been corrected.

Fix missing images on GLIMS Report Builder reports because of heterogeneous environment (GLIMS-12080)

An issue was reported where images did not appear on reports generated by GLIMS Report Builder because of the image path verification which failed in the following circumstances:

Configuration

- AppServer on Unix machine
- Default image location on Windows machine (the ImageServerDir variable points to the default image location)

Routine

A report containing images that are located in the default image location is generated by GLIMS Report Builder using a GLIMS Report Builder service that is running on the AppServer.

Issue

The Unix AppServer cannot validate the Windows path of the images. As a result, the report is generated without images.

This issue has been corrected.

Reports

Suppress electronic reporting of certain results via the Content MISPL of the property classification node (GLIMS_RX-00725)

Context

If some results can only be reported electronically when they have reached a given status (e.g. **Confirmed**) while other results can only be reported electronically when they have reached another status (e.g. **Validated**), then this can be achieved by means of the following configuration methods :

1. Two default reports with different property classifications and different minimal result statuses.
=> Multiple reports are sent for one single order. Results, comments, flags are never sent prematurely.
2. One default report with a single property classification and a MISPL that suppresses results with a given status.
=> One single report is sent for a single order. To suppress the reporting of results with a given status, there are two options:
 - Report condition on the **Property classification node**
=> The result is suppressed when it does not have the correct status.
 - Content MISPL on the **Property classification node**
=> The result value can be altered so that the actual result value is not communicated. However, certain information is still communicated. For instance, for a confirmed result, the value can be changed into "Follows". However, the status, external comment, severities, ... are still communicated.

Solution

If a **Content** MISPL (**Result**-based site function of data type **String**) is defined for a property classification node that refers to a property (defining this **Content** MISPL on a non-property classification node is not sufficient) and the MISPL returns the unknown value "?", then the result will not be reported : the HL7 message will look as if no result was available yet and will no longer contain the result status, external comment, severities, availability and confirmation information.

Example

```
RETURN IF .Status <= ResultStatus["Confirmed"] THEN ? ELSE .RawValue;
```

Electronic reporting: discriminator missing in OBX.4 segment (GLIMS_RX-00730)

During electronic reporting, the OBX.4 segment of the HL7 message did not contain the discriminator of a property that did not have a result value yet. This has been corrected.

Results

Set Origin field of manually entered results to Manual (GLIMS-08396)

The **Origin** field of manually entered **Results** was not set. Consequently, the rules for automatic confirmation could not be applied as necessary. This issue has been corrected.

Improved performance of result updates (GLIMS-11967)

The performance of result updates has been improved.

Specimens

Incorrect scheduling of properties added via MISPL during specimen reception scanning (GLIMS-12182)

The following issue has been corrected.

Configuration

A procedure exists with material M1 as input and property P1 as output. The **Material** has the following Creation trigger:

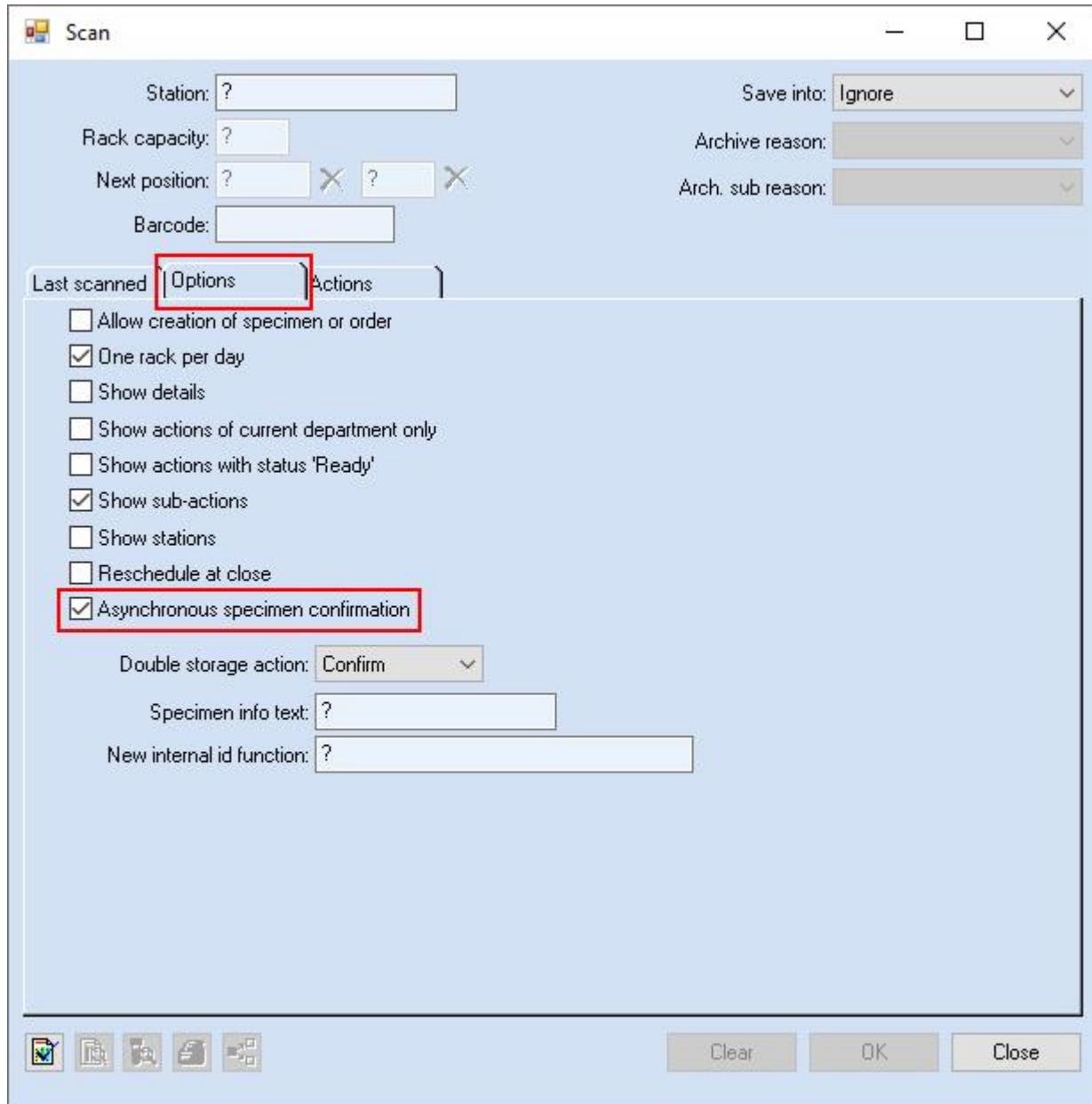
```
.AddRequest("P1", ?, ?);  
Return True;
```

Routine

When using the specimen reception scan to add a new specimen of material M1 to an order, the property added via MISPL was not scheduled correctly.

Option "Asynchronous specimen confirmation" available in specimen scan program (GLIMS-12235)

The option **Asynchronous specimen confirmation**, which is already available in the specimen reception scan program, is now also available in the specimen scan program. If enabled, the specimen confirmation (and thus the specimen rescheduling if Reschedule when specimen becomes available) is delegated to the AppServer.



Note

The **Asynchronous specimen confirmation** option only has effect when the option **Reschedule at close** is not active.

No action rescheduling if specimen of pending order is set as "Available" (GLIMS-12237)

In some cases, a specimen is set as **Available** before the activation of the pending order. If this scenario occurs and Reschedule when specimen becomes available is enabled, then action rescheduling is not performed anymore since rescheduling is only useful if scheduling has already taken place and is therefore not useful for pending orders.

Statistics

Correction for the Statistics export to Excel (MATE_MSOF-00046)

When exporting statistics to Excel, GLIMS now lets Excel decide in which format (numeric or text) the exported result values are stored in the Excel sheet. Exception: result values starting with "=", these will always be stored as textual values.

System management

Updated Progress OpenEdge parameters (MATE-06404)

The following Progress OpenEdge parameters apply:

Database startup parameters (in genrwsv(pf) and glimssv(pf))

- aibusfs 100
- bibusfs 100
- omsizze 3500

Truncate parameters (in glimsdb(pf) and genrwdb(pf))

- bi 32000
- bblocksize 16

Session startup parameters (in session(pf))

- reusableObjects 200
- D 5000

Work lists

Correction of "Confirm by action" when using a work list template (GLIMS-11432)

The following issue has been corrected:

- Two properties, X and Y, are both configured as outputs of a single procedure.
- A work list template is configured containing only property X.
- An order is created containing the properties X and Y.
- When opening the Confirm by action program and selecting this work list template, both properties were visible.
However, in GLIMS 8 only property X was visible.

The behaviour of GLIMS 8 has now been restored.

Version 9.9.0

Important modifications

A new Genetics module (GLIMS_GENX_LAB-00013)

A new module has been added to GLIMS, dedicated to the work flows of Genetics labs for human genome analyses. For more information, please consult the documentation for the Genetics module.

The Genetics module is protected by a license named Genetics Extended Laboratory (GLIMS_GENX_LAB).

This module integrates a fully functional Pedigree visualization, which is protected by the separately available license named Genetics Pedigree (GLIMS_GENP).

Order.Attribute("MaterialList") now indicates the number of specimens for a material (GLIMS-10683)

Up until now

The Order.Attribute("MaterialList") MISPL function returned a comma-separated list of the mnemonics of the materials of the specimens contained in the order. If a material was requested more than once, the number of requests was indicated: "Urine (3)" for instance.

Issue

Multiple requests can refer to the same specimen, which means that the return value could indicate a number higher than the number of specimens in the order. For instance: "Serum(2)" while there was only one specimen in the order.

It would therefore make more sense to indicate the number of specimens that the order contains for a material instead of the number of requests.

As of now

If an order contains more than one specimen for a material, the Order.Attribute("MaterialList") MISPL function now indicates the number of specimens.

Municipality merge: no error message anymore (GLIMS-10715)

An error was displayed when more than one municipality was merged with another one.

This has been corrected.

No contextual menu on the nodes of the order and specimen outlines anymore (GLIMS-10731)

To print specimen labels from the Order outline screen, it sufficed to select a specimen, right-click to open a contextual menu and then click on **Print labels** in this menu.

However, since GLIMS 9.6.0, clicking on this **Print labels** option triggered an error message. This problem has been fixed in the following way:

The context menu on the nodes in the order and specimen outlines has been removed: when you right-click on a node in these outlines, no menu appears anymore. In order to print specimen labels from these outlines, you now need to select the specimen and press F6 to open the specimen editor, in which the option **Print specimen labels** is available.

Billing mark of request definition has priority during order entry (GLIMS-10887)

Context

Since GLIMS 9.6.0 (GLIMS-07684), a billing mark can be specified when configuring a request definition.

Past functionality

If no billing mark is specified for a request during order entry, GLIMS used the **Billing mark** specified in the **Request definition** configuration.

Current functionality

The **Billing mark** specified in the **Request definition** configuration now has priority, and no longer the billing mark specified during (manual or electronic) order entry.

Example

- A **Property** "P1" is configured in GLIMS. Its **Request definition** has the **Billing mark** "U".
- Via electronic order entry, an order is created in GLIMS with a request for "P1". The message received contains the billing mark "K".
- In GLIMS, the request for "P1" is added with the billing mark "U".

Tip

Should you want to assign to a request a billing mark other than the billing mark determined by the request's request definition, use the contextual function **Apply current request attributes**.

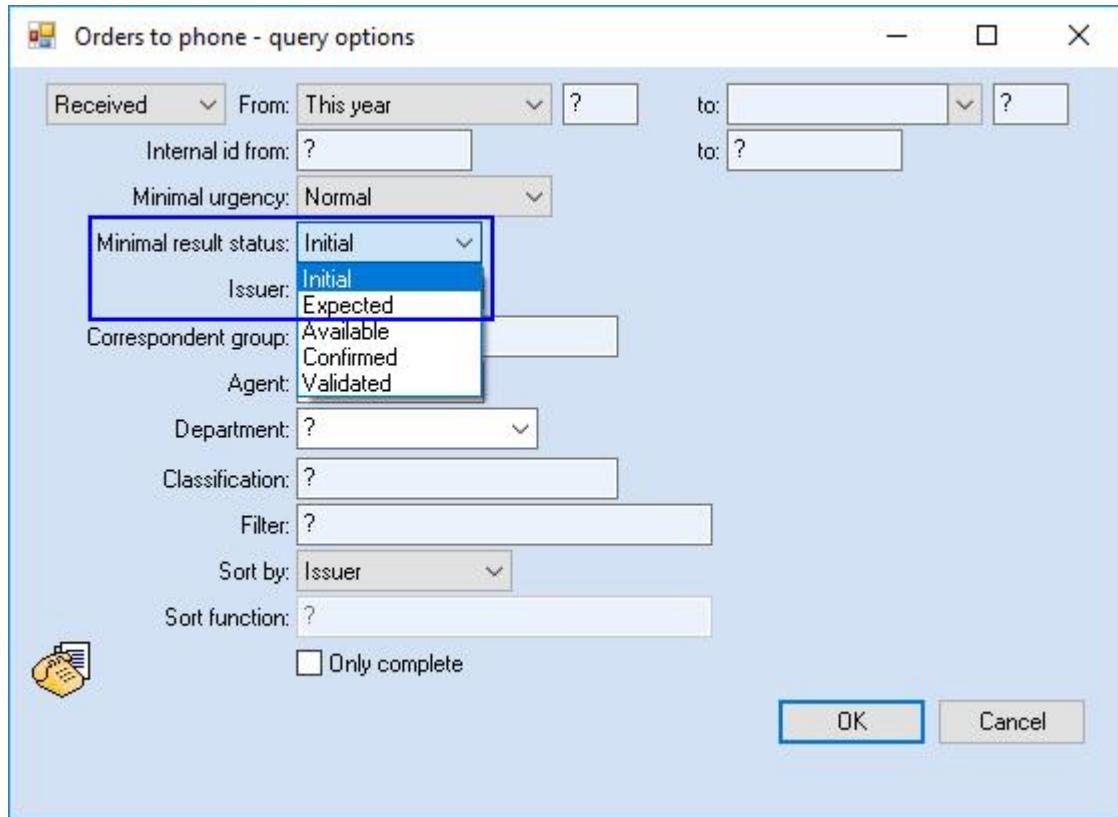
Phone list: option to include orders for which no results are available yet (GLIMS-10891)

Issue

Since GLIMS 9.8.0 (GLIMS-08095), the phone list (both in **One by one** as in **Outline** mode) takes into account the **Minimal result status** indicated in the **Orders to phone - query options** in order to decide which orders should be selected. However, as the lowest possible result status was **Available**, orders with results to be phoned for which no result value had been entered yet (nothing to be phoned yet) could no longer be selected.

Solution

The value list of the **Minimal result status** option has been extended. In order to select the orders with results to be phoned but for which no result value is available yet, **Initial** can now also be chosen.



Implicit requests, urgencies and discriminators now also displayed in the order entry request list (GLIMS-10902)

Background

The right-hand side of the order entry screen is dedicated to the insertion of requests. By default, the request list only displays the request codes that have been explicitly requested. However, if the **Detail** option above the list is activated, the members of the requested panels are also shown.

Improvement

From now on, when the **Detail** option is activated, the other implicit requests, such as material requests added by the scheduler, are also displayed. In order to easily distinguish these requests from explicit and panel member requests in the request list, their type is followed by an apostrophe. Additionally, the configured urgencies and discriminators of these implicit requests are also indicated.

Request (1):		?	10:04	02/07/2018	R	?	?	?	?	?	?
Specimen (1):		?	<input checked="" type="checkbox"/> Detail		OBM:		?				
Tp	Mnemonic	Description	Discr.	Time	Date	Urg.	Chi	Bt			
R	djh_prop2	David's 2nd Property		10:04	02/07/2018						
-S'	djh_mat2	David'd 2nd Material	+06:00	10:04	02/07/2018	U					

Note

Urgencies of explicit requests overrule configured urgencies, unless the latter are higher than the former.

Known issues

- When a request is discontinued, the implicit material request of the scheduler initially disappears but reappears if one refreshes the list (F5).
- Configured discriminators are not immediately visible during order entry. They become visible once the order has been saved.

Purge old routine data no longer deletes persons who are a report target (GLIMS-10916)

When using the Purge old routine data function, a **Person** record without orders linked to it will now no longer be deleted if it is referenced in the **Target** field of a **Report**.

Dynamic results displayed with correct object times and discriminators (GLIMS-11030)

Context

The support of Point-Of-Care connections (POC) allows GLIMS to create orders, specimens and results on the basis of result messages.

Dynamic results are results of dynamic tests, i.e. tests for the same property but executed at defined intervals.

Issue

Since GLIMS 9.6.0, all dynamic results created on the basis of POC specimens had the same object time and no time discriminator was shown. As a consequence, interpreting these results was impossible.

This issue has been solved.

No error message anymore with Order review queries (GLIMS-11162)

An error message was displayed when users

1. had one or more authorized domains,
2. added **Undefined (?)** to the **Selected domains** field in the Order review query screen,
3. clicked **OK**.

This issue has been corrected.

Incorrect lowest object time and reference time for order containing a result with absolute time discriminator (GLIMS-11206)

In the following scenario, the **Lowest object time** of the **Order** and the **Reference time** of the **Requested code** and of the **Result** linked to the **Requested code** will now also be updated.

1. Create an order and request a property with an absolute time discriminator (e.g. 18:00)
 - Order - Lowest object time = 18:00
 - Requested code / Result - Reference time = 18:00
 - Specimen - Sampling time / Result - Object time = 18:00
2. Select the related specimen and choose **Change state > Change sampling time** in the contextual menu / ribbon.
Set **New time** to e.g. today 12:00.
 - Order - Lowest object time = 12:00
 - Requested code / Result - Reference time = 12:00
 - Specimen - Sampling time / Result - Object time = 12:00

In previous versions, the **Lowest object time** of the **Order** and the **Reference time** of the **Requested code** and of the **Result** linked to the **Requested code** did not change.

Correction for missing request in GLIMS reply message (GLIMS-11344)

When GLIMS received an order message containing

- a request for a panel with, as member, a property, as well as
- an explicit request for that property,

the reply message sent by GLIMS did not contain the request for that property.

This issue has been corrected.

Link requested codes of pending orders to request definitions during activation phase (GLIMS-11668)

The requested codes of pending orders created via manual order entry will now be linked to a request definition upon activation of the pending order and no longer upon creation of the pending order since the request definition might change between the creation and activation of the pending order.

Consequently, for pending orders created via manually order entry, the Order.Attribute("RequestList") MISPL function will now return all requested codes (RequestedCode.Code) in the order. This was already the case for pending orders created via electronic order entry.

Script to correct existing pending orders

This modification ensures that new pending orders are created without a request definition reference. However, to correct existing pending orders, the following conversion script should be run manually as soon as possible after the upgrade to GLIMS 9.9 :

1. Login with a user having a role with **Minimal user type** set to **Developer**.
2. Choose **Start > Development > 4GL > Run procedure**.
3. **File name** must be **mcv98_ClearRQSCRequestableForPendingOrders**.

This script will:

1. ensure that for any pending order having a requested code (but not yet having a request) that is already linked to a request definition, the reference to the request definition is cleared.
2. create a log file (<GLIMS_TEMP>/clear_requestable_reference_in_pending_orders-<DATE>_<TIME>.log) that informs the user about the processed and skipped pending orders.

The script can be run multiple times (in case of doubt). If the number of processed orders remains 0, the script can be considered as successfully completed.

Issues with some redesigned .NET browsers if GLIMS is used on an Oracle database (GLIMS-11692)

Issue

The following issue occurred when GLIMS was used in combination with an Oracle database: fast-positioning does not always work as expected in some redesigned (.NET) browsers (due to an issue with the OpenEdge DataServer for Oracle).

Solution

For now, the classic version of the following browsers will open if GLIMS is used on an Oracle database.

- BloodbagsByExternalId
- BloodbagsByExternalIdAsBarcodeProductBarcode
- BloodbagsByInternalId
- BloodbagsByLastUpdateTime
- BloodbagsByStatusDate
- CorrespondentsByQuery
- Encounters
- EncountersByExternalId
- EncountersOfPersonByStartTime
- LotsByExternalization
- LotsByInternalId
- ObjectEssentials
- ObjectsByExternalization
- ObjectsByInternalId
- OrderIdentifiersByCreationTime

- OrderIdentifiersByIdentifier
- OrderQueryBrowser
- OrdersByInternalId
- OrdersByOrderIdentifier
- OrdersByReceiptTime
- OrdersByShortIdReceiptTime
- OrdersetsByLabel
- OrderTodoItems
- PersonsByBirthDate
- PersonsByExternalization
- PersonsByInternalId
- PersonsByKeyword
- PersonsByLastNameFirstName
- PersonsBySpouseLastName
- ReportsByNeedsCheckingScope
- SpecimenIdentificationsByCodeStartDate
- SpecimenQuery
- SpecimensByExternalId
- SpecimensByInternalId

Phone list: "Pending" / "Available" columns depend on "Minimal result status" again (GLIMS-11789)

Since GLIMS-08095, the **Pending** / **Available** columns of the phone list in **Outline** mode no longer depended on the Minimal result status. Results with a status lower than **Available** were displayed in the **Pending** column whereas results with a status equal to or higher than **Available** were displayed in the **Available** column.

This has been corrected. The **Minimal result status** will now be taken into account again to decide in which column a result will appear: results below the **Minimal result status** will be displayed in the **Pending** column, while the others will be displayed in the **Available** column.

Correction of alignment of result images in Results of order overview (GLIMS-11931)

Issue

An issue was reported where non-square result images were not aligned properly if multiple of them were displayed in the pop-up window of the Results of order browser.

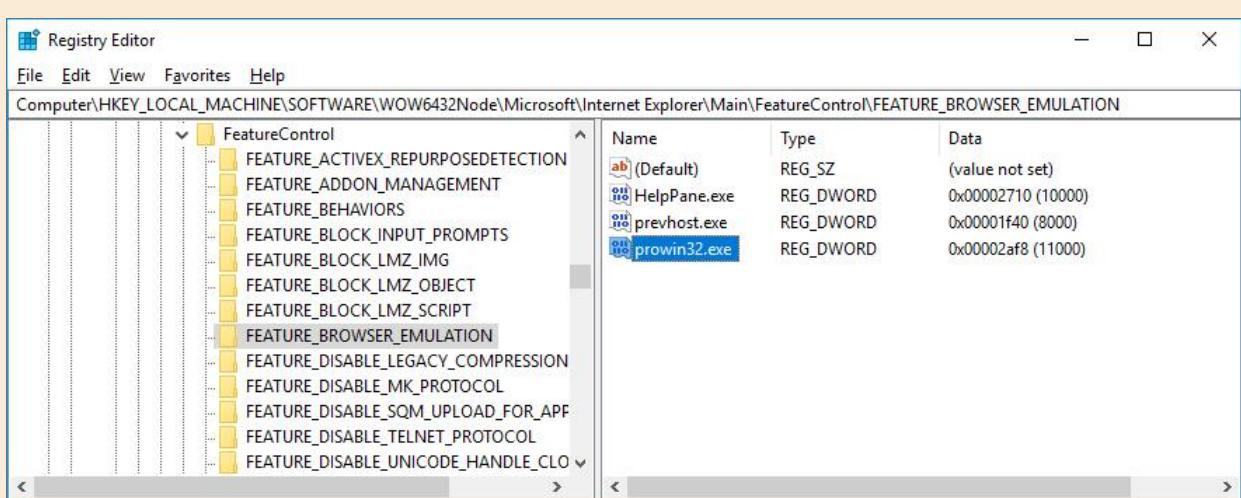
Solution

This issue has been corrected.

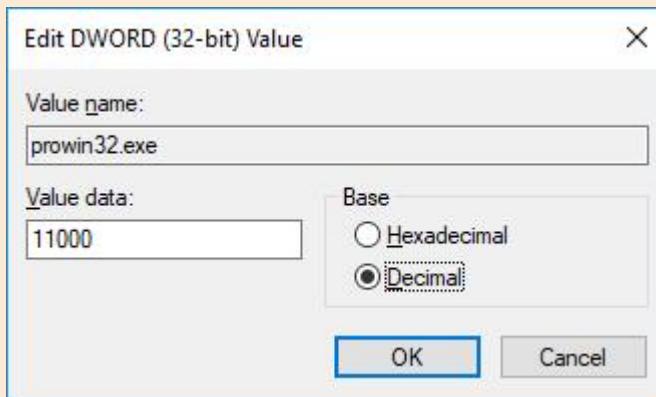
Warning

For the implemented solution to work, a registry key update is required:

`HKEY_LOCAL_MACHINE\SOFTWARE\WOW6432Node\Microsoft\Internet Explorer>Main\FeatureControl\FEATURE_BROWSER_EMULATION\prowin32.exe`



The decimal value of this key should be set to 11000.



The responsible HC provider of results must have responsibilities for these results (GLIMS-11939)

Context

For each individual result, GLIMS stores a responsible. For more information, see Result: Responsible.

Use case

Responsibilities can be defined based on property domain, property classification, department and / or lab. To these responsibilities, the responsible HC providers can be assigned. Only one of them can be used as the responsible of a result to which this responsibility applies. HC providers who validated a result but who are not assigned to the responsibility defined for this result cannot be set as the responsible of the result.

Solution

For results manually validated by a HC provider, GLIMS will now determine the responsible via the **Responsibility** and **HC provider availability** configuration. This implies that:

- If no responsibilities are defined, the HC provider having validated a result will be set as the responsible of the result.
- If responsibilities are defined, the HC provider having validated a result will be set as the responsible of the result if the HC provider is assigned as responsible HC provider to the responsibility that applies to the result.

Tip

It is possible to guarantee that a result responsible is always found by defining a default responsibility. This is a responsibility with no criteria specified and with a responsible HC provider linked to it who is always available. The default responsibility should have the highest sequence number of all responsibilities.

Length restriction for Order.ShortId upon order creation via analyzer communication (GLIMS_ANLZ-01323)

In case of order creation

- via analyzer communication or

Example

GLIMS receives a message containing an Order.ShortId that should be used for order creation because of the **Unknown specimen trigger** of the **Station** that uses the CreateSpecimenOrder MISPL function and the Order-.ShortId from the incoming message.

- via the specimen reception scan program,

the length of the provided Order.ShortId will now be checked, both in Progress and Oracle environments. If it exceeds 15 characters, it will not be accepted anymore. If this occurs, the service log will now mention the rejected Order.ShortId.

Reduce number of test availability messages sent to the GLP system (GLIMS_ANLZ-01337)

Introduction

GLIMS can communicate with GLP-Systems. Whenever an analyzer is unavailable or cannot execute particular tests, GLIMS can immediately inform the GLP system to avoid that tubes are still transported to that analyzer.

GLIMS can therefore assign a **LAS status (Connected / Disconnected)** to either an entire station or to a specific assessment method.

Past functionality

When the **LAS status** of a station changes from **Disconnected** to **Connected**, the following messages were sent to inform the GLP system:

1. a message informing the GLP system about the station's availability,
2. a message for each assessment method of that station informing the GLP system about the assessment method's LAS status.

This functionality was introduced via GLIMS_ANLZ-01145 and was required to prevent the GLP system from assuming erroneously that all assessment methods of that station are **Connected**.

Issues

The number of messages sent to the GLP system when a station's **LAS status** is set to **Connected** needs to be reduced.

1. The GLP system has difficulties coping with the amount of messages received while some are unnecessary (e.g. sending a message about an assessment method being available after having sent a message indicating that the assessment method's station is available is unnecessary as the GLP system already assumes that the assessment method is available since its station is).
2. The GLP system should not be informed about the LAS status of assessment methods which are disabled in GLIMS (as they might not be known to the GLP system).

Present functionality

Now, when the **LAS status** of a station is set to **Connected**, GLIMS will send the following messages to inform the GLP system:

1. a message informing about the station's availability,
2. a message for each assessment method of that station which is
 1. NOT disabled (LIS status)
 2. Disconnected (LAS status)

to inform about the assessment method's unavailability.

Backward compatibility

GLIMS now behaves differently as the LIS status of an assessment method is now taken into account to inform the GLP system about the assessment method's LAS status.

Warning

Be aware that manually changing the LIS status of an assessment method to Disabled, while its LAS status is still Connected, can cause issues as the GLP system might not be aware that the assessment method should not be used anymore. In order to avoid this, make sure to first set the assessment method's LAS status to Disconnected (so that a disconnect message is sent to the GLP system) before disabling the assessment method in GLIMS.

Supplements for HC providers without a standardized pricing structure in Belgian private laboratories (GLIMS_BILL-03578)

Context

GLIMS has been adapted in order to comply with the Belgian regulations on the invoicing of supplements. These regulations stipulate that supplements can only be invoiced by the laboratory if the clinical biologist does not apply standardized prices (is "niet-geconventioneerd"). Moreover, the patient should be aware of the fact that the clinical biologist does not apply standardized prices.

Indicate whether or not a HC provider applies standardized prices (is "geconventioneerd" / "niet-geconventioneerd")

In the HC provider configuration screen

A site attribute needs to be added to the **HCProvider** table.

- **Name:** _CostStandardized (which means "geconventioneerd")
- **Data type:** Logical
- **Widget:** Fill-in

Purpose

The value of this site attribute:

- is taken into account when searching for the [billing item's executor](#).
- can be used in the [MISPL expression for supplement calculation](#) to decide whether or not a supplement should be charged.
- is exported during the monthly [export of the RIZIV file](#).

Note

In case "deels geconventioneerd" is required in addition to "geconventioneerd" and "niet-geconventioneerd", the site attribute can be configured with "Data type" = "Enumerated" and "Value list" = "Geconventioneerd,Niet geconventioneerd,Deels geconventioneerd". The third entry will then be handled in the same way as "Niet geconventioneerd" (except when [exported to the RIZIV](#)).

Indicate the patient's preference for a HC provider applying standardized prices ("geconventioneerd")

Scope

This information only applies if several executors, both with and without a standardized pricing structure ("geconventioneerd" / "niet-geconventioneerd") are present in the laboratory (and are available per executing class in GLIMS).

In the order entry screen

By adding a site attribute on the **Order** table, it is possible to indicate for the order whether or not a HC provider applying standardized prices should be chosen as responsible HC provider for the tariffication (i.e. executor):

- **Name:** _TakeCostStandardizedExec
- **Data type:** Enumerated
- **Widget:** Combo-box
- **Value list:** "take a cost standardized executor,take/prefer a not cost standardized executor,Both" (the values can be translated into the site's language; "cost standardized" means "geconventioneerd")

This setting has precedence over the setting in the general options (see below). If set to "?", the setting in the general options applies.

Note

It is possible to set the value of the site attribute on Order via MISPL instead of manually, e.g. if it is based on the patient or issuer being member of a correspondent group. This can be done e.g. during the "Completeness check" defined for the Policy (which has the advantage of being executed only once).

In the general options

The following site attribute can be added to the [SpecificSite](#) table:

- **Name:** _DefaultTakeCostStdExec
- **Data type:** [Enumerated](#)
- **Widget:** [Combo-box](#)
- **Value list:** "take a cost standardized executor,take/prefer a not cost standardized executor" (the values can be translated into the site's language; "cost standardized" means "geconventioneerd")

This site attribute allows to determine on site level how GLIMS should prioritize the search for an executor. If, for the preferred type of executor ("geconventioneerd" / "niet-geconventioneerd"), no matching executor is found in the Provisions table, an alternative executor can be chosen by GLIMS (with another pricing structure than the preferred one). However, this behaviour can be overruled by using the site attributes below.

In the executing class configuration screen

These site attributes, which can be added to the [ExecutingClass](#) table, allow to indicate whether or not an error should occur if the preferred type of executor is not available. An example of an executing class is "NIET_RIA".

[_StrictTakeNotCostStdExec](#)

If enabled, an error will occur during tariffication if an executor without a standardized pricing structure ("niet-geconventioneerd") was preferred but not found (i.e. only an executor with a standardized pricing structure ("geconventioneerd") is found).

- **Data type:** [Logical](#)
- **Widget:** [Toggle-box](#)

[_StrictTakeCostStdExec](#)

If disabled, no error will occur during tariffication if an executor with a standardized pricing structure ("geconventioneerd") is preferred but not found (i.e. only an executor without a standardized pricing structure ("niet-geconventioneerd") is found). However, if the alternative executor is an executor without a standardized pricing structure, this does not necessarily imply that a supplement has to be charged. This decision can be made by the MISPL expression for supplement calculation (e.g. based on the patient or issuer being member of a correspondent group).

- **Data type:** [Logical](#)
- **Widget:** [Toggle-box](#)

Determining the billing item's executor

Background

During tariffication in GLIMS, a responsible for the tariffication needs to be indicated. This is implemented via executing classes and provisions. The provision's executor is the responsible HC provider and is used to determine the billing item's executor.

Note

This only applies if the option [Validator is executor](#) is disabled in the Lab configuration screen. If [Validator is executor](#) is enabled, the result responsible will be used as executor of the billing item (instead of using the provisions).

Executor with or without standardized pricing structure

When determining the billing item's executor, the new site attributes on [HC provider](#) and on [Order](#) are taken into account.

Deciding whether or not supplements should be added and exported

Supplement calculation is done via the MISPL expression specified on Policy. In order to take into account whether or not the executor applies standardized prices in the decision to add a supplement or not, the following has been made available:

New OrderSet-based MISPL function BCIData2

The OrderSet.BCIData2() MISPL function is now available. It is similar to the existing OrderSet.BCIData() MISPL function, but has one extra parameter to filter on the billing code instances (i.e. temporary records during a tariffication session that correspond with future billing items) with or without an executor with a standardized pricing structure.

BCIData2(<ReimbClassList>, <ReimbTypeList>, <BCGroupMnemonic>, <UrgencyCodeList>, <ExecutingLabList>, <Accredited>, <Conventioned>(logical YES/NO,?), <ToCharge>, <WhatToDo>)

Note

When using the MISPL expression builder, this extra parameter needs to be added manually as the BCIData2 MISPL function is not available in the MISPL expression builder.

Tip

As supplements are only allowed for the examinations mentioned in article 24 of the nomenclature, a billing code group named "Artikel24" can be configured.

New tags

Two new tags are available which can be used in the syntax of the site function for supplement calculation.

\Supplement=nn% or \Supplement=nn.nn

Allows to add a supplement amount or percentage. Note that in the second tag, the decimal separator can depend on the session's setting.

\RelatedItems=<xxx> (where <xxx> is a ";"-separated list of nomenclature codes)

Allows to spread the supplement amount or percentage among a set of billing items (typically of the examinations with an executor without a standardized pricing structure). An invoice item with the supplement's amount will be created for the patient.

Warning

Using this tag implies that the patient's invoice items are linked to the actual nomenclature codes and triggers the export of the supplement's amount in the monthly export of the RIZIV file.

Note

- The specified related items are restricted to the billing items of the same executor and executing lab (which are typically also specified in the MISPL expression for supplement calculation via the \Executor and \ExecutingLab tags).
- The existing optional \Comment tag allows to fill the billing item's comment. This comment will be spread among all billing items matching the \RelatedItems tag.

Export to RIZIV

Based on the value of the site attribute on **HC provider**, value 1 ("geconventioneererd") or 9 ("niet-geconventioneererd") (or 2 "deeltijds geconventioneererd" if the **site attribute** is configured to support this value) is exported in record type 50, zone 35 for the billing item's executor. Supplements are exported in record type 50, zone 30. Since the detail record per billing item distinguishes the supplement from the amount paid by the insurance and the amount paid by the patient, the supplement is exported in the Supplement field. This requires the invoice items to be linked to the actual nomenclature codes of the examinations ([see above](#)).

BillingMarks site domain configuration in GLIMS adapted to support Hungarian billing rules (GLIMS_BILL-03709)

Background

The Billing marks in Hungary consist of 2 characters, but only one was displayed in the Order entry screen. This led to confusion because this resulted in several billing marks beginning with "C". The customer would like to configure billing marks with two characters.

Warning

- This modification affects sites using single character billing marks!
 - The valid BillingMarks for the order entry are restricted to the short values defined in the corresponding BillingMarks site domain.
 - The field BillingMarks.ValueList was too limited to fit all the billing marks with their proper description, this is solved in the related modification [GLIMS_BILL-03706](#).

Improved BillingMark site domain configuration

From now on, it is possible to configure the Site domain billing marks as to allow the display of request billing marks with 2 characters. The long billing mark values are displayed by double clicking on the **OBM** (Order billing mark) field in the Order entry screen.

Request (2):	?			?	11:43	25/09/2019	R	?	We	?	
Specimen (0):	?			<input checked="" type="checkbox"/> Detail			OBM: We				
Tp	Mnemonic	Description	Discr.	Time	Date	Urg.	Chr.	BM	Fl.	Select proc=gp_PopUpUI X	
R	Ca-test	Calcium for ur						We		xx	
R	Na	natrium						zz		yy	
										zz	
										ff	
										gg	
										hh	
										verlengd Weekend	
										Private	
										Igel	
										Kassen	
										kleine kassen	
										U	
										acte Gratuit	
										Pas en soins avec ALD/Accident	
										acte ne pas rembourser en AMD	
										soins particulierement exonerer	
										N	
										D	
										NoExon	
										Exon	
										<input type="button" value="OK"/>	<input type="button" value="Cancel"/>

As a consequence of this modification, the billing mark list(s) as used for PolicyClause, PanelRequestable and PanelMember need to be configured as a comma separated list. During a system upgrade to GLIMS 9.9, an automatic conversion will be provided to support compatibility. See also: [GLIMS BILL-03747](#).

Home Site domains (DynamicBrowser - SitedomainsByName) X

Name	Description	Data type
ABODeterminationStatus	ABODeterminationStatus	Enumerated
BillingMarks	BillingMarks	Enumerated
...

Site domain (ge_sdmn)

Tools

New Save Previous Next Find Record Navigation Data Selection Action View

Name: BillingMarks
Description: BillingMarks
Data type: Enumerated

List of values: xx,yy,zz,ff,gg,hh,verlengd\Weekend\Weekend,Private\P,Igel\I,Kassen\\K,kleine kassen\k,U,acte Gratuit\G,Pas en soins avec ALD/Accident

OK Cancel

Correction for missing specimen internal ids in orders (GLIMS_OI-00785)

Externally specified specimen internal ids were not assigned to the specimens in GLIMS and thus did not appear in the corresponding order anymore.

This issue has been corrected.

GLIMS 9.9 requires Progress OpenEdge 11.7.5 (MATE-05723)

GLIMS 9.9 requires Progress OpenEdge 11.7, Service pack 5.

Note

The installation files can be downloaded from the [MIPS support website](#).

Revised refreshing of browsers after a record is updated (MATE-05744)

Redesigned .NET browsers that offer a query options screen will now no longer reopen the query to refresh the data after one or more records were updated or processed by a function. A specific row refresh is now applied which is faster than reopening the query (the user no longer has to wait until the entire browser finishes refreshing) but which is not compatible with the way .NET browsers refreshed in previous versions of GLIMS:

A record in a browser is updated	Before (the query was reopened and the entire browser refreshed)	Now (the query is not reopened and only the updated row refreshes)
The record does no longer match the current query criteria	The record was no longer shown	The record is still shown
The record has changed in a way that its position in the browser would change	The position of the record changed	The record keeps its current position

Notes

Styling is also applied to the updated row (without having to refresh the entire browser).

Support for automatic add of database areas upon upgrading to GLIMS 9.9 (MATE-05941)

With the introduction of genetics and the need for LOBs (large objects like very long texts and images) in the GLIMS database, the migration procedure to v9.9 will automatically add two new LOB areas to the GLIMS database to hold these LOBs ("Template Lob Area" and "Instance Lob Area", Progress databases only).

The new database files ("extents") for these areas, consisting of a 1 Gb fixed extent and an initially empty overflow extent, will be placed in the same folder as the folder of the schema area (glims.d1).

The upgrade must be performed on the server with a running database. A migration to v9.9 from a remote client, or in single user connection will not be supported when these areas have not yet been created. (A workaround is to add these new areas before migrating: "Template Lob Area" and "Instance Lob Area", 64 blocks per cluster, 1 record per block.)

Update to Java 8 (MATE_COMHL-00469)

We now ship and use Java Runtime Edition 1.8.0_181 as replacement for Java Runtime Edition 1.7.0.

In addition, we have updated several Java libraries to more recent versions - the most notable is an update of Apache ActiveMQ from version 5.12.0 to 5.15.4

PendingOrderQuery function renamed to PendingOrderConsultation

The **PendingOrderQuery** function has been renamed to **PendingOrderConsultation**. Please note that any pre-configured menu options / ribbon items must now refer to the **PendingOrderConsultation** function in their tool configuration.

For more information on pending order consultation, see Electronic order scheduler - Consultation of pending orders.

New translations of "HC provider"

The GLIMS concept of "HC provider" typically refers to physicians. However, HC provider records are often created for correspondents who are not physicians.

With this in mind, the Dutch, German, French and Spanish translations of "HC provider" have been modified:

	Dutch	German	French	Spanish
Former translation	arts	Arzt	médecin	médico
New translation	zorgverlener	Gesundheitsdienstleister	membre du personnel de santé	proveedor de salud

Actions

"Sort by" available again in "Action - query options" (GLIMS-11599)

Context

The Action query is used when choosing:

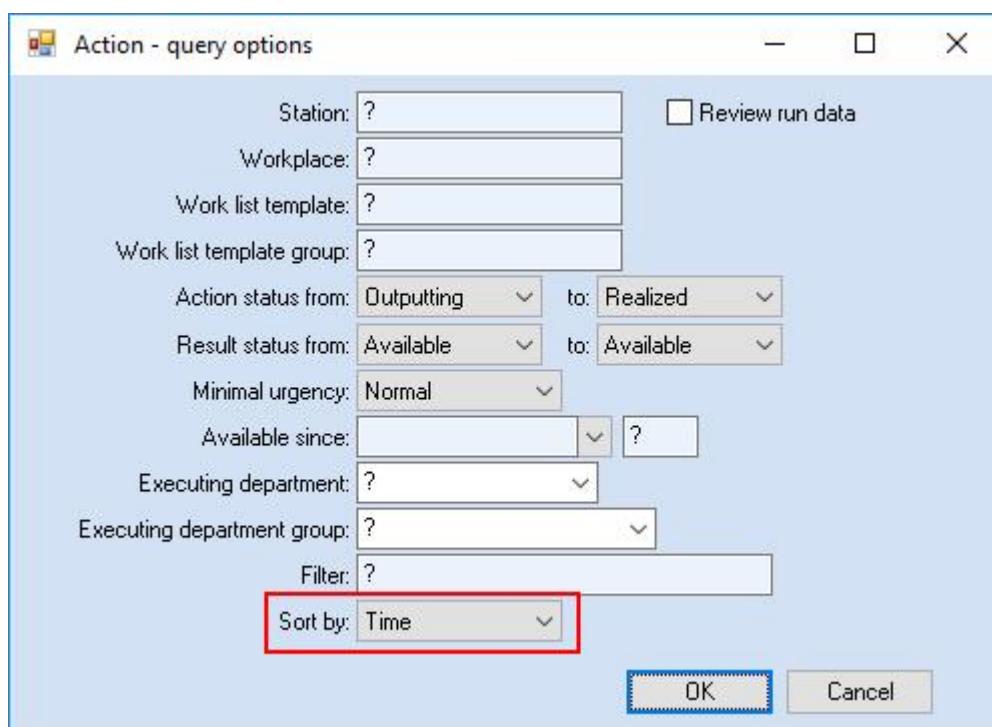
- Start > Routine > Actions > Browse actions
- Start > Routine > Actions > Confirm by action

Issue

Since the conversion of the **Action** browser to the .NET format, the **Sort by** query option of the **Action - query options** was no longer available.

Solution

This has been corrected: the **Sort by** query option is now available again.



Correction of issue with action object time and procedure data occurring when station of procedure is modified (GLIMS-11610)

In the following scenario,

1. request a procedure P linked to a station S,
2. add a request for procedure data linked to procedure P,
3. replace station S, on which the action created for procedure P should be executed, by station S',

the object time of the action was wrongly set to "00:00:00".

As a consequence, when then

4. adding results
5. confirming by action on station S',

the procedure data was not displayed in the Confirmation browser.

This issue has been corrected.

Analyzers

Allow user to decide which patient data is included in work order reply message (GLIMS_ANLZ-01348)

To allow the user to customize the content of the ASTM work order reply message with regard to the included patient data, the following options are now available in the **General** tab page of the **Work order** tab page of the Station editor.

Person last name

- None (if the analyzer does not need this information)
- Display last name
- Last name (default value)
- Legal name
- Spouse last name

Note

This field sets the value of the ASTM field P.6.1.1 (Patient last name). If **None** is chosen, then P.6.1.1 (Last name), P.6.1.2 (First name), P.6.1.3 (Middle name) and P.6.1.5 (Title) will be empty.

Person alternative name

- None (if the analyzer does not need this information)
- Display last name
- Last name
- Legal name
- Spouse last name (default value for backward compatibility)

Note

This field sets the value of the ASTM field P.7.1.1 (Patient alternative name - used to be Spouse last name).

Improved performance of Stations by mnemonic browser (GLIMS-11382)

An issue was reported where opening the **Stations by mnemonic** browser and fast-positioning to a **Station** record in the browser by typing its name was slow.

This issue, which occurred since GLIMS 9.8, has been corrected.

Application management

HC provider import program no longer empties the Fax 2 field (GLIMS-06583)

The HC provider import program is available from the main menu via **Start > System management > Database > Specific import > HCproviders**. While the program does not allow to import the Fax 2 field, it was noticed that the import caused this field to become empty (i.e. no value instead of "?" which is the standard initial value). This triggered the Fax number validity check (if defined).

This has been corrected. The **Fax 2** field will now have "?" as initial value after the import.

Extension of Inconsistency check tool to activate pending requests (GLIMS-10696)

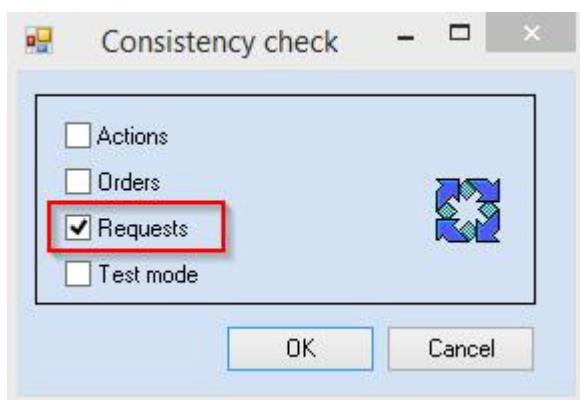
Background

Pending requests are inconsistencies and give rise to several issues. For instance, an order containing pending requests may get the status **Complete** from the order synchronizer but the order tariffication will fail.

Issue and solution

Since GLIMS 9.3, there should be no pending requests in GLIMS anymore. However, they sometimes still occur.

In order to deal with this issue, the Inconsistency check tool has been extended : the new option **Requests** allows finding and activating pending requests (in more technical terms, instance objects will be created for the pending requests).



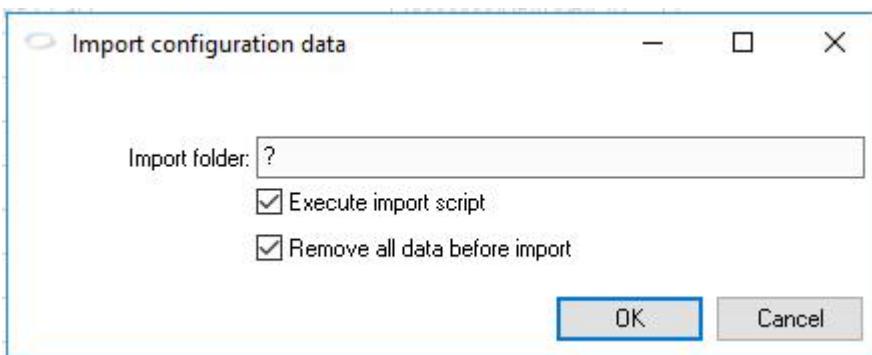
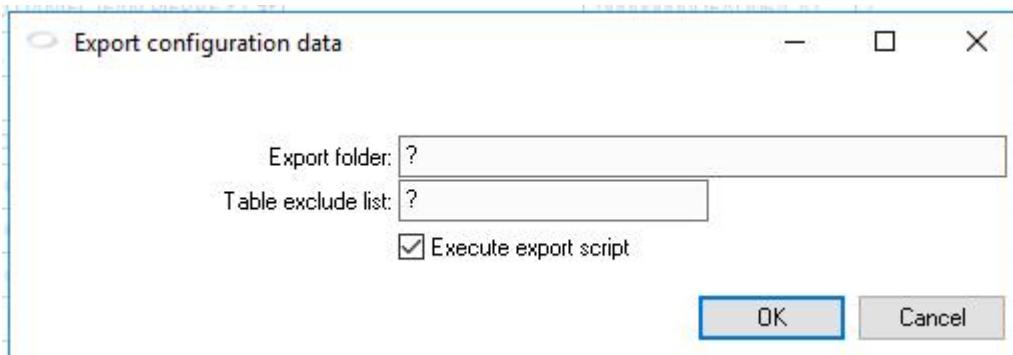
Clearer user-interface for "Export / Import configuration data" tools (GLIMS-10917)

Introduction

This modification makes the user interface of the Export-Import configuration data tools for Progress and Oracle more user-friendly.

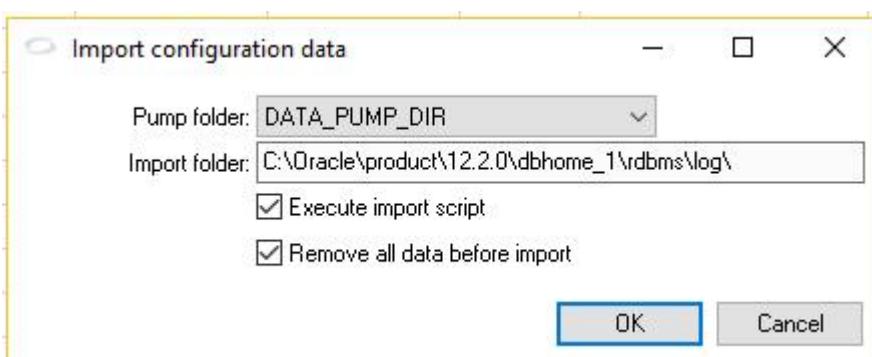
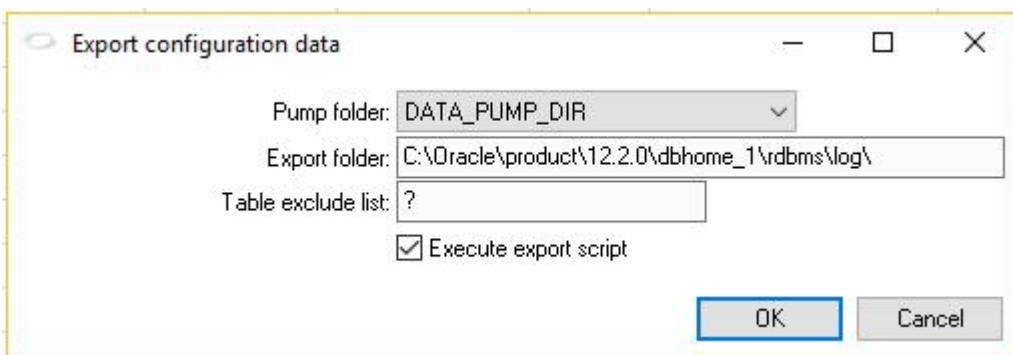
GLIMS Progress

As the **Pump folder** field was irrelevant for the Progress version of GLIMS, it has been removed from the **Export configuration data** and **Import configuration data** screens.



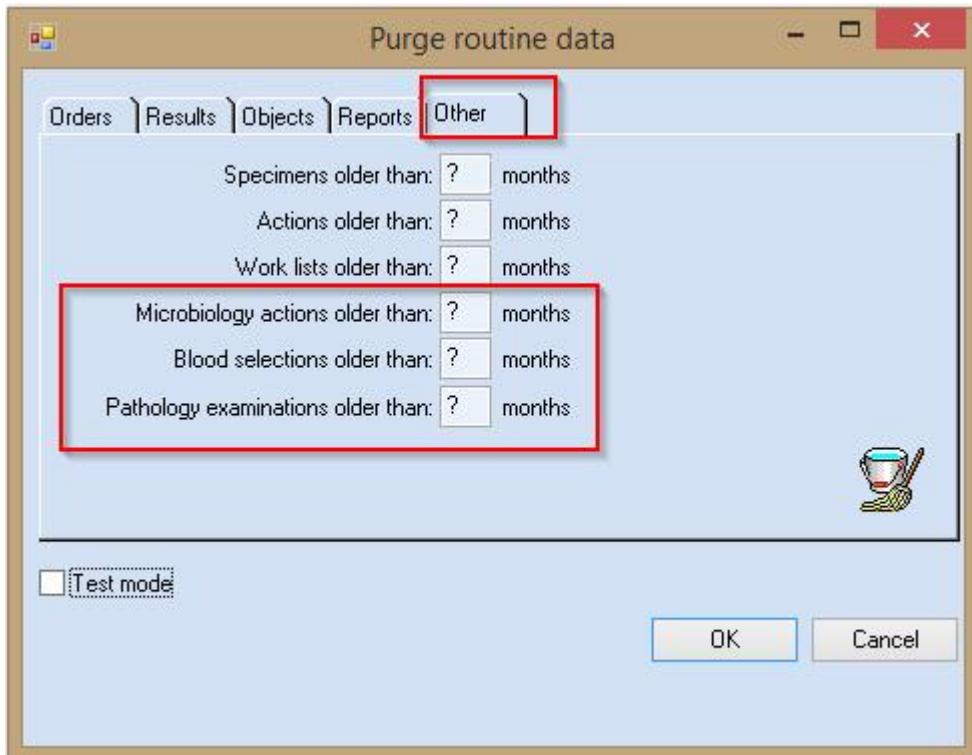
GLIMS Oracle

In GLIMS Oracle, the **Pump folder** field has been replaced by a choice list. This list is automatically populated with directory names retrieved from the Oracle database. Once a pump folder has been selected, the **Export folder / Import folder** field is automatically filled in with the matching export / import path.



Old microbiology actions, blood selections and pathology exams can now be purged (GLIMS-10940)

The tool Purge old routine data now allows deleting old microbiology actions, blood selections and pathology exams. This way, orders that contained such elements can then be purged.



Correction of issues with the "Delete all routine data" tool (GLIMS-11186)

This modification corrects some issues with the tool Delete all routine data:

1. After running this tool, the assessment methods exported directly from a station were not the same as the assessment methods exported when performing an export of all the assessment methods.
2. The data of the RouteProcedure table was deleted, though no data in this table should be deleted since it is configuration data.
3. The tool deleted the Order table data but not the OrderTodoItem table data. As a consequence, the references to the Order to-do items in the Order table were deleted but the item records remained.
4. Package, PackageItem, PackageAudit and PackageItemAudit data was not deleted.

These corrections make the tool more precise and performant.

Field replacements in MISPLs, dynamic texts and result outputs during upgrade conversion procedures (GLIMS-11218)

When upgrading to GLIMS 9.6 and higher versions, the conversion procedures did not execute the following replacements in MISPL functions, dynamic texts and result outputs:

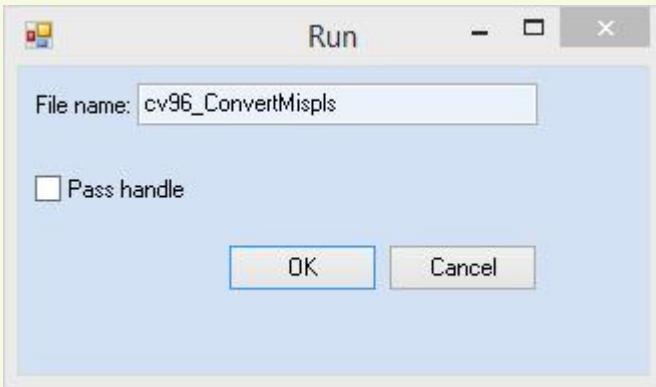
- ".Rack.Refrigerator." by ".Rack.ArchivePart."
- ".Station.DownloadGroup" by ".Station.Group.Name".

The conversion procedures have been adapted: the replacements are now automatically executed when upgrading to GLIMS 9.6 and higher versions.

Note

If you have already upgraded to GLIMS 9.6 or a higher version, you need to start the conversion procedure manually. To do so,

1. Go to **Start -> Development -> 4GL -> Run procedure** and run the master procedure cv96_ConvertMispls:



2. In the MISPLs, dynamic texts and result outputs, check that
 - .Station.Downloadgroup has been replaced by .Station.Group.Name,
 - .Rack.Refrigerator has been replaced by .Rack.ArchivePart.

"genrw" tables included in export-import of configuration data (GLIMS-11386)

When using the Export configuration data tool on Oracle databases, no dump files from genrw tables were exported.

This has been corrected: the data from genrw tables can now be exported and imported using the Export-import configuration data tools.

Site attribute values exported by Export configuration data tool (GLIMS-11428)

The tool **Export configuration data** (for Oracle and Progress) did not export the values of site attributes linked to configuration tables, such as the layout codes of the Order entry screen options.

These values are now exported.

Identifications exported by "Export configuration data" tool (GLIMS-11434)

The **Export configuration data** tool (for Progress and Oracle) did not export the **Identifications** of Correspondents (such as **Organizations**). Consequently, if the exported data were imported into another database, the correspondents did not have an identification.

The **Assigned to** and **Assigned by** identifications of **Correspondents** are now exported.

Consistency check tool : deletion of pending request with tariffing status higher than Initial (GLIMS-11462)

An issue was reported regarding the Consistency check tool. When the function to activate pending requests was used, an error was returned if a pending request had a tariffing status higher than **Initial**.

This issue could not be reproduced but the function has been improved:

- The error logging is now clearer.
- The function now also deletes pending requests having a tariffing status higher than **Initial**.

Correction of Result import program (GLIMS-11589)

An issue was reported where importing results via **Start > System management > Database > Specific import > Results** did not successfully import the result data when a coding system was specified. This has been corrected.

Export configuration data should also export tables with data space "Unspecified" (GLIMS-11672)

The **Export configuration data** tool (for Progress and Oracle) only exported tables with **Data space = Template Space**. As a result, a number of tables with **Data Space = Unspecified** were not exported, which led to missing data.

This issue, which occurred since GLIMS 9.8.0, has been corrected. The **Export configuration data** tool now also exports data of tables with **Data Space = Unspecified** in order to export the following tables as well:

- um_RibbonDescription
- um_SidebarDescription
- sc_PrivilegeDescription
- sc_PrivilegeLabel
- gp_AttachmentCategoryLabel
- um_ToolFunctionPath
- ux_StyleDescription
- gp_ServiceGroupDescription
- rp_ExternalTemplateComment

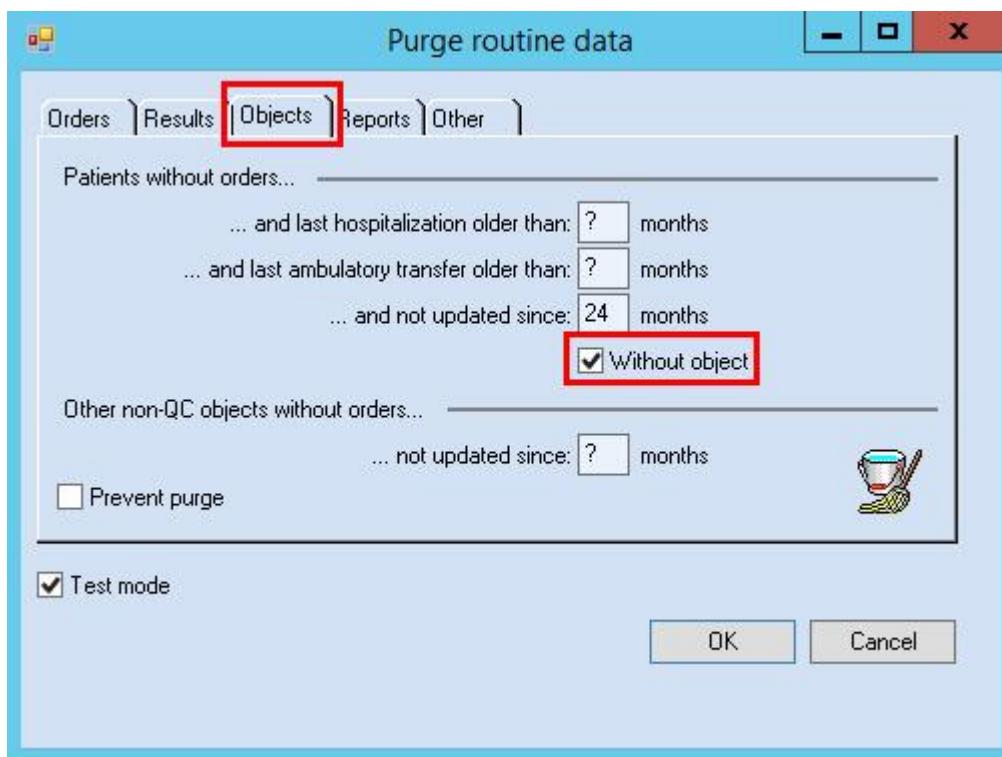
New option to purge all person records without an object (GLIMS-11708)

Context

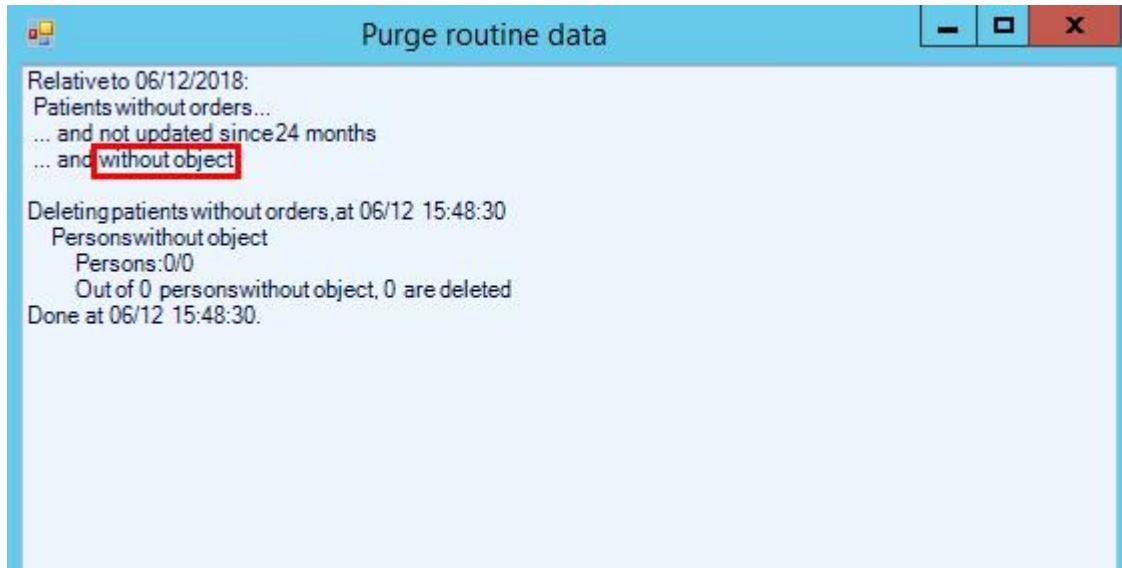
GLIMS contains a tool to purge old routine data. Some customers would like to have the option to only purge person records without an assigned object.

New functionality

The new check box **Without object** in the **Objects** tab of the **Purge routine data** tool allows the user to delete every person record without a linked object within a specific time period.



The screen logging will indicate and log the execution of the actions according to the selected configuration.



Export configuration data tool should export all identifications (GLIMS-11854)

An issue was detected where the [Export configuration data](#) tool (for Progress) did not export all the identifications that needed to be exported.

This issue has been corrected.

No more error message when a work order is exported with its payment agreements (GLIMS-11979)

Since GLIMS 9.8.8, when a work order was exported together with its payment agreements, an error message was displayed: 'Procedure word_xbo has no entry point for GetPaymentAgreementRanking'.

This issue has been fixed.

Enhancements for anonymizer tool (GLIMS_ANO-00039)

When running the database anonymizer tool, the mnemonics of materials, antibiotics, blood products,... were also anonymized (while they should not have been). The fact that these had been anonymized made it hard to use the anonymized database e.g. for training purposes.

This has been corrected.

Corrections for issues in anonymizer tool (GLIMS_ANO-00044)

The following issues have been detected and corrected regarding the anonymizer tool:

1. During the anonymization process, popup messages appeared (e.g. "Correspondent xyz already exists") which interrupted the anonymization process and required the user to click [OK](#).
2. After the anonymization process, only the sysman, batch, mips and AppServer user accounts were retained. Now, all users with the role of system manager will also be retained.
3. After the anonymization process, the mnemonics of the [HC provider](#) records contained spaces (whereas spaces are not allowed when manually entering a mnemonic).

Correction of error occurring when anonymizing an Oracle GLIMS database (GLIMS_ANO-00047)

During the anonymization of an Oracle GLIMS database, the error "ORA-01555 Snapshot too old" sometimes occurred. This was especially the case for tables that contain a lot of records, such as the [Result](#) table. This issue was solved by only processing 5.000 records at a time.

Anonymizer tool should not modify empty Comment fields (GLIMS_ANO-00049)

The anonymizer tool used to add a random string of characters to [Comment](#) fields that were initially empty (for instance the [Comment](#) field in the [Antibiotic result](#) editor). This will no longer occur: [Comment](#) fields that were initially empty will still be empty when the anonymizer tool has run.

When activating client log, propagate client log settings to AppServer context (MATE-04360)

Introduction

Diagnosing a problem becomes more complicated when AppServer is involved. If the client activated the client log, the code executed on the Appserver agents was not logged, unless the client log was activated on AppServer as well. Doing so would activate the client log for all requests from other clients, thus resulting in a slowdown for all clients, with client log files very rapidly growing/rolling over.

Client log files would also contain client logging from all clients, contained in a single file.

MATE-05942 - Option to obtain client logs without AppServer

To facilitate diagnosing problems, [MATE-05942](#) introduced an option to deactivate AppServer usage for the current session. This is useful to debug problems which also occur without using AppServer. It has the advantage that there is only 1 client log file, which contains no logging from other clients.

MATE-04360 - When activating client log, propagate client log settings to AppServer context

Some problems, however, can only be reproduced when using AppServer. To facilitate diagnosing those problems, MATE-04360 implements a propagation to AppServer, and activation upon request initiation, for client log settings, dataserver log settings, some DB access monitoring settings and profiler settings.

When the AppServer agent initiates a request, it activates client log settings from its context. When the agent has finished the request, it resets its settings to the original ones.

The result is that:

- You can activate client log on AppServer without requiring reconfiguration and restart of AppServer.
- The AppServer server log will contain only client logging from the client(s) requesting it.
- Other remote clients running without client log settings, are not impacted. Their requests remain executed on the AppServer agents without client logging (or the original settings specified for AppServer startup).

Correction for export/import of actual function parameter values (MATE-05763)

The export/import of actual function parameter values (table = bt_ActualFunctionParameter) for the function gp_Site.DoCommand() will now correctly reference the command (table = bt_Command) by its [Description](#) (and no longer by its [Id](#)).

Correction of errors occurring in user monitor (MATE-05787)

The (WAIT-FOR) errors occurring when clicking on the [Cancel](#) button of the [Site query](#) options screen of the User monitor ([Start > System management > Activity > User monitor](#)) have been corrected.

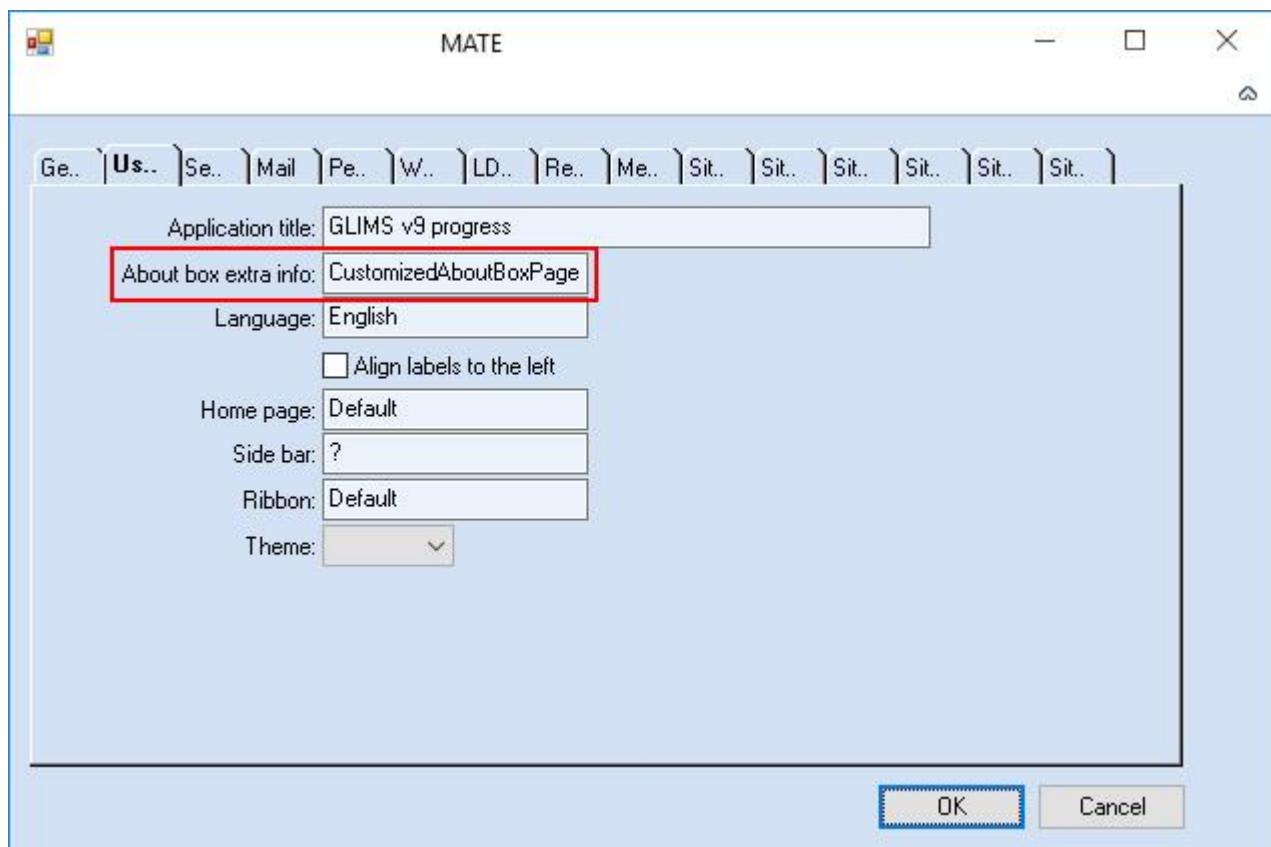
Additional, customizable tab page in About box (MATE-05928)

Introduction

GLIMS now allows to display an additional, customizable tab page **Extra info** in the About box. It will only be visible if the configuration as described below is present in GLIMS.

Configuration

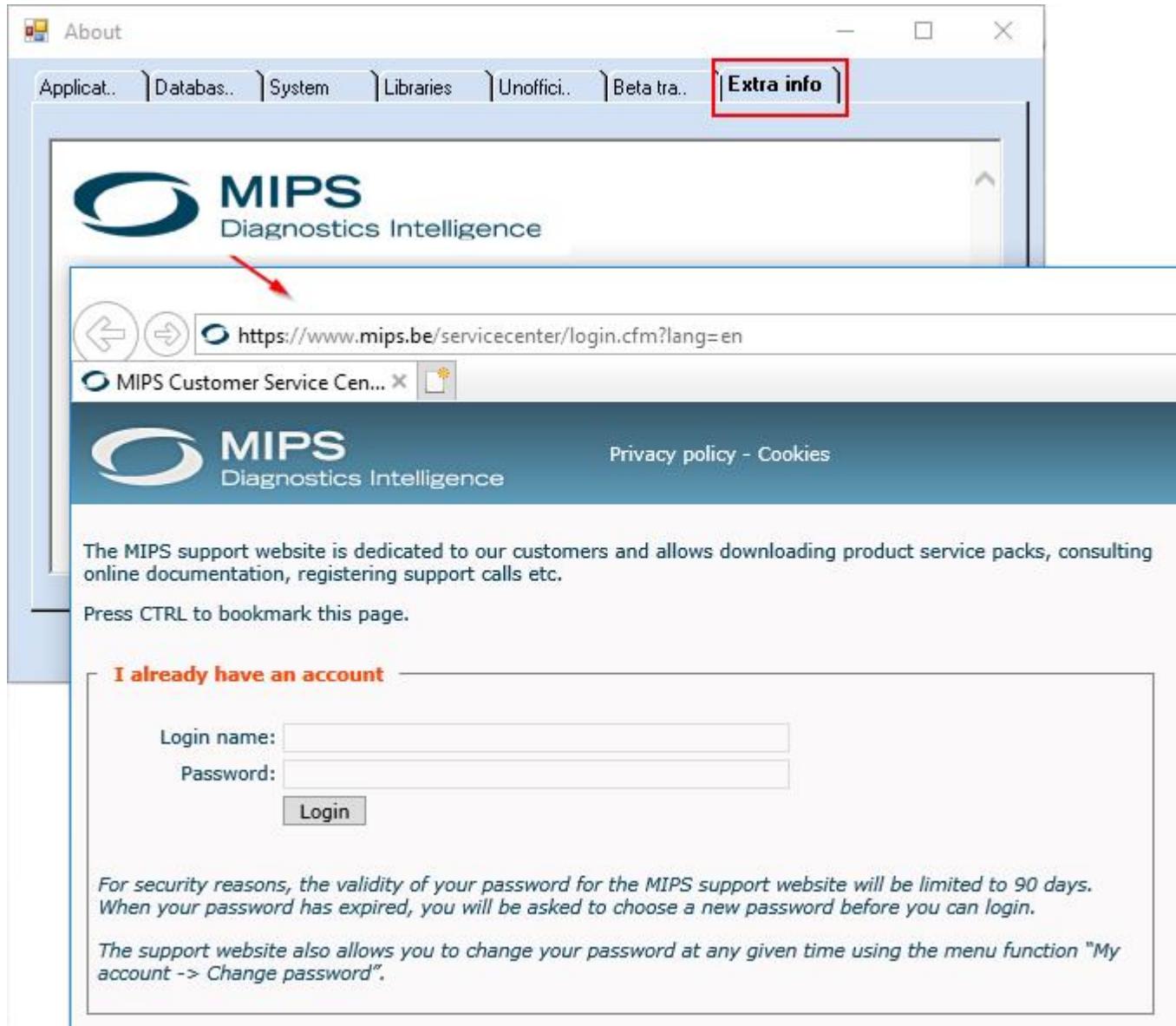
1. Choose **Start > System management > Customize > MATE**.
2. Open the **User interface** tab page.
3. Specify a dynamic text in the field **About box extra info**.



Note

The dynamic text can contain HTML for the visualization of images, tables...

Example



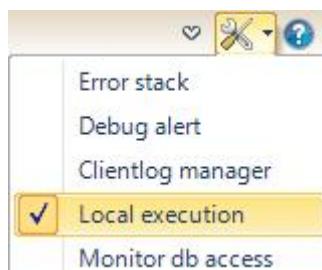
New option to obtain client logs without AppServer (MATE-05942)

In a nutshell

The analysis of certain problematic situations is easier when AppServer is not used. This modification makes it possible to suspend the usage of AppServer.

New option

In certain situations, it is necessary to review client logs collected from code that is usually executed on AppServer. However, collecting client logs from code executed on AppServer is cumbersome. A new option, **Local execution**, makes it possible to collect client logs without using AppServer. It has been added to the Expert settings menu tool:



When this option is activated, the session does not hop to AppServer anymore.

Note

When GLIMS starts, this option is inactive, even if it had been activated in the previous session.

Caching of gp_site table for faster GLIMS start (MATE-05951)

The most frequently used database tables are cached when GLIMS is loaded. The gp_site table was however not always present in the list of most frequent tables and thus not always cached. This slowed down the start of GLIMS.

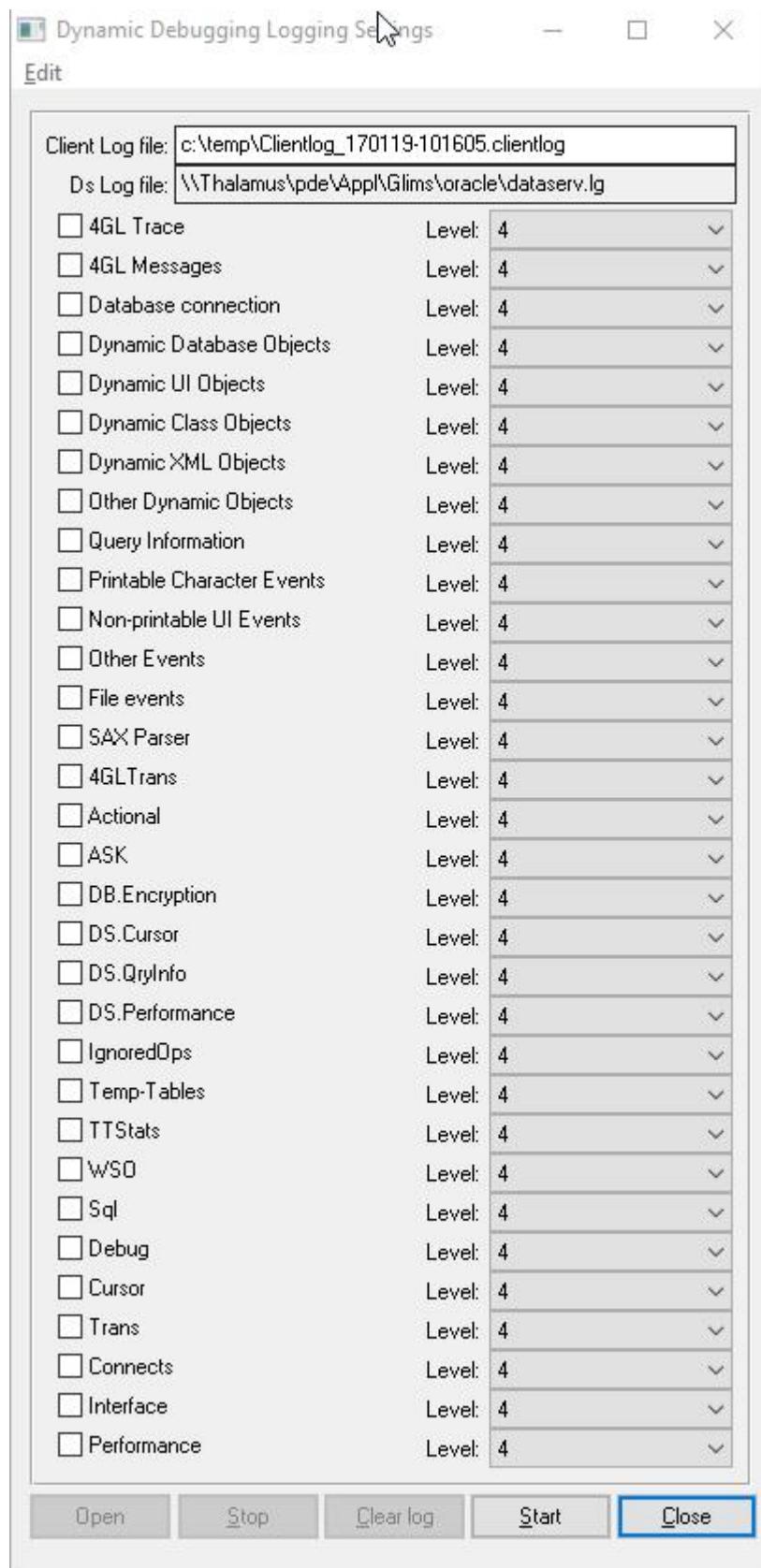
This issue has been fixed: the gp_site table is now cached before the other tables.

Extended clientlog manager functionality (MATE-06086)

The clientlog manager, which allows to activate / deactivate client logging settings from within GLIMS, has been extended with functionality to switch on / off DataServer logging settings on the fly.

In practice, it is now possible to determine from within GLIMS whether or not Oracle DataServer should log the parsed SQL, cursor usage, etc. in the dataserv.lg log file. The dataserv.lg file used by the session is also displayed. Moreover, the file name of both log files can now be copied to the clipboard.

Opening the log files can be done via the contextual menu of the [Clientlog manager](#).



Missing user name in audit log (MATE-06102)

An issue was reported where the log entries displayed by selecting **Audit > Log entries** in the contextual Tools ribbon did not contain the user name anymore. This issue, which occurred since GLIMS 9.6, has been corrected.

Improved "Run 4GL procedure" functionality (MATE-06119)

The following features have been added to the **Start > Development > 4GL > Run procedure** functionality:

- History of the last 10 procedures
- Drag & drop
- Browse for file
- Clear item from history via Shift-Delete

Warning

The "Run 4GL procedure" tool requires the user type **Developer** and is reserved for MIPS employees.

Fixed error which occurred when using the Database statistics tool (MATE-06172)

An issue was reported where the error **Value 1002 cannot be displayed using >>9. (74)** occurred when using the Database statistics tool.

This error was due to the **Usr** column not having been formatted to display more than 3 characters, which can be an issue in large sites with a lot of concurrent users.

This has been corrected: the width of the **Usr** column has been increased.

Prevent the import of the gp_DbVersion table into another database (MATE-06281)

Exporting and importing the gp_DbVersion table can lead to inconsistencies in the target database. This modification therefore makes it impossible for end-users to export-import this table.

Employee and department context remains set after reconnection to AppServer (MATE-06337)

After disconnecting and reconnecting the AppServer, the current employee and department context was not set anymore on the AppServer. This lead to several issues such as wrong order scheduling.

This has been corrected.

Less errors when compiling large MISPL functions (MATE_MISPL-00112)

When large MISPL functions were compiled, the MISPL compiler sometimes encountered a parser stack overflow. In that case, no informative message was provided to the user.

This modification solves these two issues:

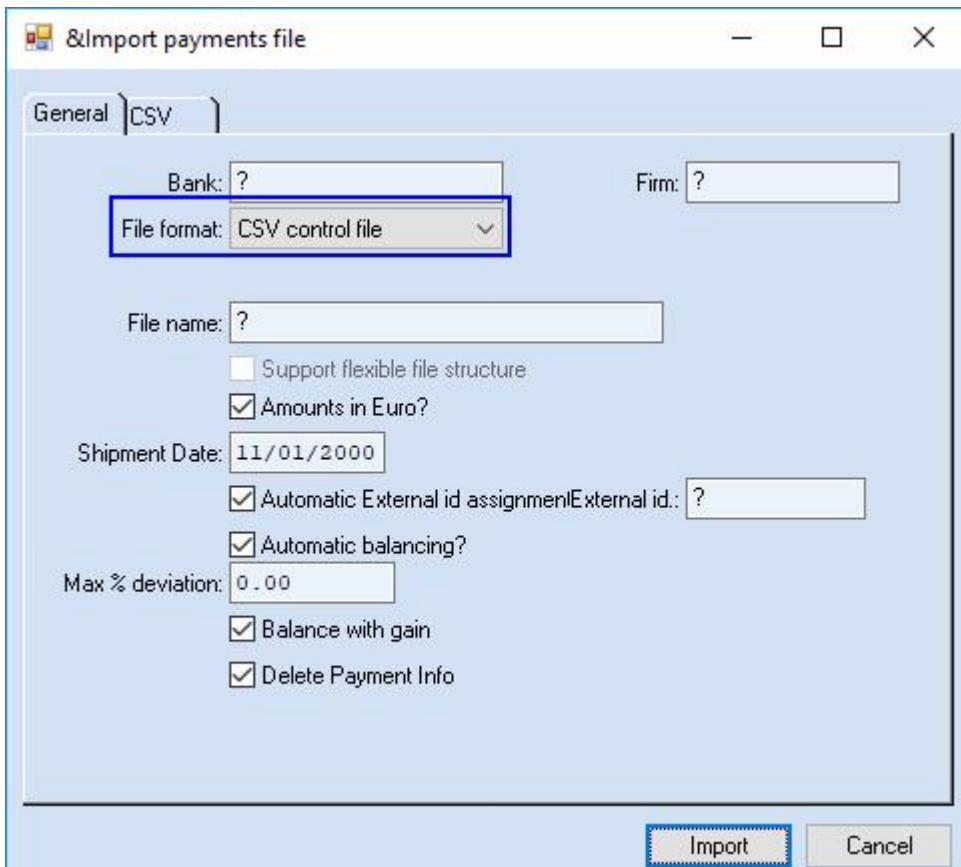
- The size of the stack has been increased in order to reduce the occurrences of parser stack overflows.
- When a stack overflow occurs, the message "MISPL parser stack overflow" is displayed.

Billing

Payment import in "CSV control" format (BILXPI_CS-00002)

New payment import format

GLIMS now supports importing payments in the **CSV control** (Steuerdatei) format.



Note

Specifying the **Bank** and **Firm** is optional. If specified, they will only be used if no bank or firm could be derived from the bank account.

Warning

The payment import in the **CSV control** format can only be executed on a Windows machine!

Mapping

Content of the import file

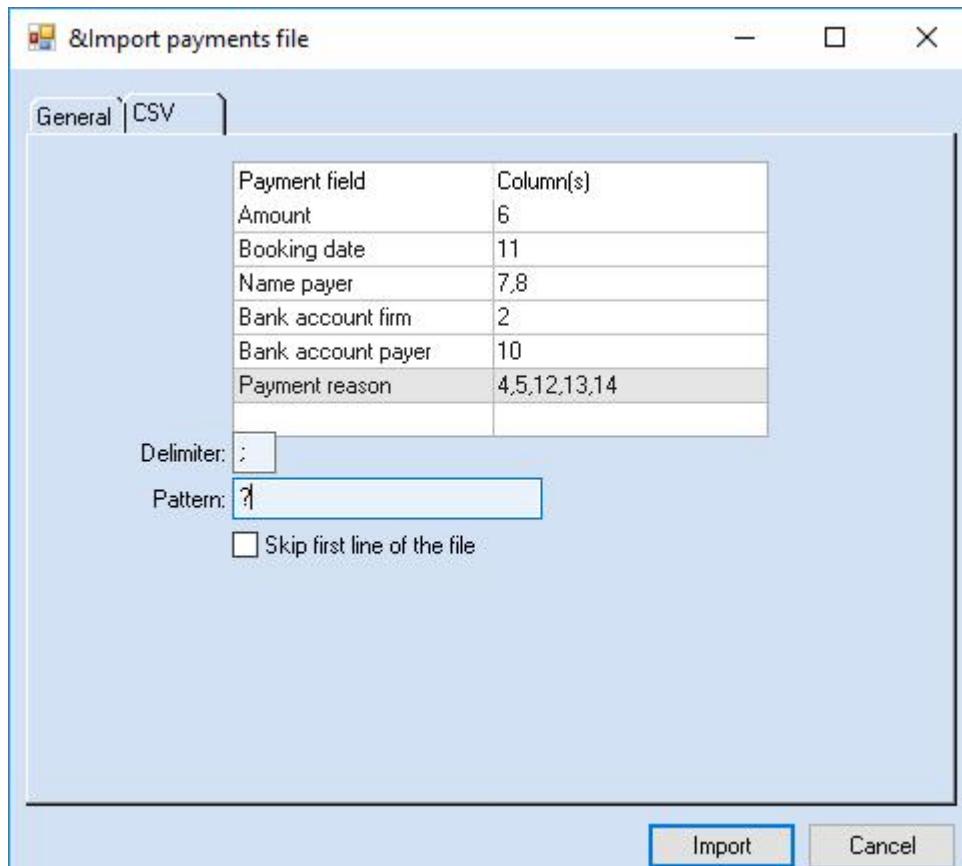
The import file can contain the following information which will be mapped to the following database fields in GLIMS.

CSV field	Mandatory	GLIMS
Bank		Not used
Kontonummer	X	FinancialShipment.Firm, FinancialShipment.Destination
Auszugsnummer		Not used

Verwendungszweck 1	X	Reason for payment. Payment.RawReference
Verwendungszweck 2		
Verwendungszweck 3		
Verwendungszweck 4		
Verwendungszweck 5		
Betrag	X	Payment.Amount
Auszugsdatum	X	Payment.ExternalDate
Auftraggeber / Partner		PaymentInfo.Name
Auftraggeber 2		
Auftraggeber Bank		Not used
Auftraggeber Konto		Paymentinfo.BankAccount

Mapping via column position

If the import file does not have a header line (containing the column labels), the user can define which payment-related information is available in which column(s) of the import file via the **CSV** tab page of the payment import screen:



Note

In order to use the **CSV** tab page, the **File format** must be set to **CSV control** in the **General** tab page.

Column mapping

The columns specified for **Name payer** and **Payment reason** are read in the same order as they were specified! This should be taken into account if data is spread over multiple columns.

Delimiter

This field allows to overrule the default separator. By default, the semicolon is used.

Pattern

Allows to specify, using regular expressions, the pattern of the billing document number to be found.

Notes

- Quantifiers can be used in the regular expression. E.g. If the pattern 12-AB-1234567 should be searched for in the "reason for payment", the specified pattern would be \d\d[\s-][A-Z][A-A][\s-]\d\d\d\d\d\d\d or \d{2}[\s-][A-Z][A-A][\s-]\d{7}.
- You can test your regular expressions using online test tools for .NET regular expressions, such as <http://regexstorm.net/tester>.

Skip first line of the file

Allows to skip the header line in the import file.

Mapping via column label

If no column positions are specified in GLIMS, the import program will try to recognize the data in the import file based on the column labels (regardless of their position in the header line). GLIMS recognizes the following column labels :

- Account nbr
- Betrag
- Datum
- Auftraggeber 1
- Auftraggeber2
- Auftr.Konto
- Verwendungszweck 1
- Verwendungszweck2
- VZ 3
- VZ 4
- VZ 5

Note

Make sure that the column labels in the import file are written identically!

MyCareNet: support insurability requests and replies in XML format (BILX_CAREVXML-00001)

Context

GLIMS allows to verify and update the payment agreements of a patient by consulting the MyCareNet platform.

New XML format

As of 1/1/2019, it is mandatory to send the requests to obtain patient insurability information and to import the replies containing the requested insurability information in XML format. The old format will then no longer be supported by the MyCareNet platform.

License

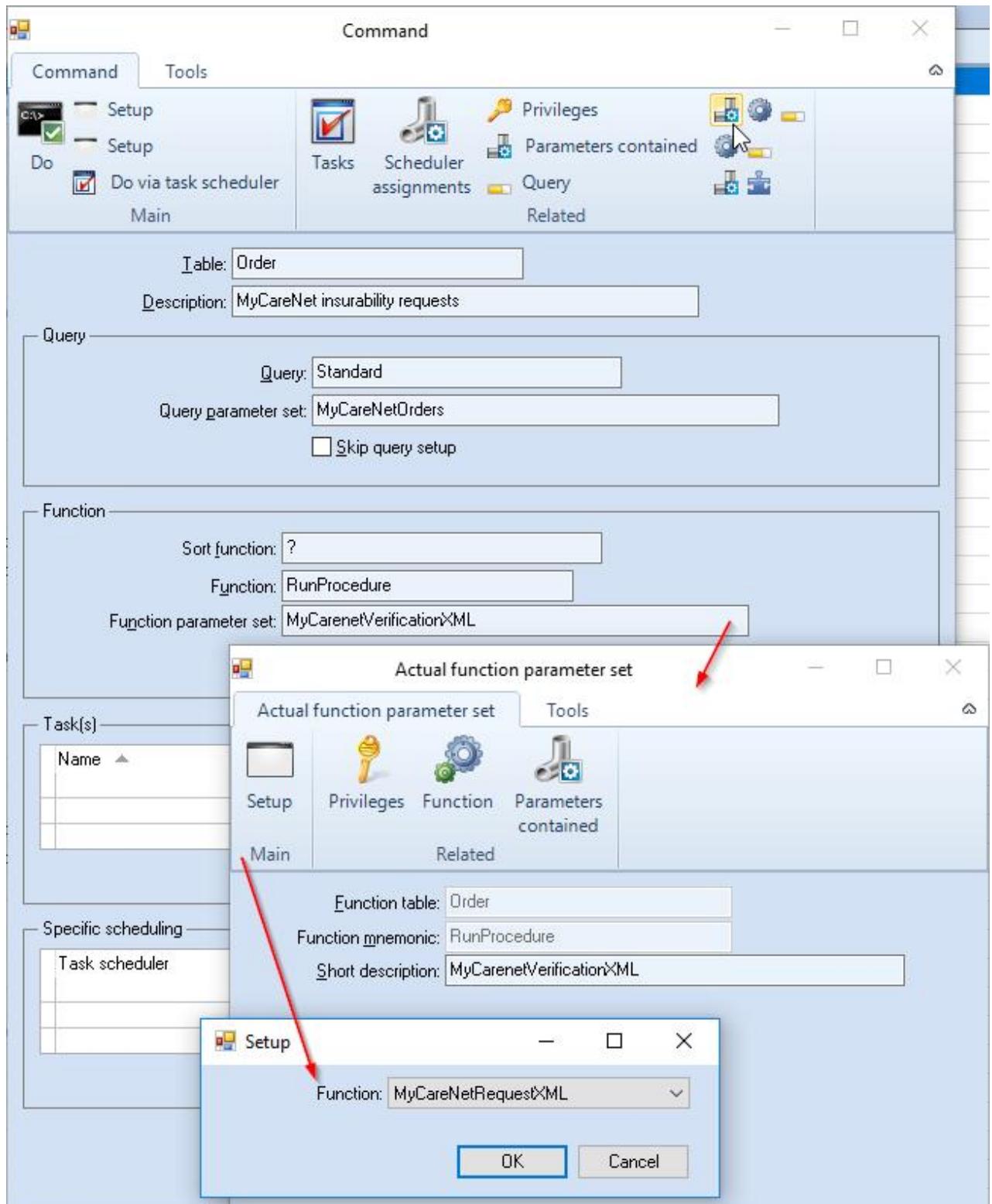
A separate license is required: **MyCareNet Insurance Verification / Update XML**.

Configuration

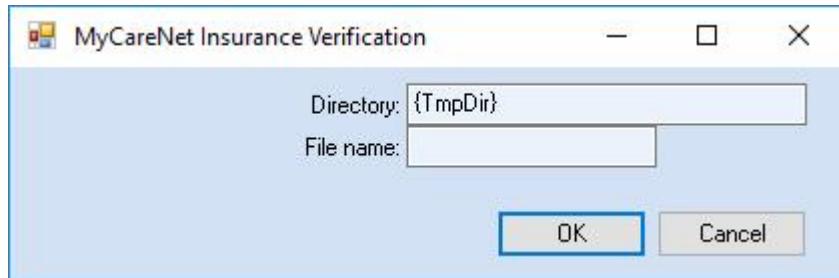
In order to use the new XML format, the following commands should be configured:

1. Sending insurability requests:

- Table: **Order**
- Function: **RunProcedure**. Choose **MyCareNetRequestXML** as function when setting up the function parameter set.

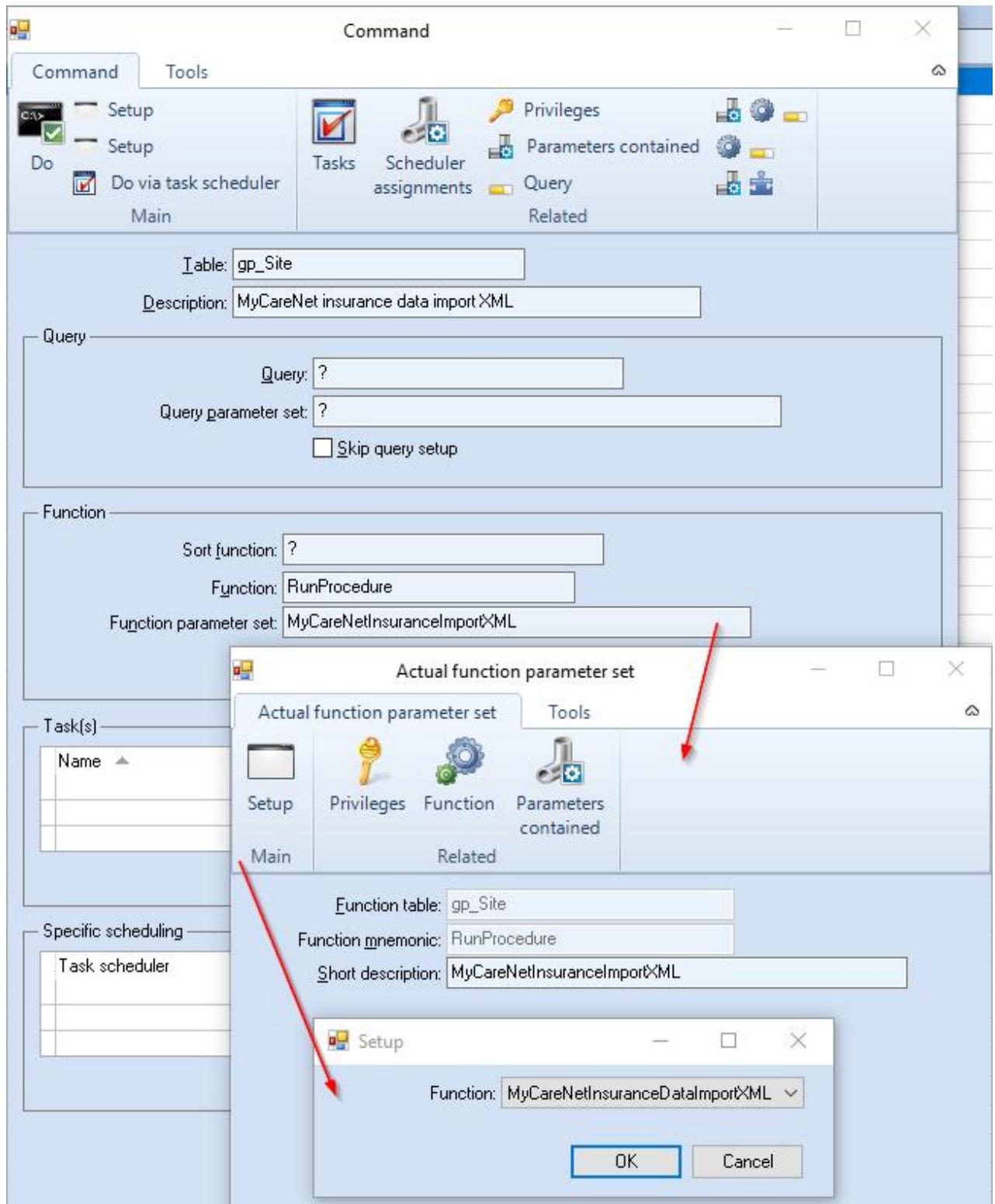


Note: the **Test file** option is no longer available since the new tool handling the communication between GLIMS and MyCareNet will support a test mode.



2. Importing insurability data:

- Table: **gp_Site**
- Function: **RunProcedure**. Choose **MyCareNetInsuranceDataImportXML** as function when setting up the function parameter set.



MyCareNet - GLIMS communication

Transferring the files in XML format from and to the MyCareNet platform will be handled by a new tool, the **MyCareNet - GLIMS communication module**, which is currently being developed and which will be available in the course of 2018. This tool will then also handle transferring financial data in the existing **RIZIV/MyCareNet** format exported from GLIMS via the FinancialShipment.Send function.

MyCareNet: avoid sending unnecessary insurability requests (BILX_CAREVXML-00005)

A modification was made to avoid that GLIMS unnecessarily resends an [insurability request](#) for an order in case of payment agreements not referring to a fund belonging to the correspondent group with code "OFF-MUT" (which is the group of official Belgian funds) or in case of no payment agreement at all.

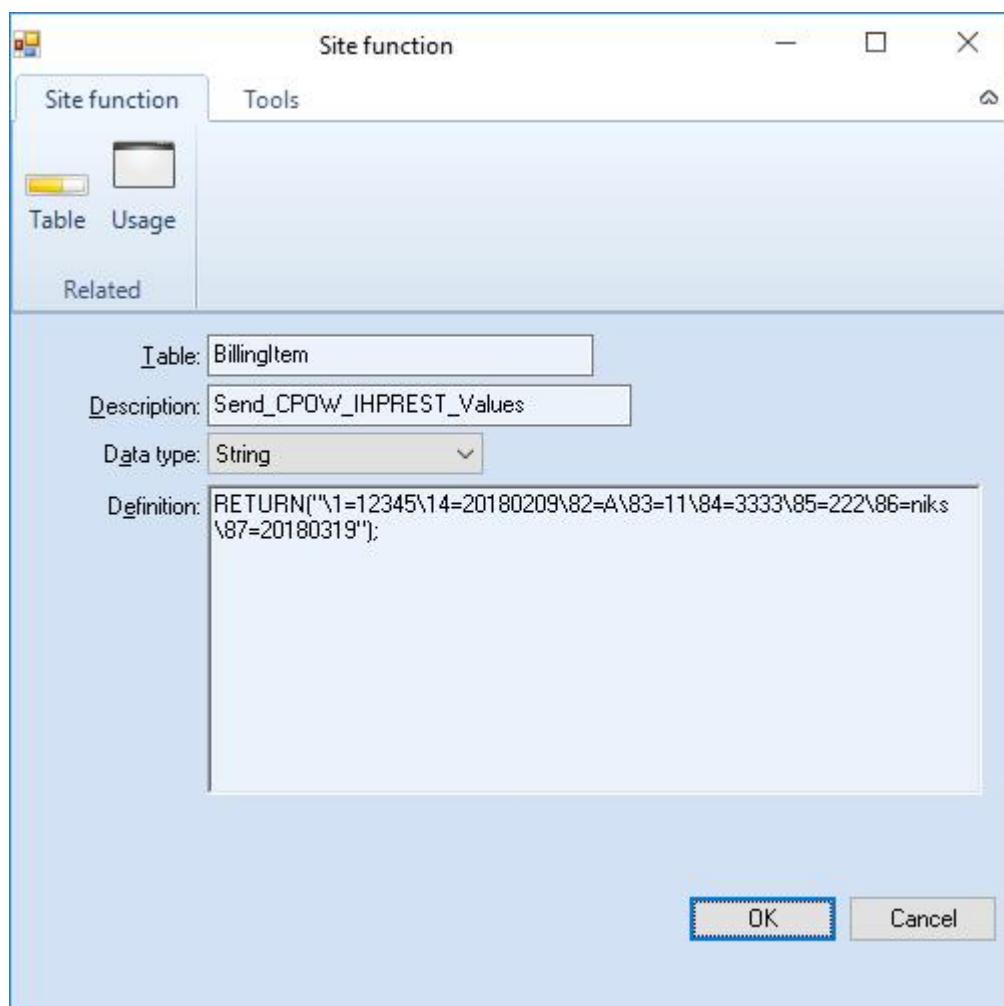
An insurability request will now only be resent, if required (for instance, because no valid payment agreement was received yet from MyCareNet), if the previous request was sent more than 7 days ago (the Order-based site attribute named "_InsurabilityRqstDate" keeps track of this), as was already the case for payment agreements referring to a fund belonging to the correspondent group of official Belgian funds.

Financial export in "CPOWISH" format: new version + set encounter number via MISPL (BILX_CPOWISH-00083)

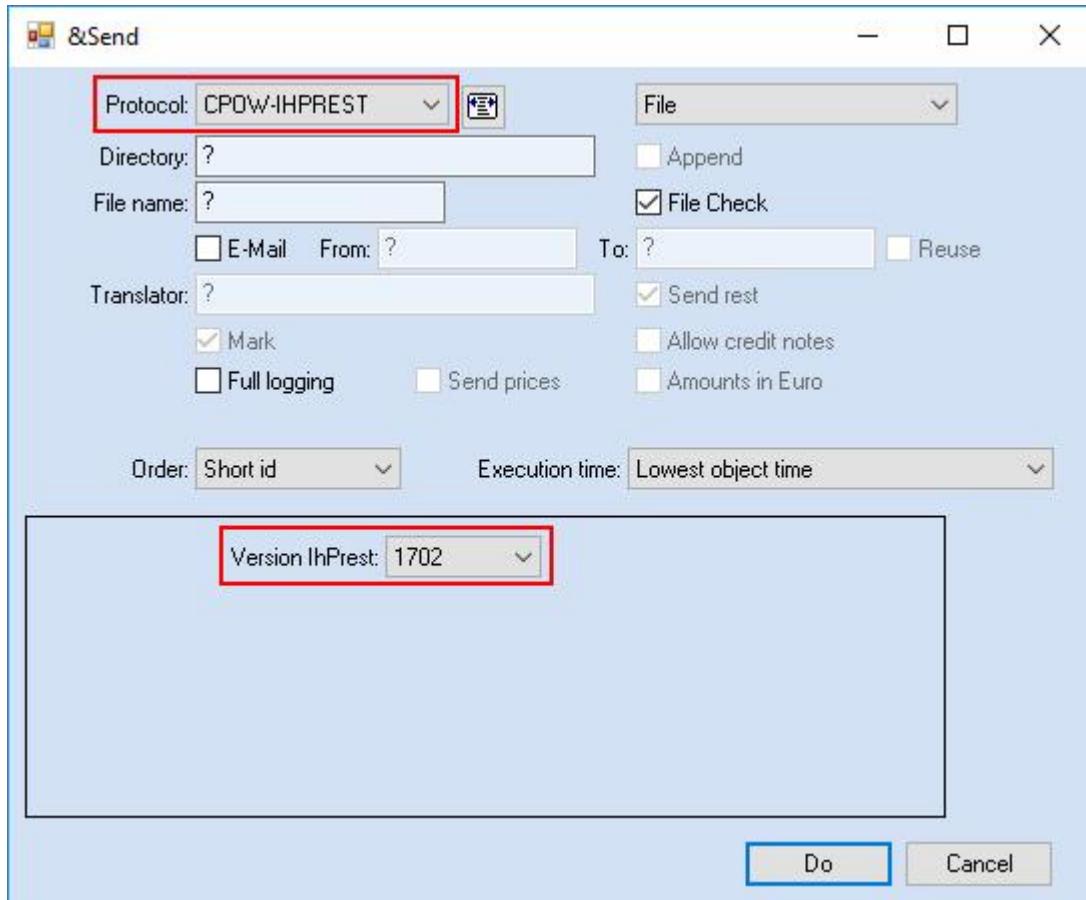
The following improvements have been made to the export of financial data in the **CPOWISH IHPREST** format using the FinancialShipment.Send function:

1. The CPOWISH IHPREST format requires the **Encounter** to be specified on **Order** level. If not specified, the financial data will not be exported. However, in some cases, the encounter number is not required. In these cases, MISPL can now be used to fill the Encounter number field with a dummy value. To this end, a BillingItem-based site function named "Send_CPOW_IHPREST_Values" can be defined.

Example:



2. A new version **1702** of the **CPOWISH IHPREST** protocol is now supported which, compared to the other, existing versions of the protocol, exports some additional fields (82 till 87). Their values need to be filled via MISPL (see example above).



Financial export in CPOWISH ITPLAT format: "Flag attestation imprimée" not always exported correctly (BILX_CPOWISH-00085)

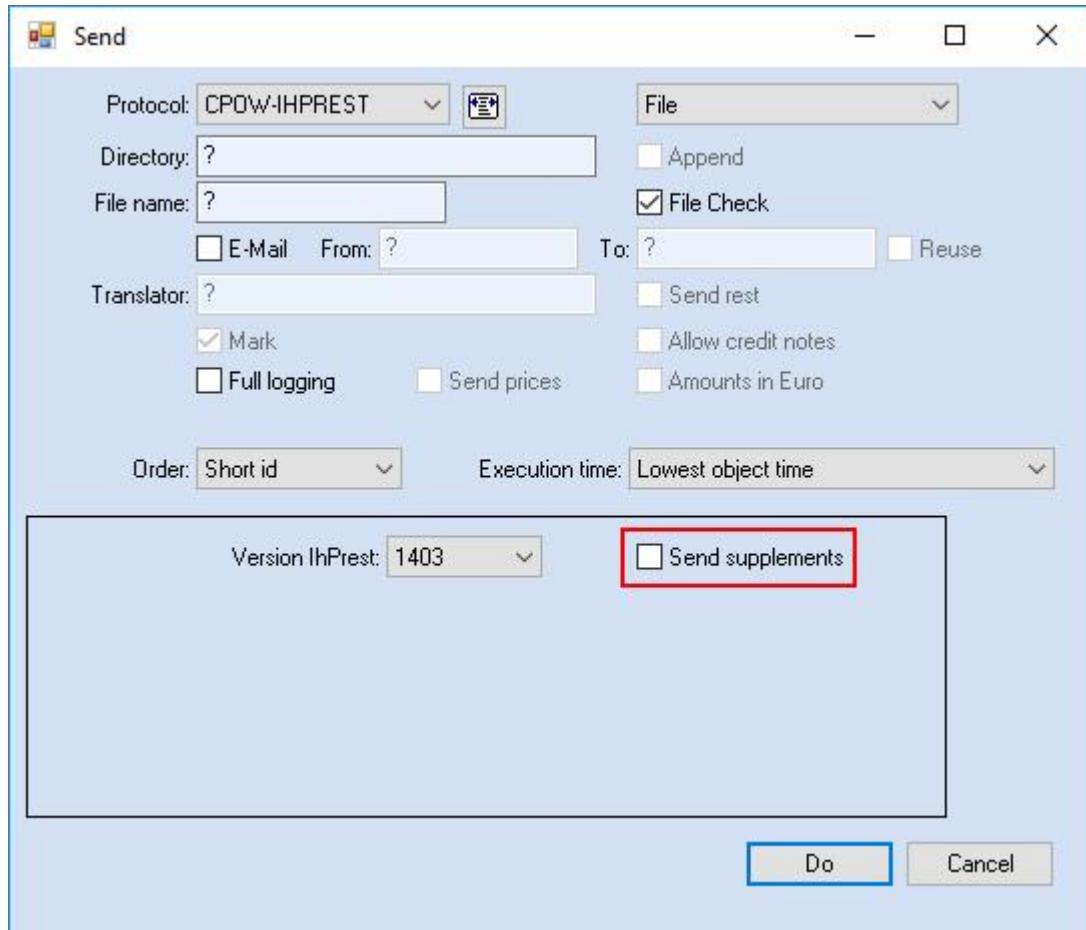
GLIMS 9.6.0 (via BILX_CPOWISH-00015) provided a correction for, but did not entirely solve, the issue described below:

When exporting financial data in the **CPOWISH ITPLAT** format, the value for "Flag attestation imprimée" was not always exported correctly. This happened when an order had more than 1 invoice and only one of them had been printed as a "certificate D".

GLIMS 9.9.0 provides an additional correction via this modification.

Financial export in CPOWISH IHPREST format: option to allow sending supplements (BILX_CPOWISH-00093)

The export of financial data in the **CPOWISH IHPREST** format now allows to export supplements (billing items that are not linked to a request). For this purpose, a new option **Send supplements** has been added in the screen which can be accessed by selecting a financial shipment and choosing the contextual menu / ribbon item **Send**:



Note: supplements with the reimbursement class type **Administrative supplement** will not be exported since non supplement billing codes with this reimbursement class type are also excluded from the export.

Financial export in "CPOW-ITP400" format: improved error logging (BILX_CPOWISH-00094)

When errors occurred during the sending of a financial shipment in the **CPOW-ITP400** (CPOWISH ITPLAT) format, the logging did not allow the user to solve these errors as it did not contain any detailed information about these errors which were mostly configuration-related. This happened if the detailed error-related information (in the form of a string) exceeded 2900 characters. In that case, the information was lost.

This has been corrected.

Financial export in German "KVDT" format: use OMIM file of corresponding quarter (BILX_GKVDT-00338)

Context

GLIMS supports using the OMIM-Stammdatei .csv file which is provided quarterly by the KBV. This makes it possible to check the OMIM codes entered in GLIMS against the official list of the KBV.

Issue

When resending a financial shipment in the German **KVDT** format, the OMIM codes are checked against the current version of the .csv file. However, the codes should be checked against the file which corresponds to the quarter of the shipment.

Solution

The exported OMIM codes will now be checked against the OMIM .csv file which is valid at the shipment's external date.

Import of PLZ-Stammdatei: GLIMS no longer fills the "Bezirksstelle" site attribute on Municipality (BILX_GKVDT-00340)

Issue

The PLZ-Stammdatei provided by the KBV no longer contain "Bezirksstelle". A side effect of this value no longer being available in the file, was that GLIMS created empty site attribute values when importing the PLZ-Stammdatei file ([Start > Billing > Configuration > KBV > Import 'Postleitzahl-Stammdatei'](#)).

Solution

The import function for PLZ-Stammdatei in GLIMS has been modified so that it no longer tries to fill the "Bezirksstelle" site attribute on [Municipality](#).

The site attribute can be deleted as follows:

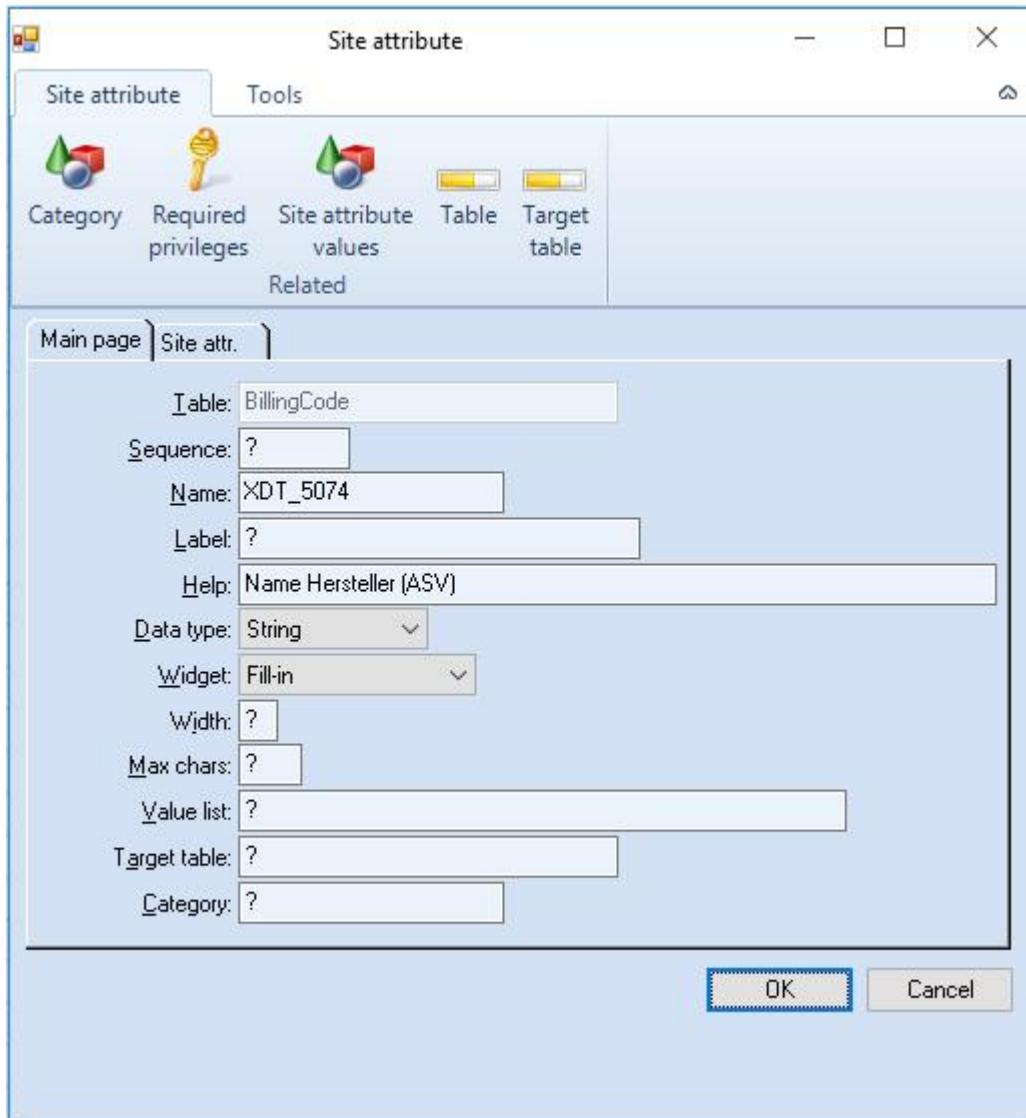
- Choose [Start > System management > Scheme > Tables](#).
- Select the [Municipality](#) table.
- Choose the contextual menu / ribbon item [Site attributes](#).
- Select the "Bezirksstelle" (XDT_3117) site attribute.
- Choose the contextual menu / ribbon item [Show all > Site attribute values](#).
- Select all and press Delete.
- The site attribute can now also be deleted.

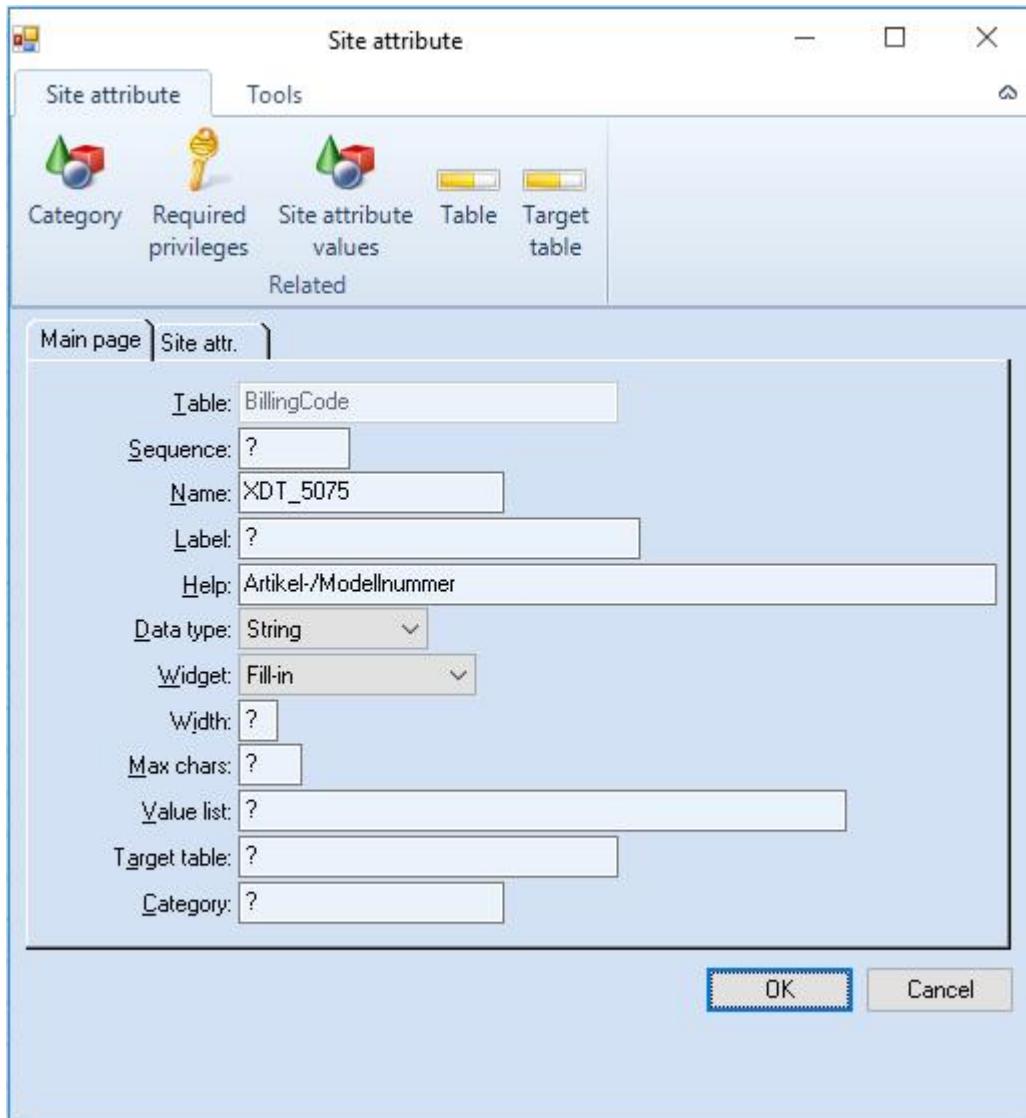
Financial export in "German KVDT" format (BILX_GKVDT-00341)

The export of financial data in the German [KVDT](#) format (using the `FinancialShipment.Send` function) has been updated to support the latest changes (quarter 1, 2018) in KBV regulation.

In addition:

- To support the new fields FK 5074 and FK 5075 (required for ASV abrechnung) during the export of financial data in the [KVDT](#) format, BillingCode-based site attributes are used. The values of these site attributes are only exported for orders where the ASV-Teamnummer is filled.





Financial export in "German KVDT" format: correctly check age restrictions of ICD codes (BILX_GKVDT-00347)

When exporting financial data in the German **KVDT** format (via the FinancialShipment.Send function), checking the age restrictions of (ICD) diagnosis codes was not always performed correctly.

This has been corrected.

Lock table overflow error when importing "KostenTräger-Stammdaten" (Germany only) (BILX_GKVDT-00353)

An issue was reported where a lock table overflow error occurred when importing KostenTräger-Stammdaten via **Start > Billing > Configuration > Funds > Import 'KostenTräger-Stammdaten'**.

This has been corrected.

Improved performance of "Reevaluate OMIM codes" function (BILX_GKVDT-00356)

The performance of the Reevaluate OMIM codes function has been improved.

Financial export in "KVDT" format: avoid error about missing LANR/BSNR identification (BILX_GKVDT-00358)

Issue

When exporting financial data in the German **KVDT** format, the header (BESA record) of the exported KVDT file contains a list of LANR / BSNR identifications of the executing HC providers (and in case of LG shipments, a list of all issuers). When building the header, GLIMS searches for identifications valid at the FinancialShipment.ExternalDate. However, if the validity of the identification code of a HC provider ended in the course of the quarter or if the **Financial shipment** only contained *Vorquartal* orders, a false error message was shown about a missing LANR / BSNR identification.

Solution

This has been corrected. If no identification code is found which is valid at the FinancialShipment.External date, the Invoice.ExternalDate is used to check the identification code's validity.

Financial export in German "KVDT" format (BILX_GKVDT-00364)

The export of financial data in the German **KVDT** format (using the FinancialShipment.Send function) has been updated to support the changes (quarter 3, 2018) in KBV regulation.

Financial export in German "KVDT" format supports FK 5006 "Um-Uhrzeit" (BILX_GKVDT-00371)

The export of financial data in the German **KVDT** format (using the FinancialShipment.Send function) now supports the field FK 5006 "Um-Uhrzeit" for GNR (= Gebührennummer = Tariff.NomenclatureCode in GLIMS) 01205, 01207, 01210, 01212, 01214, 01216 and 01218. The Order.PrescriptionTime (HHMM) is exported as "Um-Uhrzeit".

Financial export in German "KVDT" format: updates for KVDT v5.24 (BILX_GKVDT-00375)

The export of financial data in the German **KVDT** format (using the FinancialShipment.Send function) has been updated to support the changes in KBV regulation issued on 31/05/2018 and effective as of 01/07/2018.

1. Regel 854: GOP 32915-32918 (Tariff.NomenclatureCode in GLIMS) need an ICD code (<> UUU).

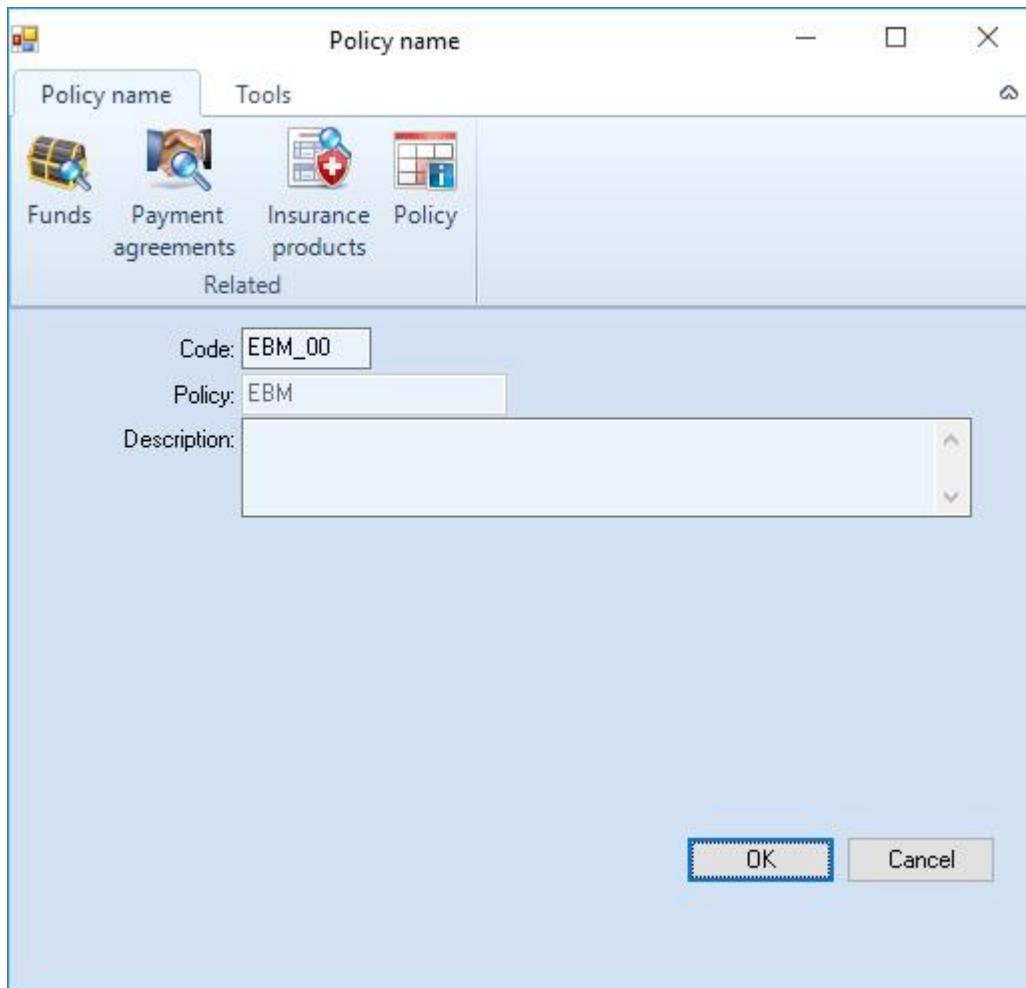
Note: since OMIM-P and OMIM-G codes are not allowed for these GOP, OMIM codes which have been entered on the property will not be exported.

2. Field FK 4121 (Gebührenordnung): new value: 0=EBM.

In GLIMS, Gebührenordnung values are automatically converted into policy names and vice versa: PolicyName.Code = <Gebührenordnung>[_<KTAB>][_<AbrechnungTyp>]. The new value "0" will now also be recognized and linked to PolicyName.Code "EBM_*".

- a. during Kostentraeger import:

Insurance products will be created which refer to those policy names with code "EBM_*". **To allow the import to create insurance products (for each fund with EBM), it is necessary to configure a new policy name with code "EBM_<KTAB>" in advance! Creating a new policy name with code "EBM_00" is sufficient.**



Note that the Gebührenordnung code which was already stored in the XDT_2006 attribute on the Fund will also store value 0.

- b. during the export of financial data in the **KVDT** format:

Invoices using a policy name with code "EBM_*" (and following the convention <Gebührenordnung>[_<KTAB>][_<Abrechnungtyp>]) will automatically export FK 4121 = 0.

Enter "Follow-up physician" (Weiterbehandelnder Arzt) as free text during order entry (Germany only) (BILX_GKVDT-00379)

Context

A **Follow-up physician** (Weiterbehandelnder Arzt) can be specified in the Referral tab page of the order entry screen. However, GLIMS only allowed a reference to a HC provider record.

Follow-up physician as free text

In order to allow the user to enter the follow-up physician without first having to create a **HC provider** record, it is now possible to enter the name of the follow-up physician as free text in the new **Name** field which is now available in the **Referral** tab page of the order entry screen.

The screenshot shows the 'Referr..' tab selected in the top navigation bar. The 'Follow-up physician' section is highlighted with a red box, and a red arrow points to the 'Name' input field within that box.

Referral sub group:	Emergency		
Referral type:	Curative		
Ausnahmeindikation:	?		
Original issuer:	BSNR ?	ASV-Team ?	LANR ?
Official issuer:	?	?	?
Referral to:	?		
Billing domain:	Default		
Patient domain:	?		
Valid from:	/ /	Valid to: / /	
Additional entry:	?		
Follow-up physician: ? Name: ?			

This new field replaces the Order-based site attribute named **_XDT_4243** which may have been used in previous versions to enter the follow-up physician as free text.

Export of financial data

If specified (and **Referral sub group** is set to **Emergency** in the **Referral** tab page of the order entry screen), the value of the **Name** field will be exported in the FK 4243 field during the export of financial data in the **KVDT** format via the **FinancialShipment.Send** function. If both the **Follow-up physician** and **Name** fields are filled, the free text entered in the **Name** field will be exported.

Financial export in German "KVDT" format: Strukturpauschale (Bereitschaftsdienst) (BILX_GKVDT-00381)

Introduction

In accordance with the conventions for *KV Sachsen*, the export of financial data in the German **KVDT** format (via the **FinancialShipment.Send** function) now supports *Strukturpauschale (Bereitschaftsdienst)*.

Configuration

The *Strukturpauschale* to be sent needs to be specified in a Text expression. The **FinancialShipment**-based **Text** must have **KVBDYYYYQq** as **Mnemonic**.

Example for quarter 3 of 2018:

Mnemonic: KVBD2018Q3

Class: kv

Description: betriebschaftsdienst section at end KVDT file for Sach

Table: FinancialShipment

Text:

```

FK410498999
FK410600
FK4111100098999
; From Q3-2018 Besonder personengr etc mandatory -> Default 00
FK413100
FK413200
FK41211
FK412200
FK4124BD132
FK423941
FK4243unbekannt
FK5000,FK5001,FK5005,FK5009,FK5098,FK5099
20180613,99992,010,222,019828900,123456699
20180613,99992,008,117,019828900,123456699
FK6001UUU

```

comment

mandatory declaration line

Start date: / /

End date: / /

The text expression should contain all fields to be added (except FK80000104 Notfall which will be added if needed). It contains:

- (optional) Header information (dummy patient, etc.)

Note

If none of the header fields are specified, a hard-coded default header will be used.

- the *Leistungen (Pauschale)* (which need to be re-entered each quarter)

Note

The *Leistung* fields must be preceded by a declaration line such as
'FK5000,FK5001,FK5005,FK5009,FK5098,FK5099...'

Notes

Comment

Comments can be used in the text expression. Text which comes after the ";" character will be ignored during the creation of the KVDT file. For example :

```

; Comment line
FK4101A; Comment
FK4101A ; Comment

```

Quartal

The *Quartal* field should match the quarter of the shipment. This can for instance be configured as follows in the text expression:

```

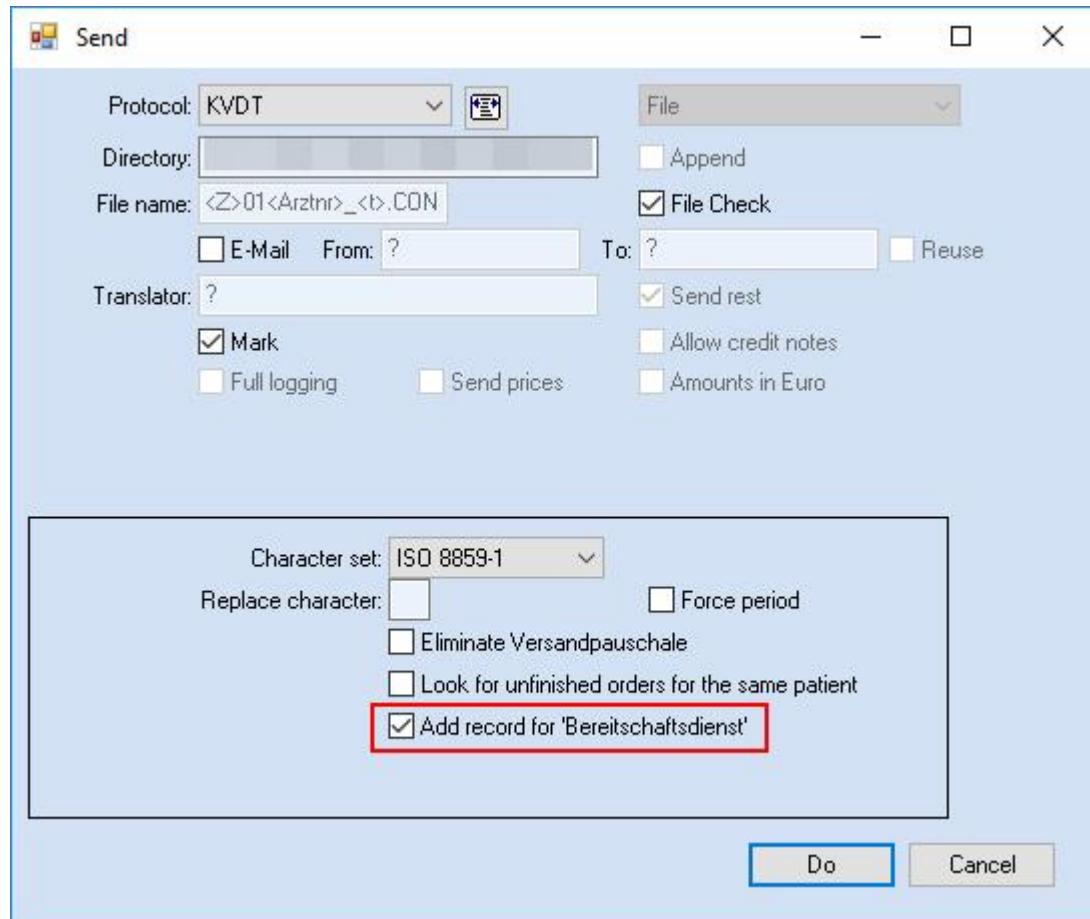
FK4101{:
STRING QYYYY;
IF .ExternalDate <> ? THEN
    QYYYY := DateToString(.ExternalDate, "%q%Y");
ELSE
    QYYYY := DateToString(TODAY(), "%q%Y");
ENDIF;

```

```
RETURN(QYYYYY);
}
```

Routine

When creating the KVDT file in GLIMS via the FinancialShipment.Send function, the new option **Add record for 'Bereitschaftsdienst'** needs to be enabled.



The text expression will be evaluated (against the financial shipment which allows dynamic content such as the quarter) and the expanded text will be added as a 0104 (Notfall) Satz at the end of the KVDT file (after the last **Invoice**).

For example:



A screenshot of a Windows Notepad window. The menu bar includes File, Edit, Format, View, and Help. The main text area contains a list of entries, many of which are highlighted with blue selection bars. The entries are:

```
01350115489
0115018Z1
01350195019
0185098197627100
0185099123456699
0126001UUU
0259901Invoice 11806009
01380000104
0113101BD
0113102KV
017310319500101
0123107116
0123109117
014311201099
0163113Dresden
01031081
0103110M
014410122018
014410498999
011410600
0184111100098999
01041211
011412200
01441248D132
011423941
0194243unbekannt
017500020180613
014500199992
0125005010
0125009222
0185098019828900
0185099123456699
017500020180613
014500199992
0125005008
0125009117
0185098019828900
0185099123456699
0126001UUU
0138000adt9
0138000con9
```

The used input text is logged in the KVDT log type.
For example:

```

Create KV-DT file 29/06/2018 14:39:16 (GLIMS 9.9.0 build 1 (beta 20/06/2018 15:04); User: 'bartb')
-----
29/06/18 14:39:16 I: Processing Financial Shipment '20180628/001'
29/06/18 14:39:16 W: Associate ('Arzt') DESMET is not used as BillingItem.Executor in this shipment
29/06/18 14:39:16 W: Associate ('Arzt') FreiwilligFrits is not used as BillingItem.Executor in this shipment
29/06/18 14:39:16 W: Associate ('Arzt') SM is not used as BillingItem.Executor in this shipment
29/06/18 14:39:16 W: Associate ('Arzt') KVArtz1 is not used as BillingItem.Executor in this shipment
29/06/18 14:39:16 W: Associate ('Arzt') KVTEST2bis is not used as BillingItem.Executor in this shipment
29/06/18 14:39:16 W: Associate ('Arzt') Drbibber is not used as BillingItem.Executor in this shipment
29/06/18 14:39:16 W: Associate ('Arzt') DrIvago is not used as BillingItem.Executor in this shipment
29/06/18 14:39:16 W: Associate ('Arzt') 0000900442 is not used as BillingItem.Executor in this shipment
29/06/18 14:39:18 I: RV QCLot:RV Lot Geraete:jz_1 Typ:Integra Hersteller:ROCHE DIAGNOSTICS
29/06/18 14:39:19 I: Adding 'Bereitschaftsdienst Structurpauschale' input text KVBD2018Q2:
FK3101BD
FK3102KV;With a comment
FK310319500101
FK3107116
FK3109117
FK311201099
FK3113Dresden
FK31081
FK3110M
FK410122018
FK410498999
FK410600
FK4111100098999
; From Q3-2018 Besonder personengr etc mandatory -> Default 00
;FK413100
;FK413200
FK41211
FK412200
FK4124BD132
FK423941
FK4243unbekannt
FK5000,FK5001,FK5005,FK5009,FK5098,FK5099
20180613,99992,010,222,019828900,123456699
20180613,99992,008,117,019828900,123456699
FK6001UUU
29/06/18 14:39:19 I: Handled 1 invoices successfully with 0 warnings
29/06/18 14:39:19 I: Created KV-DT file for Financial Shipment '20180628/001' in 'C:/Users/bartb/Desktop/Z01391234567_29.06.2018_14.39.CON'
29/06/18 14:39:19 I: Finished processing Financial Shipment '20180628/001'
29/06/18 14:39:20 I: Record passed and file created

```

The added record 0104 will be checked against the KVDT rules. Failures will be logged as log entry with severity **Error**. However, the KVDT file itself will still be created but without the additional record. A (warning) log entry will indicate that the record was not added.

For example:

```

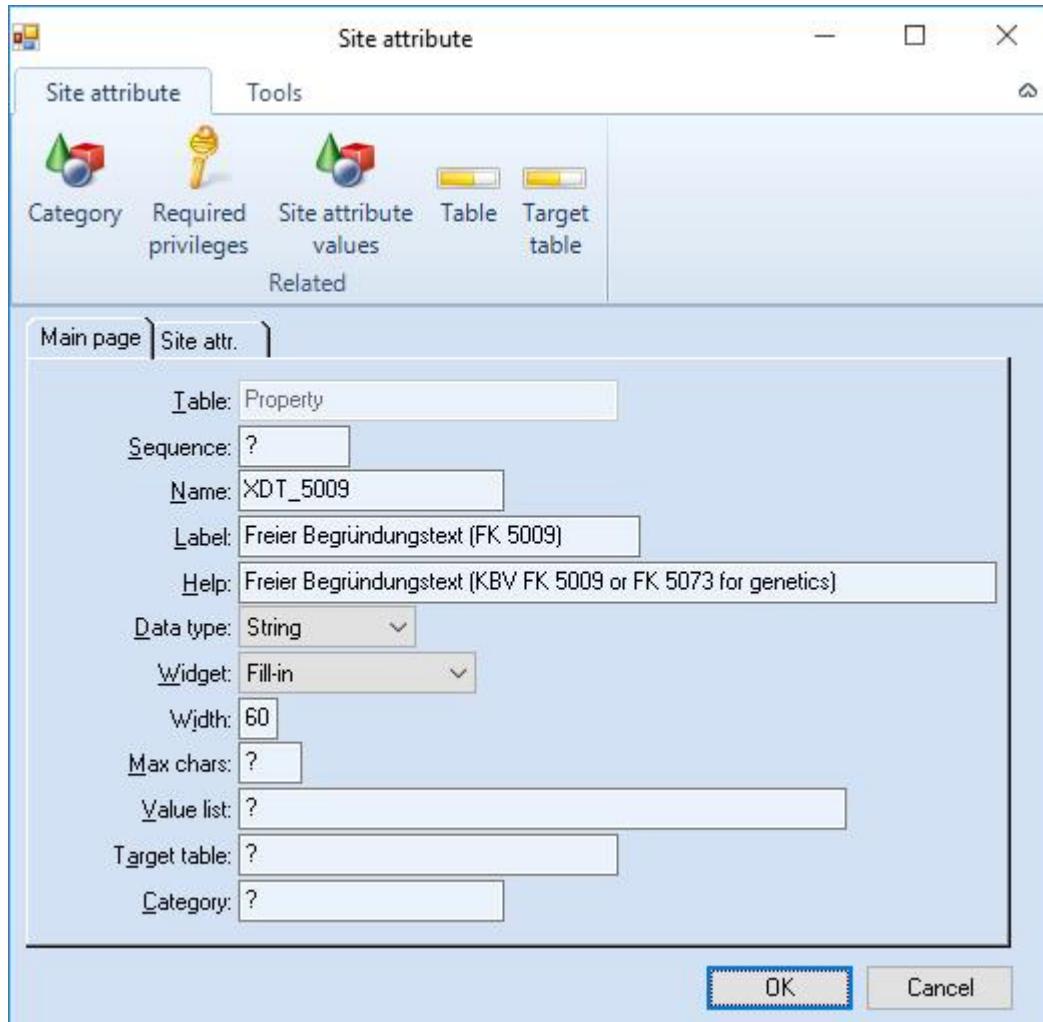
20180613,99992,008,117,019828900,123456699
FK6001UUU
17/07/18 10:52:59 E: Record of type '0104' contained 1 errors
(Bereitschaftsdienst Record)
* FK 3110 Inhalt =MW (Geschlecht); ungültige Länge (nicht 1)
17/07/18 10:52:59 W: Record for 'Bereitschaftsdienst' is not added in file !
17/07/18 10:52:59 I: Handled 1 invoices successfully with 0 warnings
17/07/18 10:52:59 I: Created KV-DT file for Financial Shipment '20180628/001' in 'C:/Users/bartb/Desktop/Z01391234567_17.07.2018_10.52.CON'
17/07/18 10:52:59 I: Finished processing Financial Shipment '20180628/001'
17/07/18 10:52:59 I: Record passed and file created

```

It is therefore necessary to carefully check the (error) log entries in the KVDT log type!

Allow specifying the "Freier Begründungstext" per property (Germany only) (BILX_GKVDT-00385)

GLIMS now allows to define per property the "Freier Begründungstext" (exported as FK 5009 during the export of financial data in the German **KVDT** format). Therefore, the following Property-based site attribute can now be configured :



This means that the "Freier Begründungstext" can now be specified on four levels. If it is specified on more than one level, the following order is taken into account to decide which "Freier Begründungstext" needs to be exported during the export of financial data in the **KVDT** format.

1. Result (site attribute XDT_5009)
2. Property (site attribute XDT_5009)
3. Order (site attribute XDT_5009)
4. Request.ExternalComment (if Tariff.NeedRequestComment is enabled for the billing item)

Since the "Freier Begründungstext", which is the value of XDT_5009, is also exported as FK 5073 ("Art der Erkrankung") for properties for which no OMIM-P code is available ("999999"), the Property-based site attribute is now also taken into account.

Financial export in German "KVDT" format: update Q4-2018 (BILX_GKVDT-00387)

The export of financial data in the German **KVDT** format (using the FinancialShipment.Send function) has been updated to support the changes (quarter 4, 2018) in KBV regulation.

Financial export in German "KVDT" format: update Q1-2019 (BILX_GKVDT-00391)

The export of financial data in the German **KVDT** format (using the FinancialShipment.Send function) has been updated to support the changes (quarter 1, 2019) in KBV regulation.

German KVDT: allow different referral types for mixed orders (LG + FA) (BILX_GKVDT-00396)

Context

Until now, only one **Referral type** could be entered per order - in the **Referral** tab of the order entry screen. However, there are sometimes 2 Ü-Scheine for an **Order**, LG and non-LG (FA), for which the **Referral type** can be different.

New functionality

The **Referral type** specified in the **Referral** tab of the **Order entry** screen can now be overruled by a site attribute:

- XDT_4221LG for LG (Scheinuntergruppe=28)
- XDT_4221 for non-LG (Scheinuntergruppe=27)

The optional site attribute should be Order-based, have the data type **Integer** and contain the FK 4221 value (1/2/3/4).

4221	Kurativ / Präventiv / ESS / bei belegärztlicher Behandlung	1	n	205 404 754	1 = kurativ 2 = präventiv 3 = Empfängnisregelung, Sterilisation, Schwangerschaftsabbruch 4 = belegärztliche Behandlung
------	--	---	---	-------------------	---

If no site attribute is defined or no value is entered, the **Referral type** specified in the **Referral** tab of the order entry screen is used (as before).

German KVDT: correct functionality of Referral.OfficialIssuerLANR restored (BILX_GKVDT-00397)

Issue

In GLIMS order entry, the **Referral** composite field **Official issuer** is split into separate fields that contain the LANR/BSNR/**ASV** numbers. Even if two different values for Referral.OfficialIssuerLANR for the same issuer happened to be available, only one LANR value per Order.Issuer was displayed in the BESA header of the KVDT file.

This issue only concerned LG shipments (LG site attribute on Firm), because LG shipments need to contain all BSNR and LANR numbers for all Order.Issuers in the BESA header. Non-LG shipments only contain the **Firm** associated LANR and BSNR numbers.

Solution

From now on, multiple different LANR numbers will be displayed for the same Order.Issuer (HC provider in case of LG shipments) in the KVDT BESA header.

If there is no value for Referral.OfficalIssuerLANR, the routine uses the Order.Issuer identification code as alternative.

Example

```
xxx0201 BSNR  
xxx0203 HCProvider.Name (for LG shipments)  
xxx0212 LANR 1  
0219 HCProvider.Title  
...  
0218 HCProvider.Correspondent.EMail  
xxx0212 LANR 2  
...
```

Support of BSNR-specific RVSA details (BILX_GKVDT-00398)

Context

In KVDT-export files, RVSA details for different BSNR (and thus different billing item executing departments) used to all be the same and based on a dummy QC lot with a filled in site attribute "_RVSAZertifikat". This was not entirely accurate since not all BSNR use the same details and properties.

Modification

It is now possible to configure BSNR-specific QC lots by using an optional site attribute, '_BSNR', based on the QCLOT table and of datatype String.

For an active and valid QC lot with filled in site attribute "_RVSAZertifikat", if

- a value is provided for the '_BSNR' site attribute, the RVSA record and its details are exclusively indicated in the export file for the billing item executing department linked to the provided BSNR identification code.
- no value is provided for the '_BSNR' site attribute (or this site attribute is not configured), the RVSA record and details of the general QC lot without a site attribute value is used by default.

Notes

- Elements (such as AnalytId) configured as site attributes on properties remain the same for all BSNR sections.
- BSNR-specific QC lots are logged.
- For LG shipments(LG site attribute activated in the firm editor), the BESA-Satz contains not only the internal BSNR but also the external issuers' numbers. The RVSA-Satz, however, should only contain the internal BSNRs.

Backward compatibility

You can keep working as before without using the _BSNR site attribute values: in that case, all RVSA BSNR subsections contain the same data in the export file. However there is one difference: it used to be possible to configure several dummy QC lots with RVSA information. The RVSA output was the sum of all. Now, only the first valid and matching dummy QC lot is taken.

KVDT export: new value (D = Divers) for FK 3110 field (BILX_GKVDT-00400)

Prior to this modification, only four values could be used for the KVDT export of the FK 3110 "Geschlecht" field for financial shipments (enumerated values M, W, X, U).

Starting with the Q4-2019 KVDT regulation (1st of October 2019) GLIMS will support a fifth enumerated value for **Ambiguous** = A (German: **Divers** = D).

Additionally, the German translation for the third enumerated value **Other** (= O; previously U in German) has been changed to **Unbestimmt** (now translated as X), with U becoming the value for **Unbekannt** (the German translation for **Unknown**).

Note

A complete overview table of the values in various languages with the corresponding descriptions is available via the Person.Sex chapter of the documentation.

Referral page in order entry supports specific referral fields for Germany (BILX_GKVDT-00402)

Up until now, some of the specific referral data for a patient was located on various pages in the GLIMS order entry (e.g. [Site attributes](#)), which made data entry more difficult.

The Payment agreement related fields **Besondere Personengruppe** and **Versicherungsverhältnis**, as well as the Site attribute fields **DMP** and **WOP** are now grouped on the Referral order entry page, which contains the entire referral related information. They become available after saving the order (e.g. by using the F5 key).

The screenshot shows the GLIMS Referral order entry interface. At the top, there are tabs: Speci., Object, Attribu., Order, Report, Billing, Referral (which is highlighted with a blue box), Extra, Site at.., Site at.., and Site at.. Below the tabs, there is a checkbox labeled "Available" with a checked mark. There are several input fields and dropdown menus: "Referral sub group" set to "Referral", "Referral type" set to "Curative", "Ausnahmeindikation" with a question mark, "BSNR", "ASV-Team", and "LANR" fields, "Original issuer" and "Official issuer" sections with three input fields each, "Referral to" field, "Billing domain" set to "Default", "Patient domain" with a question mark, "Valid from" and "Valid to" fields both containing "/ /", and an "Additional entry" field with a question mark. To the right, there is a section with "WOP" and "DMP" fields, both with question marks, and a "Zahlungsvereinbarung" dropdown menu. Below that is a "Versicherungsverhältnis" dropdown menu and a "Besondere Personengruppe" dropdown menu, both also with question marks. Further down are "Follow-up physician" and "Name" fields, both with question marks, and "Twain scan", "Options", "OK", and "Cancel" buttons at the bottom.

Financial export in German "KVDT" format: update Q2-2019 (BILX_GKVDT-00404)

The export of financial data in the German **KVDT** format (using the FinancialShipment.Send function) has been updated to support the changes (quarter 2, 2019) in KBV regulation.

KVDT export: new optional payment agreement site attributes for "Versichertenstammdatei" (BILX_GKVDT-00406)

For the KVDT export, new field values from FK 3010 - FK 3013 of the "Versichertenstammdatei" need to be imported in payment agreements via the LDT translator if they are available.

To this end, new optional site attributes XDT_3010 - XDT_3013 are available on the Payment agreement table.

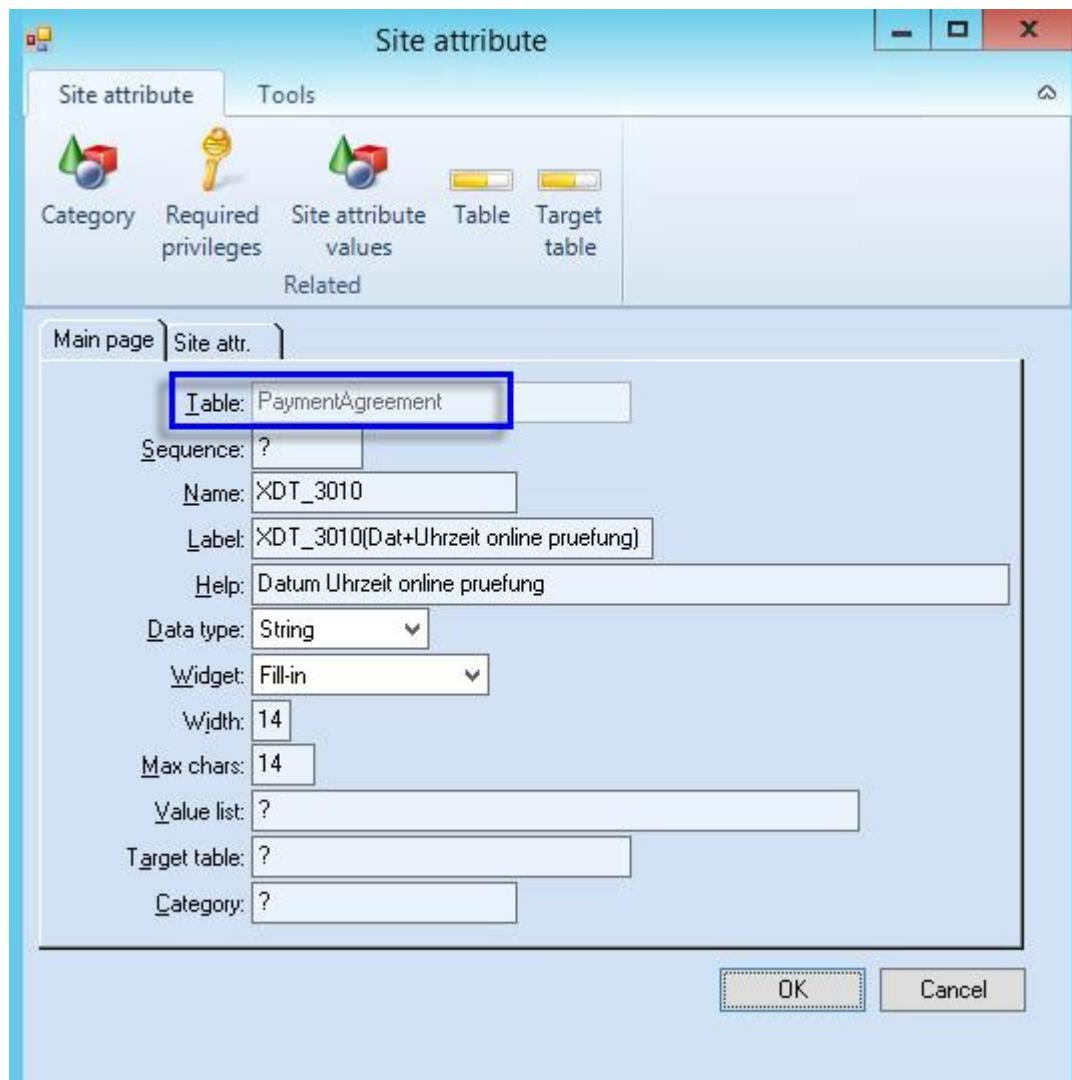
Notes

- The field values of FK 3011 to FK 3013 are only checked when a valid value is provided for XDT_3010.
- The LDT import will store the values in PaymentAgreement and Person, but the KVDT export only uses the values stored in PaymentAgreement.
- If certain values for these attributes are not valid according to the KVDT format, GLIMS will recognize this and issue the corresponding warnings.

XDT_3010

Corresponds to the field FK 3010 (Datum und Uhrzeit der Onlineprüfung):

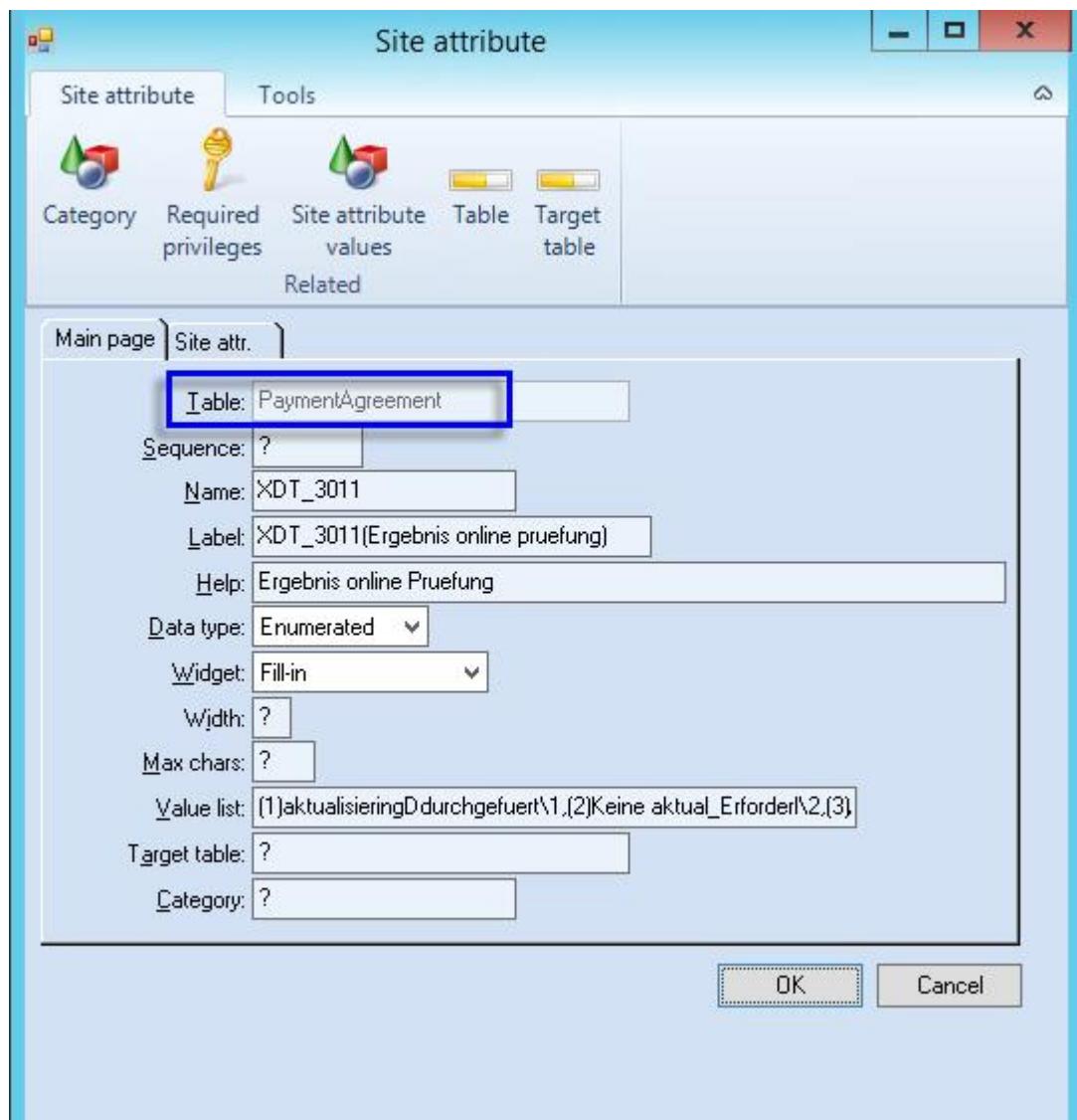
- **Name:** XDT_3010
- **Data type:** String (format YYYYMMDDhhmmss)
- **Widget:** Fill-in
- **Width, Max chars:** 14



XDT_3011

Corresponds to the field FK 3011 (Ergebnis der Onlineprüfung) and contains values for an enumerated list:

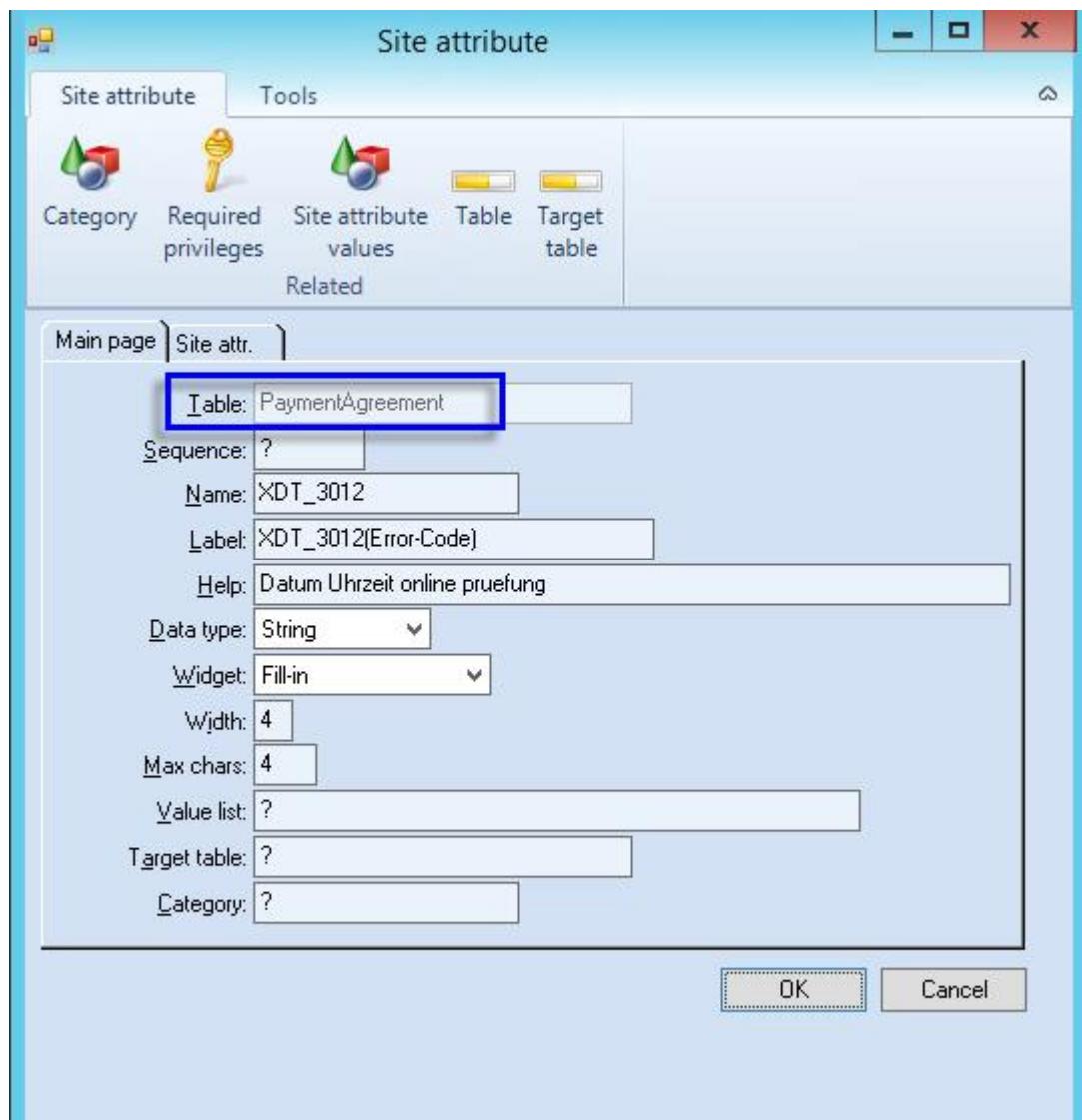
- **Name:** XDT_3011
- **Data type:** Enumerated
- **Widget:** Fill-in
- **Value list** (Example): (1)AktualisierungDurchgefuehrt\1,(2)Keine Aktual_Erforderl\2,(3)Aktual_Unguelt\3,(4)Authentif_Ungueltig\4,(5)TechnischNichtMoegl\5,(6)Aktual_tech_unmoeglich\6



XDT_3012

Corresponds to the field FK 3012 (Error Code):

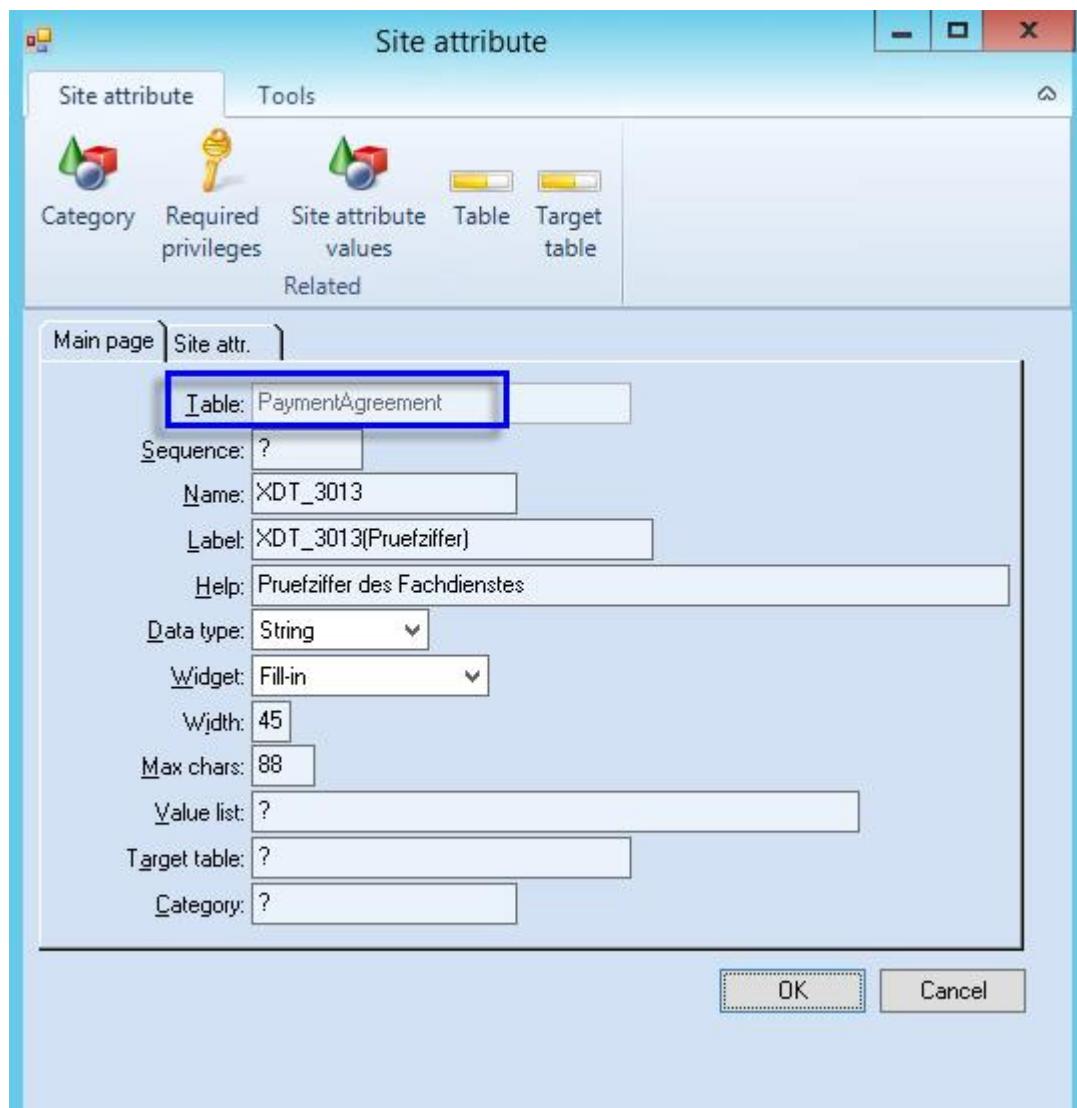
- **Name:** XDT_3012
- **Data type:** String
- **Widget:** Fill-in
- **Width, Max chars:** 4



XDT_3013

Corresponds to the field FK 3013 (Prüfziffer des Fachdienstes):

- **Name:** XDT_3013
- **Data type:** String
- **Widget:** Fill-in
- **Width:** 45
- **Max chars:** 88



BSNR-LANR grouping and improved field value assignment for KVDT BESA records (BILX_GKVDT-00408)

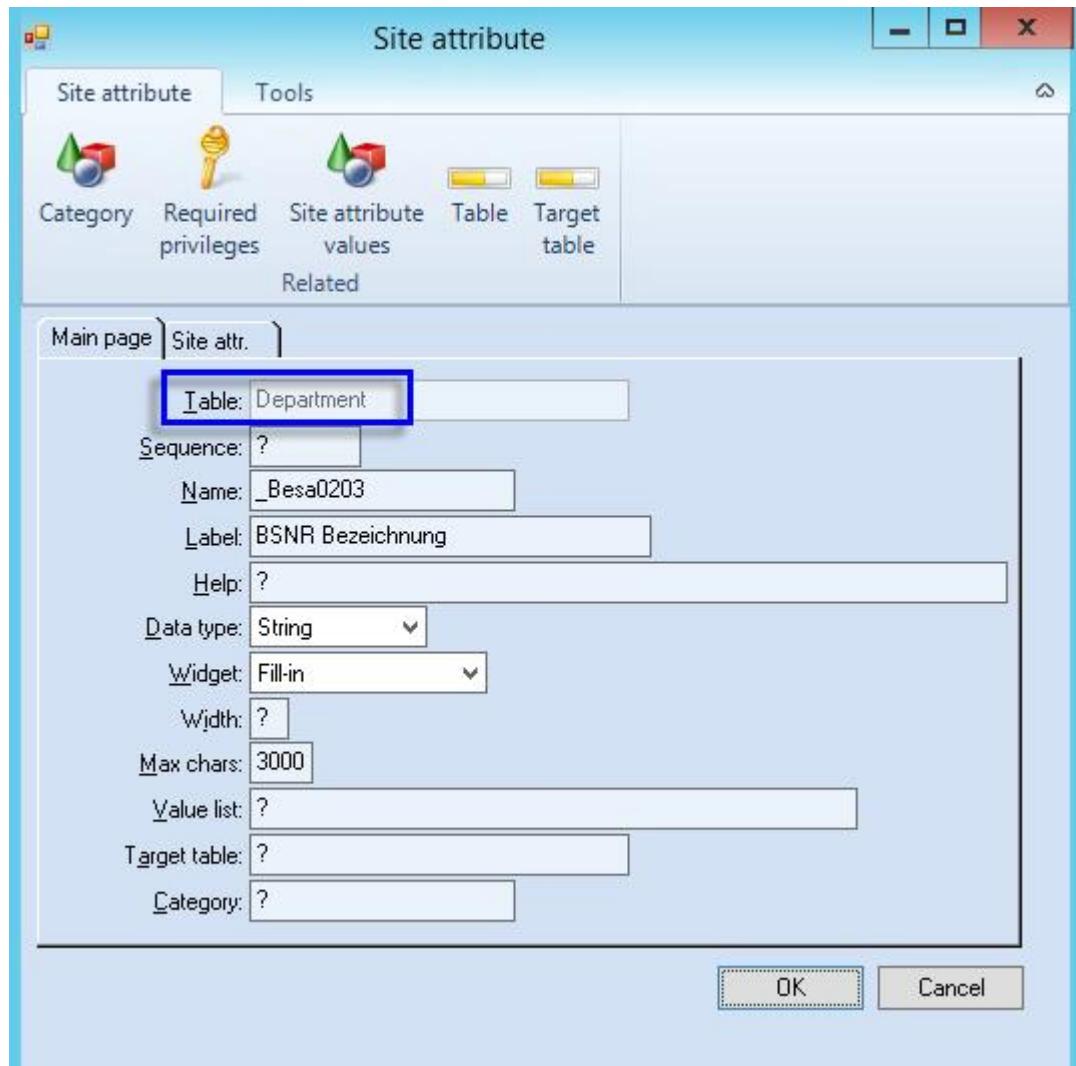
This modification tackles issues regarding the BESA records for KVDT export.

Issues

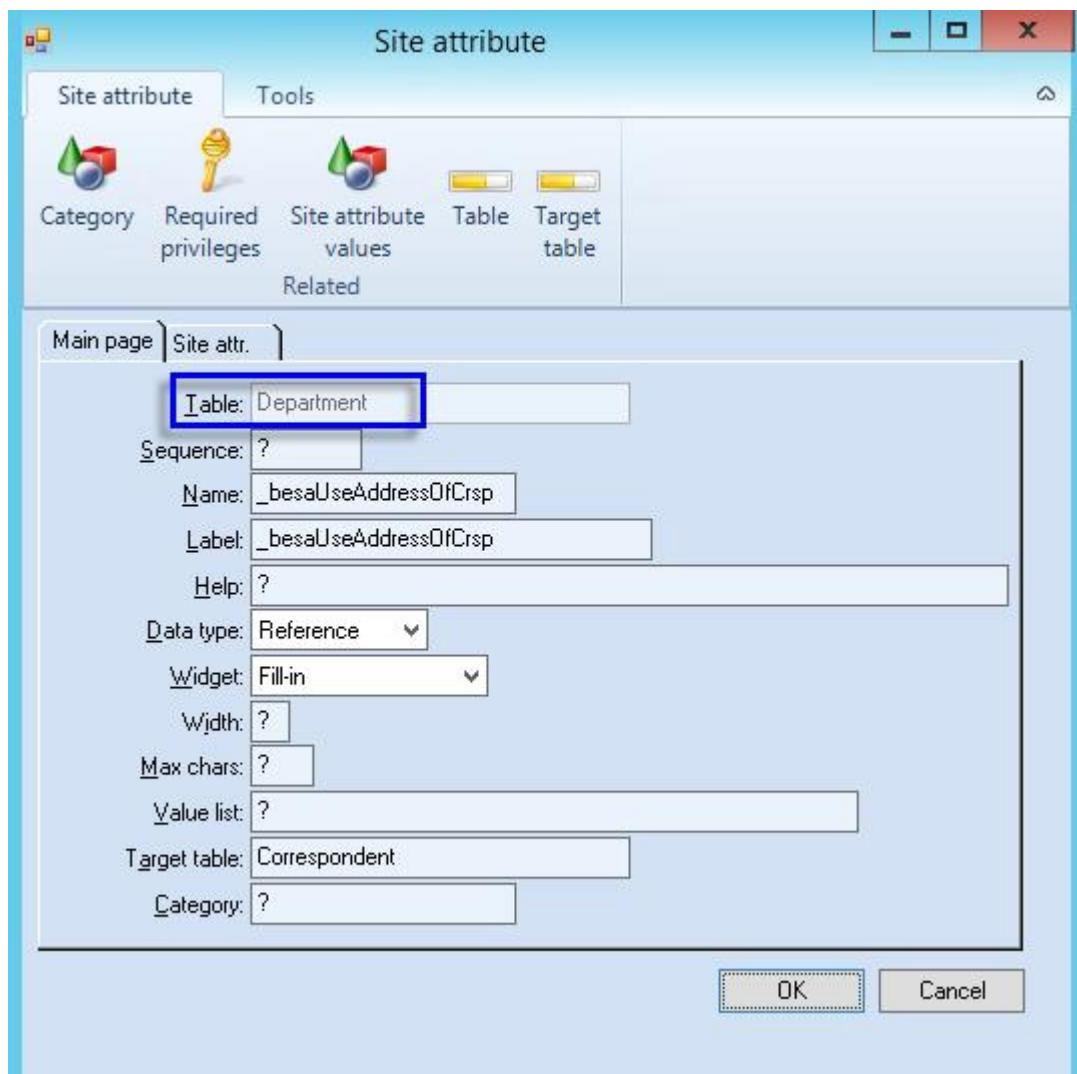
- When a HC provider who practiced in different departments had the same BSNR, the BESA header could contain double LANR entries for this same BSNR. This was the case for non-LG KVDT shipments as well.
- The field value of FK 0203 "BSNR Bezeichnung" corresponded to the field value of Department.Name. If different departments had the same BSNR, the resulting FK 0203 field value could be random.
- The contact information for the BSNR address (fields FK0205 – FK0218) is that of the Arzt/ Firma (HC provider/ firm), but it should be possible to fill these fields out with the contact information of a preferred department.

Modification

- When several executing departments have the same BSNR, the BESA header does not contain double LANR entries for the same BSNR anymore.
- The field FK 0203 "BSNR Bezeichnung" can now contain the value of a new optional site attribute "_besa0203" (**Data type**: String, **Table**: Department) instead of the Department.Name. If this site attribute is left empty, the Department.Name is used.



3. It is now possible to use the contact information of a preferred department as values for the fields FK0205 – FK0218. To this end a new optional site attribute "_besaUseBSNRAccountOfCrsp" is available on the executing departments (table Department). The instances of this site attribute must contain a reference to a Correspondent record. The fields **Data-type** and **Target table** must therefore be set to **Reference** and **Correspondent** respectively.



Financial export in German "KVDT" format: update Q3-2019 (BILX_GKVDT-00413)

The export of financial data in the German **KVDT** format (using the FinancialShipment.Send function) has been updated to support the changes (quarter 3, 2019) in KBV regulation.

Payment import in XML-based camt.054 format in accordance with ISO 20022 (BILX_GSEPA-00008)

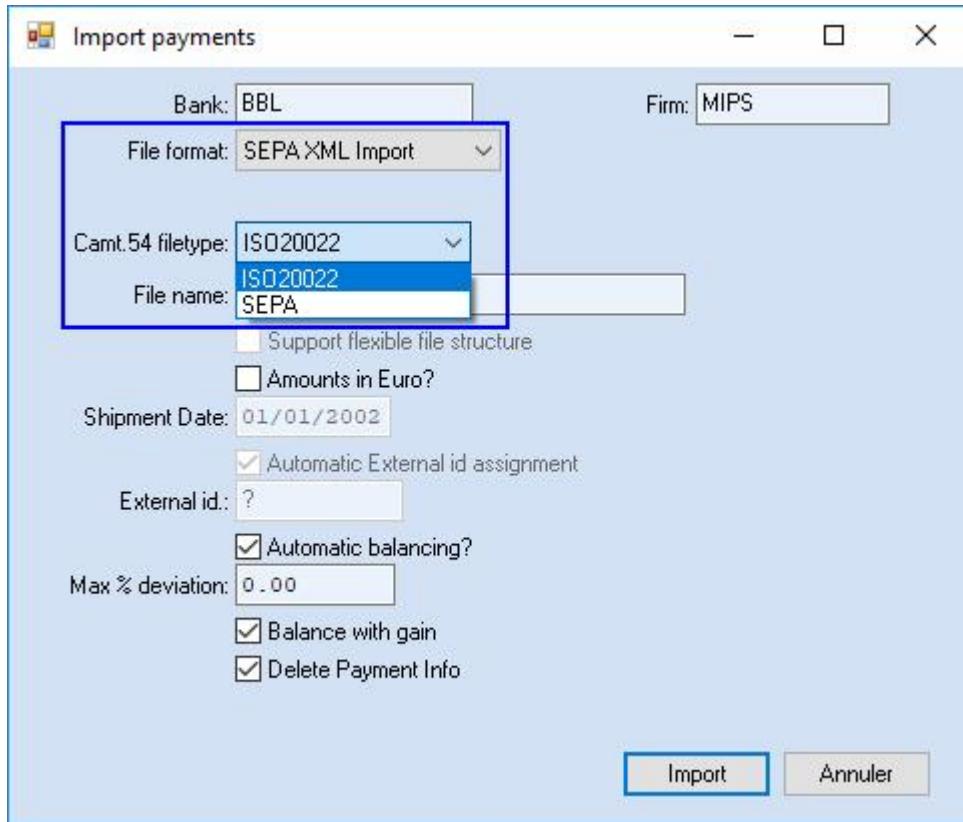
Context

ISO 20022 is an ISO standard for electronic data interchange between financial institutions. The ISO 20022 "BankToCustomerDebitCreditNotification" message (camt.054) is used by the bank to inform the account holder of the transactions booked on the account.

New payment import format in GLIMS

GLIMS now allows to import payments in the XML-based camt.054 format in accordance with ISO 20022:

- Select **Start > Billing > Payments > Import payments file**
- As **File format**, select **SEPA XML Import**
- As **Camt.54 filetype**, select
 - **ISO20022**: this will import the payments marked as "CRDT" in the imported file.
 - **SEPA**: this will import the payments marked as "DBIT" in the imported file.



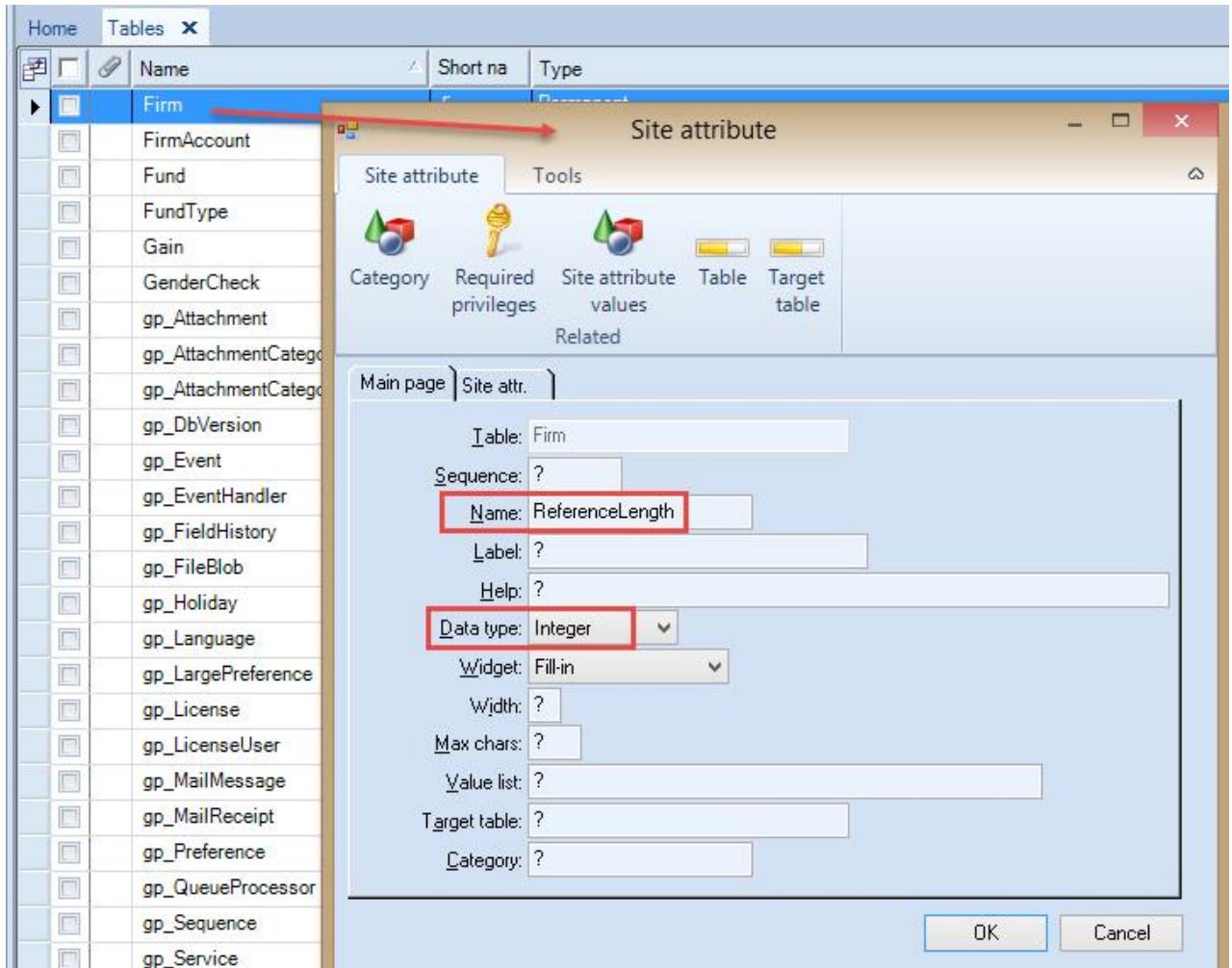
Note

The values of the IBAN/BIC fields in the imported file should have a counterpart in GLIMS, meaning that a Correspondent of type Firm and a Correspondent of type Bank should exist in GLIMS with the Bank account and Bank identifier code as read in the file.

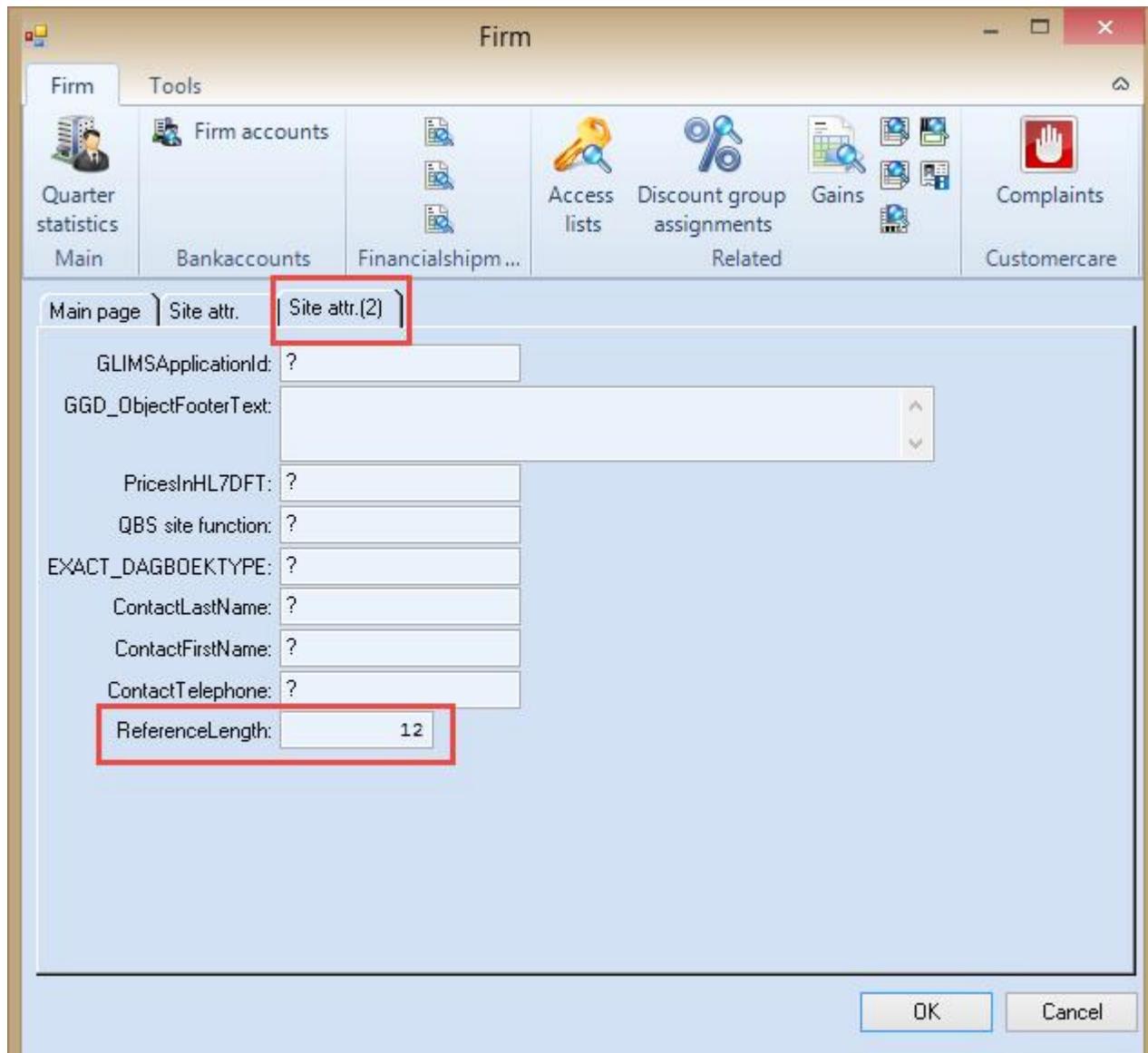
Number of payment reference digits needed to find matching invoice is customizable (BILX_GSEPA-00011)

Customers who import payments using the ISO20022 camt.054 format can now customize the number of digits that should be taken from the payment reference for GLIMS to find a matching invoice. To do so,

- create a site attribute ReferenceLength with datatype **Integer** on the Firm table:



- Open the editors of the firms on which you want to import payments.
- In the second **Site attribute** tab, fill in the **ReferenceLength** field with the number of digits needed:



Note

If no Firm is linked to the bank account, the Firm specified in the [Import payments](#) screen is used.

Lock table overflow error during upgrade to GLIMS 9.9 (BILX_GSEPA-00017)

An issue was reported where a lock table overflow error occurred when upgrading to GLIMS 9.6 or higher. The error occurred during the execution of the conversion script for SEPA bank accounts and mandates.

This has been corrected.

Payment import in "SEPA XML Import" format: use <ValDt> element (BILX_GSEPA-00020)

When importing a payment file in the [SEPA XML Import](#) format, the date in the `<ValDt>` element (instead of the date in the `<BookgDt>` element) is now taken into account for payment creation.

Warning

In previous GLIMS versions, there was a fallback to the date on which the file was processed, this is no longer the case!

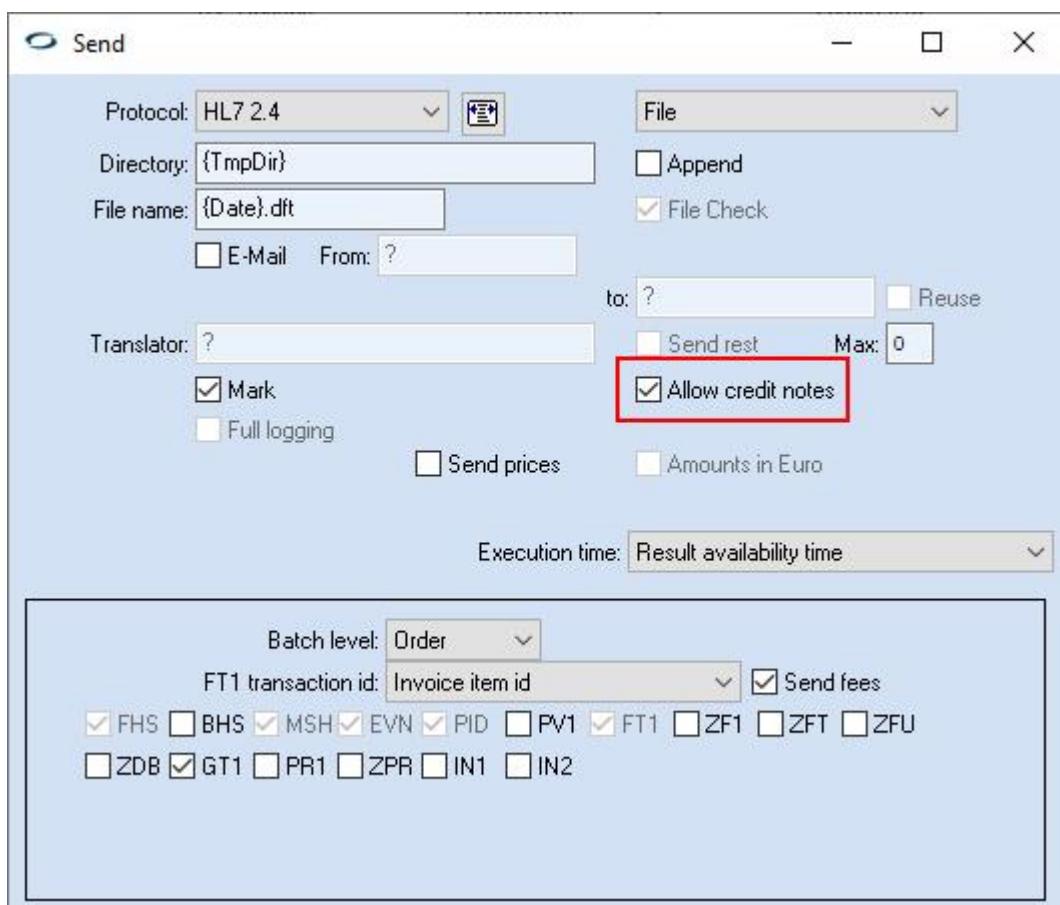
Financial export in HL7 DFT 2.4 format: include "Identifier type code" (BILX_HL7DFT24-00004)

In addition to the use of the Identification type in communication messages - functionality which is available since GLIMS 9.3 via GLIMS_PI-00298 - the **Identification type** will now also be used during the export of financial data in the **HL7 DFT 2.4** format: the field PID-3, CX-5 "Identifier type code" will now be filled with the **Mnemonic** of the **Default identification type** of the provider (**Assigned by**) of an Identification.

Financial export in HL7 DFT format: allow sending credit notes (BILX_HL7DFT24-00005)

The export of financial data in the **HL7 DFT / HL7 DFT 2.4** format now allows the user to send financial shipments containing invoice summaries that contain credit notes when the field **Allow credit notes** is enabled.

Credit note items will be sent with FT1.6 (Transaction Type) = 'c' (Charge) and with a negative quantity in FT1.10 (Transaction Quantity).



The Transaction Amount (FT1.11) is no longer required and will now always be skipped.

Financial export in HPRIM XML format: export billing item executor (BILX_HPRIMXML-00006)

Context

Since GLIMS 9.6.0 (modification GLIMS_BILL-03251), it is possible to use the result responsible as executor of the billing item (instead of using the provisions). To achieve this, the option **Validator is executor** can be enabled for each individual (executing) Lab.

Financial export in HPRIM XML format

If **Validator is executor** is enabled, the export of financial data (using the FinancialShipment.Send function) in the following formats will now export the billing item executor as "prestataire > médecin":

- HPRIM XML GMSIH
- HPRIM XML 1.04
- HPRIM XML 1.07
- HPRIM XML 2.00

Note

For supplements, the Head of the executing **Lab** is still exported as "prestataire > médecin". However, if the **Head** is not available or not of type **HCPProvider**, the billing item executor will be used.

Correction of incorrect file generation with protocol HPRIM (BILX_HPRIMXML-00039)

When sending a financial shipment using the protocol HPRIM XML 1.07, two problems occurred:

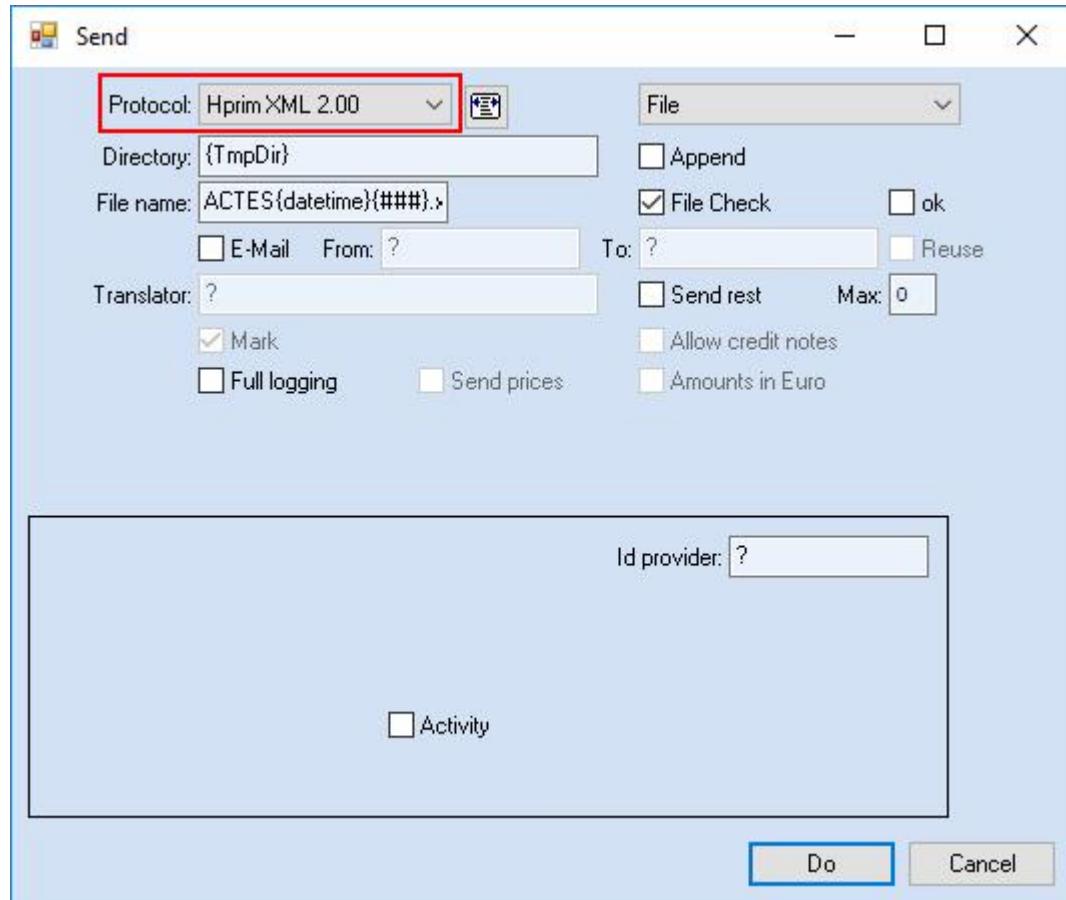
- a .ok file was generated, even when the **OK** option was not activated.
- the file was written to the temp directory, not to the directory specified by the user.

These issues have been corrected.

Financial export in "HPRIM XML 2.00" format (BILX_HPRIMXML-00041)

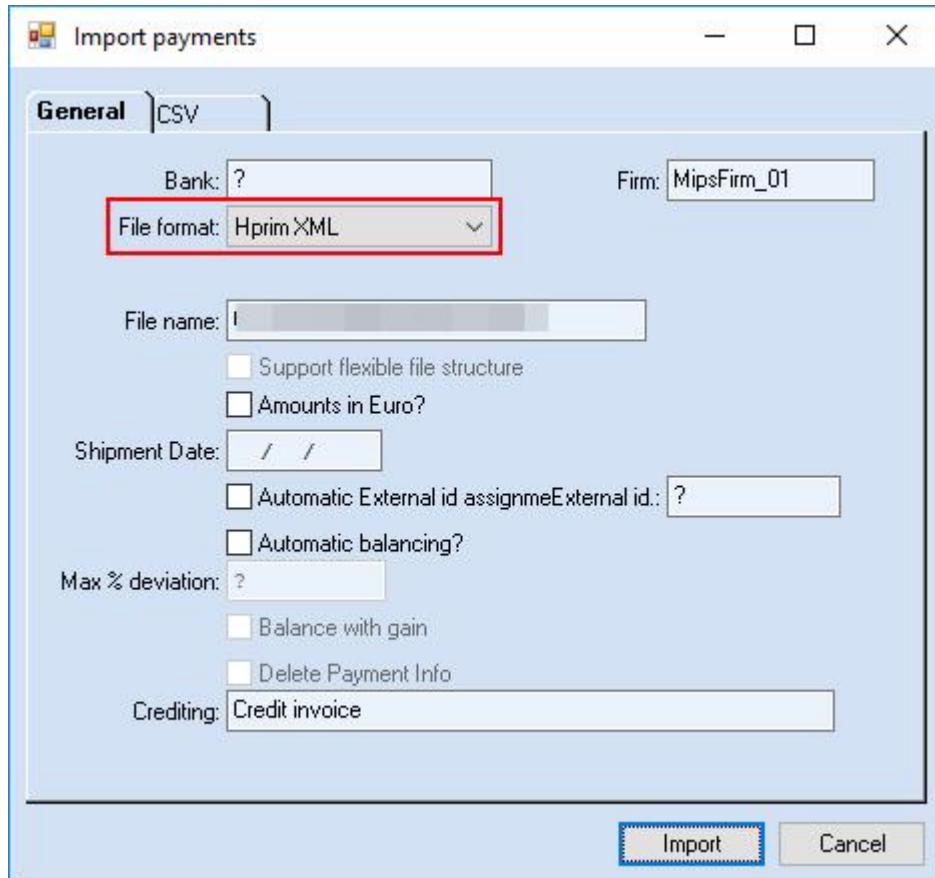
Export financial data

GLIMS now supports exporting financial data (using the FinancialShipment.Send function) in the **HPRIM XML 2.00** format.



Import rejection file

GLIMS now allows to import a rejection file in the **HPRIM XML** format via the payment import function.



Crediting

It is possible to have a credit note created if a **Crediting** function parameter set is specified.

Logging

A new log type is used: **HPRIM Import Acquittement serveurs actes**.

Financial export in "HPRIM XML" format (BILX_HPRIMXML-00043)

This modification applies to the **HPRIM XML** export format of the FinancialShipment.Send function (HPRIM XML GMSIH, 1.07 and 2.0):

If the price code (**Mnemonic** or **Base value code**) ends in *_G, then GLIMS will export the "actesNGAP" as

- acteHorsNomenclature=oui
- facturable=non
- gratuit=oui

(whether or not the invoice item price is 0.00).

Note

When the price code's **Base value code** ends in "_G", the "_G" is removed from the value before it is exported in the "lettreCle".

If the price code (**Mnemonic** or **Base value code**) ends in *_Z, then GLIMS will export the "actesNGAP" as

- acteHorsNomenclature=oui
- facturable=non
- gratuit=oui

and will add a new element "montantTotal" with value "0".

Financial export in "HPRIM XML 1.04" format (BILX_HPRIMXML-00046)

Issue

Since the introduction of HPRIM XML 1.07, it was no longer possible to send financial shipments in the **HPRIM XML 1.04** format.

Solution

This has been corrected: the **HPRIM XML 1.04** format is now available again.

Note

Customers wanting to use HPRIM XML 1.04 will have to manually correct the protocol in the function parameter sets used in tools or commands.

"Record passed" only shown if sending of financial shipment was successful (BILX_MEDSOC-00010)

This modification corrects an issue occurring since GLIMS started to support the Medsoc protocol.

With the Medsoc protocol, the message "Record passed" was displayed, even when errors occurred when sending financial shipments. This led users to think the shipment was successful, although the file had not been sent and errors had been logged in the database.

The message "Record is passed" is now only shown when the financial shipment has been sent.

"Code UF de demande" field can now contain up to 20 characters (BILX_Pegase-00025)

The field "Code UF demande" for the export of financial shipments using the Pegase protocol can now contain up to 20 characters instead of 6.

Financial shipments can be exported without patient country (BILX_Pegase-00028)

Exporting financial shipments with the "Pegase" protocol did not work if the patient's country was not indicated.

This has been corrected: given that the patient country field is optional, financial shipments can now be exported even if this information is not provided.

Financial export in TripleP / Xtenso format: new version 1.14 (BILX_TRIPLEP-00044)

In a nutshell

GLIMS now supports version 1.14 of the **TripleP** protocol (Xtenso) for the export of financial data.

In detail

Should GLIMS in the future receive internal identifications of doctors (HC providers in GLIMS) that exceed 6 characters, GLIMS is now able to process these identifications during the export of financial data in the **TripleP** format.

The received internal identifications are stored in GLIMS as Identification records linked to HC provider records. Upon export of financial data, GLIMS will now check the length of the identifications (of which the provider is the financial shipment's **Destination**):

- If length = 6: the following fields will be filled:

Field	Position	Description
6	54	Executing doctor
10	71	Requesting doctor
36	197	Responsible doctor
40 (if needed)	226	Doctor responsible for transfusion

- If length > 6: the following fields will be filled:

Field	Position	Description
114	830	Responsible doctor
115	841	Executing doctor
116	852	Requesting doctor
121 (if needed)	897	Doctor responsible for transfusion

Financial export in "UCM XML" format (BILX_UCMXML-00049)

An issue was reported where after having sent a financial shipment in the **UCM XML** format with the option **Mark** enabled,

- the financial shipment's **Status** was not promoted to **Fixed**,
- the financial shipment's **Shipment date** was not specified,
- the financial shipment's **Comment** was not updated.

This has been corrected.

Note

This problem occurred since GLIMS 9.5.12.

Financial shipment with UCM protocol: End date and time of requests not exported anymore (BILX_UCMXML-00053)

GLIMS offers the possibility to export financial data to CNS Luxemburg in the UCM XML format.

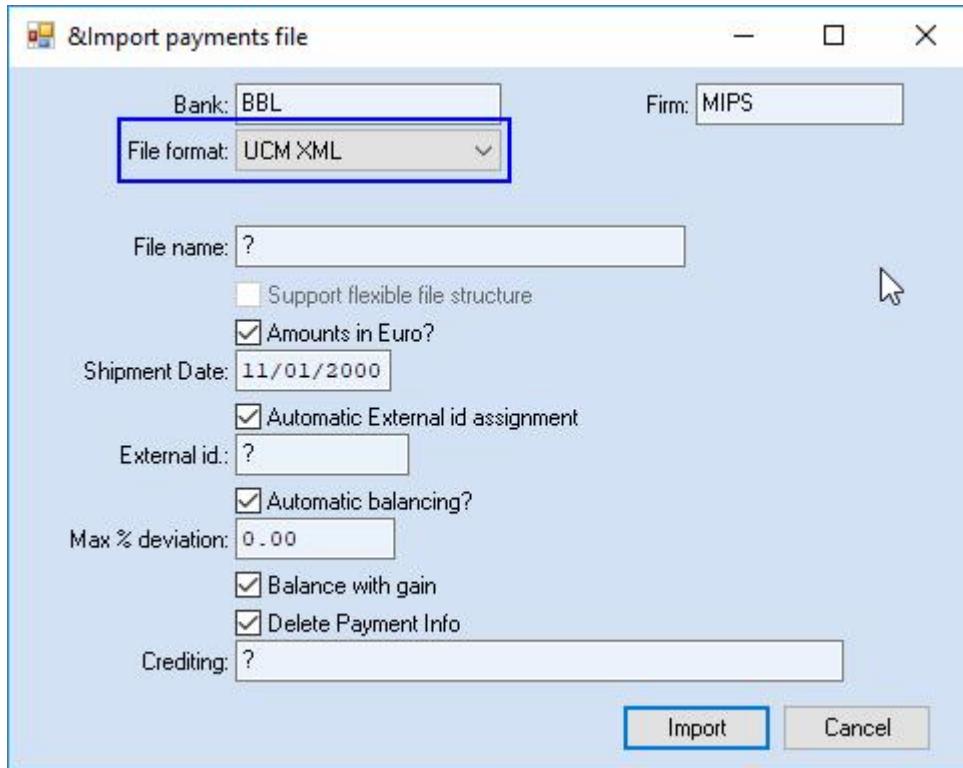
In the created XML file, the periodePrestation block could contain the end date and end time of the requests. However, this information is only optional and may lead to issues when the end date lies before the start date. As of now, this information is thus not exported anymore: the corresponding tags do not appear anymore in the XML file.

Financial export in "UCM XML" format: "Delete temp file" supported in pre-configured parameter set (BILX_UCMXML-00054)

The pre-configuration of the export of financial data in the UCM XML format by means of a Tool now supports the **Delete temp file** parameter.

Payment import in "UCM XML" format (BILX_UCMXMLI-00016)

GLIMS now allows to import payments in the **UCM XML** format.



VAT identification is optional when exporting financial shipments with the Vektis protocol (BILX_VEKTIS9-00010)

Since GLIMS 9.6, a VAT identification was always required when exporting financial shipments with the Vektis protocol. This has been corrected: the VAT identification, field 0118, is now optional.

GLIMS stops working when exporting a large financial shipment in Vektis format (BILX_VEKTIS9-00013)

An issue was reported where exporting a large financial shipment in **Vektis** format could cause GLIMS to stop working ("SYSTEM ERROR: Attempt to define too many indexes").

This issue has been corrected.

Default VAT liability applies to automatically created payment agreements (GLIMS-10847)

Context

When manually creating a payment agreement, the field value of **VAT liable** in the payment agreement editor is determined by the field **Default VAT liability** of the site specific GLIMS billing configuration.

Payment agreement

Payment agreement Tools

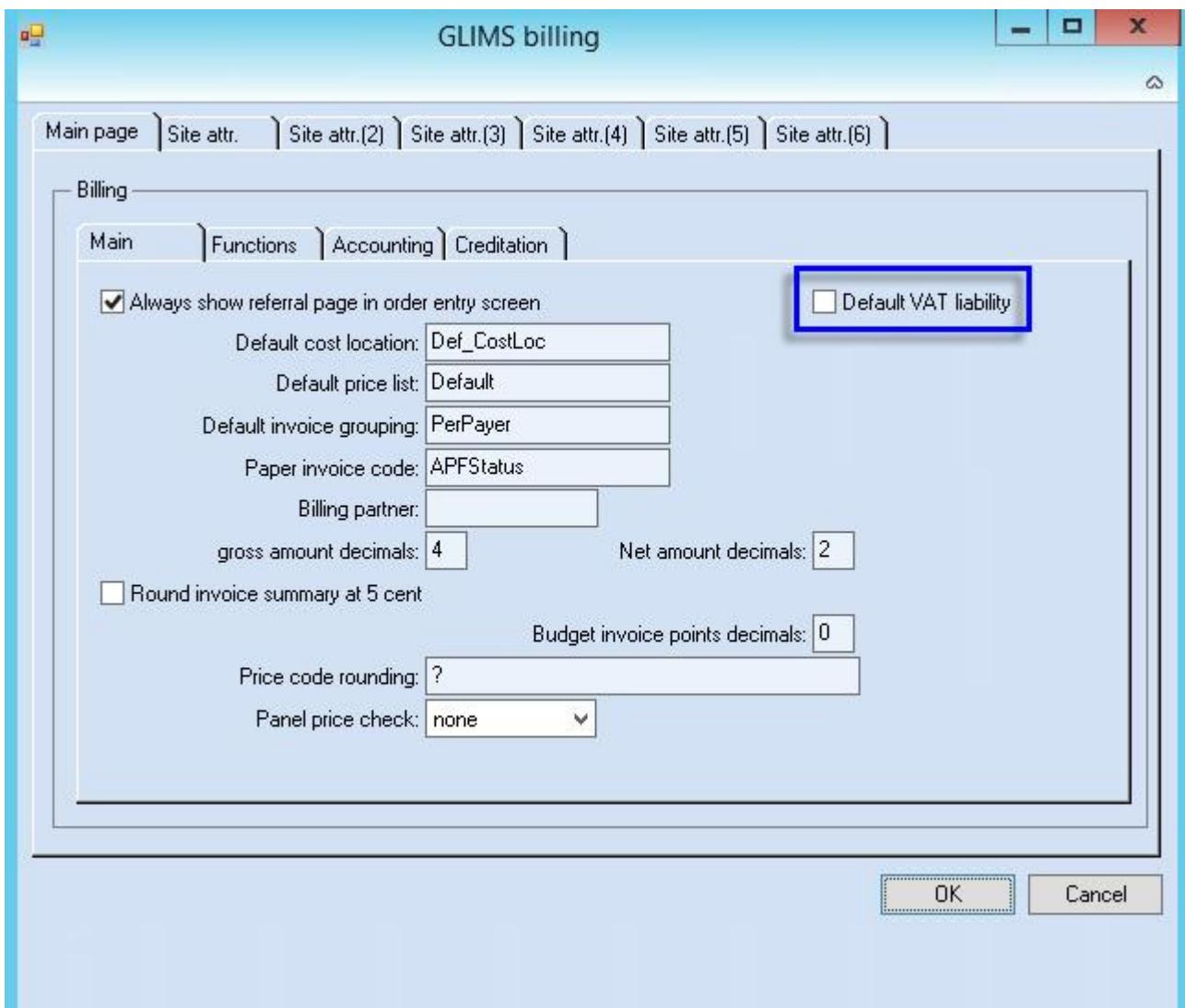
Close Verify Financings of Invoices
Main Payment agreement based on Related

Main Site attr.

Validity:	19/05/2015		<input checked="" type="checkbox"/> 3rd p. agr.
Party:	120478MUSTPETO	Mustermann Peter	
Fund:	000Mut	mutuelle	
Fund id:	?	?	
Policy name:	Mut	<input type="checkbox"/> Checked	
Matriculation type:	?		
Matriculation:	?	1234646	Relation: Holder
Holder:	?	??	Status: ?
Card:			
Price list:	?	<input type="checkbox"/> VAT liable	Code: ?
Discount code:	?	Default seq no: 10	
Remote id:	?		

MyCarenet

Contract No:		Registr.:	?
Last verified:		Consulted period:	



The same system should apply when orders are created electronically.

Issue

When a payment agreement was created automatically by the electronic order entry (e.g. via running a service), the value of the field **Default VAT liability** was not taken into account. As a consequence, the field **VAT liable** of automatically created payment agreements was always deactivated.

Solution

This behavior has been corrected: the value of the field **VAT liable** of automatically created payment agreements now corresponds to the value of the field **Default VAT liability** in the GLIMS billing configuration.

Start time of payment agreement synchronized with lowest object time of order (GLIMS-10920)

Context

When a new order is created for a new patient (via electronic order entry), the start time of the related **Payment agreement** is set to the creation time of the order.

Issue

If, afterwards, the **Lowest object time** of the **Order** is updated via

- an update of the sampling time of a specimen
- an order import message (SynchronizeLowestObjectTime)
- ...

this could result in the order's lowest object time being earlier (<) than the payment agreement's start time, which results in an error during tariffication as no payment agreement can be found which is valid on the order's lowest object time.

Note

This problem occurred since GLIMS 9.

Present functionality

The payment agreement's start time will now be set to the order's updated lowest object time when the following conditions are met:

- The difference between the payment agreement's start time and the order's lowest object time is not higher than 7 days.
- The payment agreement's **Party** is specified.

See also: [GLIMS-11444](#).

Double requests: BudgetCharge present in internal report URL message (GLIMS-11116)

Background

When a property is requested via more than one RequestedCode, several requests are created for the same result. However, upon report generation and order budgeting/tariffication, request doubles are skipped in order to avoid duplicate results and prices.

Issue and solution

The issue was that the request exported upon report generation was sometimes the one lacking the correct BudgetCharge. As a consequence, the internal report URL message contained some requests for which the correct pricing was missing.

This issue has been corrected.

Note

Note

The problem occurred since version 9.3.

Provide logging if billing mark of request or requested code changes (GLIMS-11290)

If the billing mark of a request or requested code (in case of pending orders) is changed*, this change is now logged (stored in the Result or Order log) and can be consulted via the Order log (as the Result log is included in the Order log). Only changes made after the initial billing mark was set are logged.

* Billing marks can be changed:

- Via the contextual function **Apply current request attributes** in the request browser of the order entry screen.
- In the **Billing** tab of the **Request** editor.
- During electronic order entry.

Start date of electronically received payment agreement synchronized with lowest object time (GLIMS-11444)

Introduction

This modification implements an additional correction for the issue described in the release note of [GLIMS-10920](#).

Issue

[GLIMS-10920](#) covered the scenarios where an update of the lowest object time happened for an existing order and existing payment agreement. However, it did not cover the scenarios where a payment agreement was received electronically for an order without a payment agreement.

For instance, when

1. an order was created, via the specimen scan, and there was no order set yet,
2. the payment agreement without start date was then imported electronically,

the start date of the payment agreement was not synchronized with the order's lowest object time. This could block the tariffication.

Solution

This problem has been solved. The following now holds for new, electronically received payment agreements as well:

The payment agreement's start time is set to the order's updated lowest object time when the following conditions are met:

- The difference between the payment agreement's start time and the order's lowest object time is not higher than 7 days.
- The payment agreement's **Party** is specified.

Financial export in Infohos format: correction of error occurring when using order internal ID ([GLIMS-12041](#))

An issue was reported where an error occurred during the export of financial data in the **INFOHOS** format if the order internal ID was used as order identifier. This has been corrected.

Note

The value of the format's RequestNumber field, which is based on the order internal ID or short ID, cannot exceed 10 characters. Since GLIMS needs to add the suffix "A" to the order identifier in case of additional invoices (since GLIMS_BILL-03103 in GLIMS 8.11.7), only the last 10 characters of the calculated order identifier will now be used to ensure that the suffix can be added without exceeding the maximum length of the field.

Improved error message when assigning an already used external id of a financial shipment ([GLIMS_BILL-03190](#))

An issue was reported where the attempt to assign, to a financial shipment, an external id which was already used for the **Firm** and **Destination** of that shipment led to an unclear error message.

This issue has been fixed. From now on, the user sees an improved error message:

"Problem placing invoice summary on shipment:

Shipment already exists: a shipment must have a unique combination of external id, version number, destination and firm"

Error when using the quick invoice ([GLIMS_BILL-03573](#))

An issue was detected where tariffication errors occurred when generating a **Quick invoice** for an order containing panels consisting of other panels (e.g. panel 1 which contains panel 2 which in its turn contains panel 3,...).

This has been corrected.

Avoid failure of budget calculation for incomplete orders ([GLIMS_BILL-03577](#))

Issue

When calculating the budget for an incomplete order (during reporting or tariffication), the error "Tariffication time cannot be determined" occurred if a policy with **Tariff time type** set to **Completion** and a budget-related policy* with **Tariff time type** set to **Object** or **Receipt** was used.

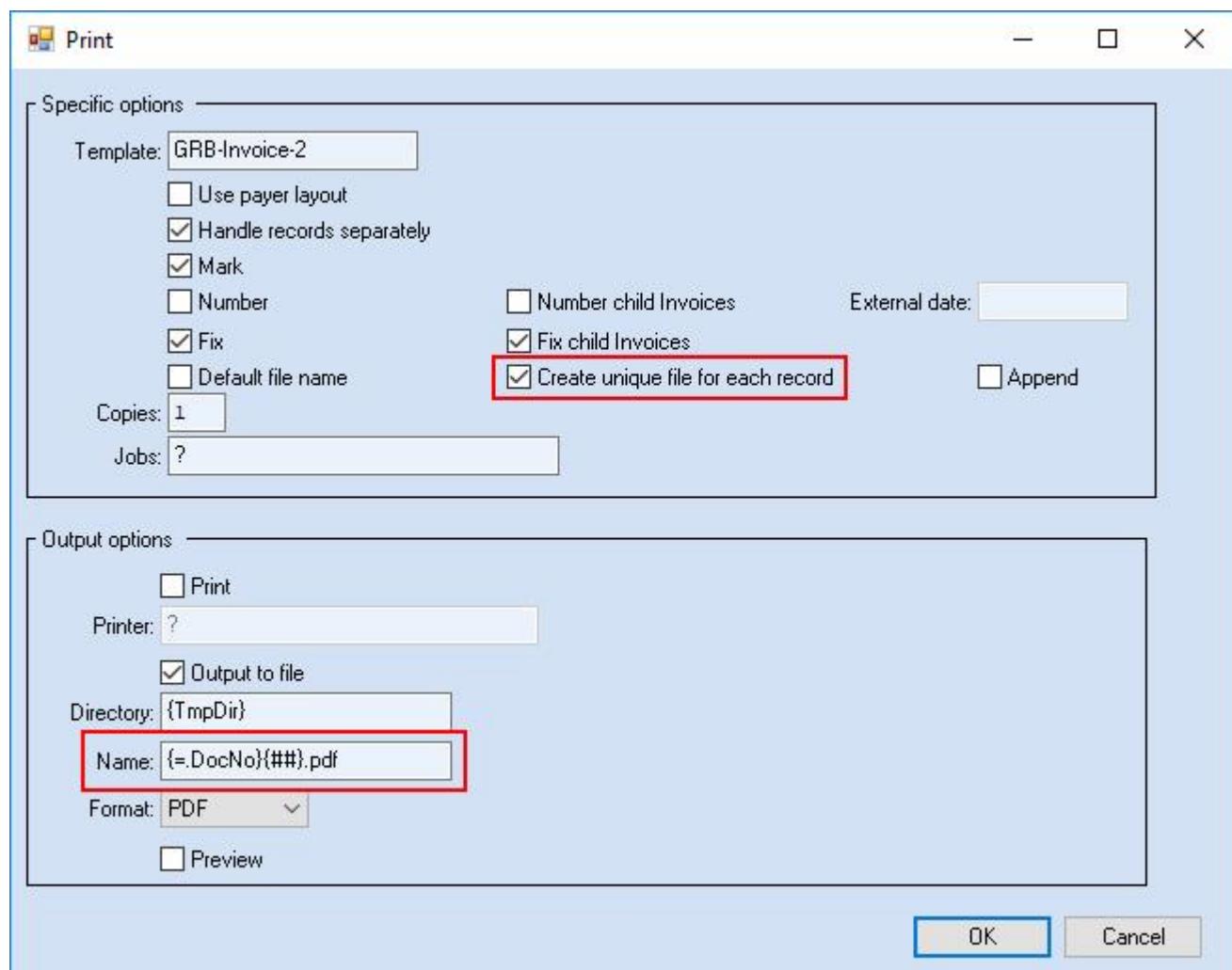
* Budget-related policy = the **Policy** referred to by the **Budget definition** via the **Budget policy name** field.

Solution

For budget calculation, only the **Tariff time type** of the budget-related policy will now be taken into account in order to find the valid budget definitions. This modification will avoid the above-mentioned error during the budget calculation for incomplete orders. However, if the budget-related policy's **Tariff time type** is set to **Completion**, then a complete order is required for budget calculation.

Correction of error "Invalid characters in file name" during printing of billing documents (GLIMS_BILL-03583)

When printing billing documents using a symbolic file name containing MISPL, {=.DocNo}{##}.pdf for instance, while the option **Create unique file for each record** was enabled, the error **Invalid characters in file name** could occur (for outputs in **Text** and **PDF** format).



This has been corrected.

Corrections of issues with the Clean or credit function (GLIMS_BILL-03585)

This modification corrects two issues with the function Clean or credit invoices.

First issue

The first issue occurred when setting up the function parameter set of a tool for this function. When choosing the value "?" in the **Open browser** field, then closing the set up screen and reopening it again, the value "?" was replaced by "Orders". It was therefore not possible to create a tool which would be executed without an order (set) browser also being launched.

Second issue

The second issue occurred in routine: when the function was executed, an error message was sometimes displayed.

Enhancements for payment import in STUZZA CREMUL format (Austria) (GLIMS_BILL-03593)

Context

GLIMS allows to import payments in the Austrian STUZZA CREMUL format since GLIMS 8.5.

Past functionality

The payment import program used the field preceded by the keyword "FTX" (which actually contains the reason why the payment was made, as entered by the payer) from the import file to link the payment to an invoice summary.

In this case, the invoice summary could not be found automatically and the user had to manually select the invoice summary.

Current functionality

Payment reference

The payment import program now uses the payment reference preceded by the keyword "RFF+PQ" from the import file. The payment reference which is extracted from the import file will be compared with the invoice summary's **Payment reference** or **Doc no.**

1. If no invoice summary can be found using the payment reference from the "RFF+PQ" field or if no "RFF+PQ" field is available, the field "FTX+VWZ" will be taken into account.
2. If no "FTX+VWZ" field is available, the field "FTX+ZV2" is taken into account. Note that, in this case, the invoice summary needs to be balanced manually.

Notes

The length of the payment reference is still checked. It should be at least 6 characters long. Leading "0" will be removed if the payment reference was extracted from the "FTX+VWZ" or "FTX+ZV2" field (and its length is 12 characters).

Payment.Date

GLIMS now uses the DTM+202 field on LIN level (if DTM on SEQ level is not available) to fill the **Date** field in the **Payment** editor.

Logging

Logging has been improved so that it is now easier to find out which payment reference was used to find the invoice summary.

Payment import in ISO 20022 format: correction for Payment editor (GLIMS_BILL-03595)

Context

GLIMS allows to import payments in the [ISO 20022](#) format.

Issue

If a **Payment** record is opened from the browser containing the imported payments, the focus is by default in the **Firm** field. When tabbing out of the **Firm** field, GLIMS assumed the **Firm** had been changed and filled in the main bank account (the default bank account) of the firm. This should not have happened.

Solution

This issue, which occurred since GLIMS 9.6, has been corrected.

Financial export in RIZIV (MyCareNet) format: correction for missing product description (GLIMS_BILL-03598)

Context

GLIMS allows to export financial data in the **RIZIV** format (with **Type of RIZIV file** set to **CARENET**) via the FinancialShipment.Send function.

Issue

During the export, an error occurred about a missing product description ("omschrijving product").

Solution

For billing codes starting with "(0)960" (and which typically require a product description):

- the request description (typically the **Description** or the **Mnemonic** of the **Property**) is exported as "omschrijving product" (Record 50, zone 44-45) as before,
- if no request (description) is available (supplements), the **External description** of the **Billing code** is now exported or the **Internal description** of the **Billing code** (if the **External description** is unavailable).

Note

The description is truncated at 30 characters (as before).

Tarification error in case of nested panels erroneously considered recursive (GLIMS_BILL-03604)

A tariffication error occurred for orders containing a nested panel which was erroneously considered to be recursive.

Example

Panel 1
 Panel 2
 Panel 4
 Panel 3
 Panel 4

Note

This issue was introduced in GLIMS 9.5.21 (GLIMS_BILL-03568), GLIMS 9.6.3 (GLIMS_BILL-03569), GLIMS 9.8.1 (GLIMS_BILL-03570) and GLIMS 9.9.0 ([GLIMS_BILL-03573](#)).

This issue has been corrected.

No message displayed anymore to users of the "Feuille de soins" when reopening orders or tariffing order sets (GLIMS_BILL-03608)

This modification corrects a problem encountered by users of the French "Feuille de soins électronique".

If the **Exoneration code** field of the Order entry tab FS was set to **ALD**, an informative message was displayed when

- reopening orders
- tariffing an order set (if the policy clause field **Reimbursement type** was set to **French**).

One had to click **OK** several times for this message to disappear.

Tariffication error for order containing pathology examination and paired specimens (GLIMS_BILL-03611)

An issue was reported where the following errors occurred during the tariffication of an order containing a pathology examination and paired specimens (specimens originally belonging to another order).

- ** FIND FIRST/LAST failed for table wb_ParentMicDelivery. (565)
- w_Delivery record not on file. (138)

This has been corrected.

Only display the calculated "Unpaid amount" for HC providers and persons (GLIMS_BILL-03614)

Issue

Opening the Correspondent editor and browser could be slow, especially in environments without payment follow up, due to the calculation of the **Unpaid amount** (which is the unbalanced amount of all fixed invoice summaries). This was also the case for the correspondent sub types.

Solution

The calculated **Unpaid amount** will now only be displayed for correspondents of type **Person** and **HC provider**. To be more precise:

- in the Person and HC provider editor,

Note

For other correspondent types, the **Unpaid amount** field in the editor will have "?" as value.

- in the datasheet generated for a correspondent of type **Person** or **HC provider**.

In addition, the **Correspondent Unpaid amount** column is now available in the **Person** and **HC provider** browsers.

Financial export in RIZIV format: export of "registratiecode" (art.33ter) (GLIMS_BILL-03615)

Introduction

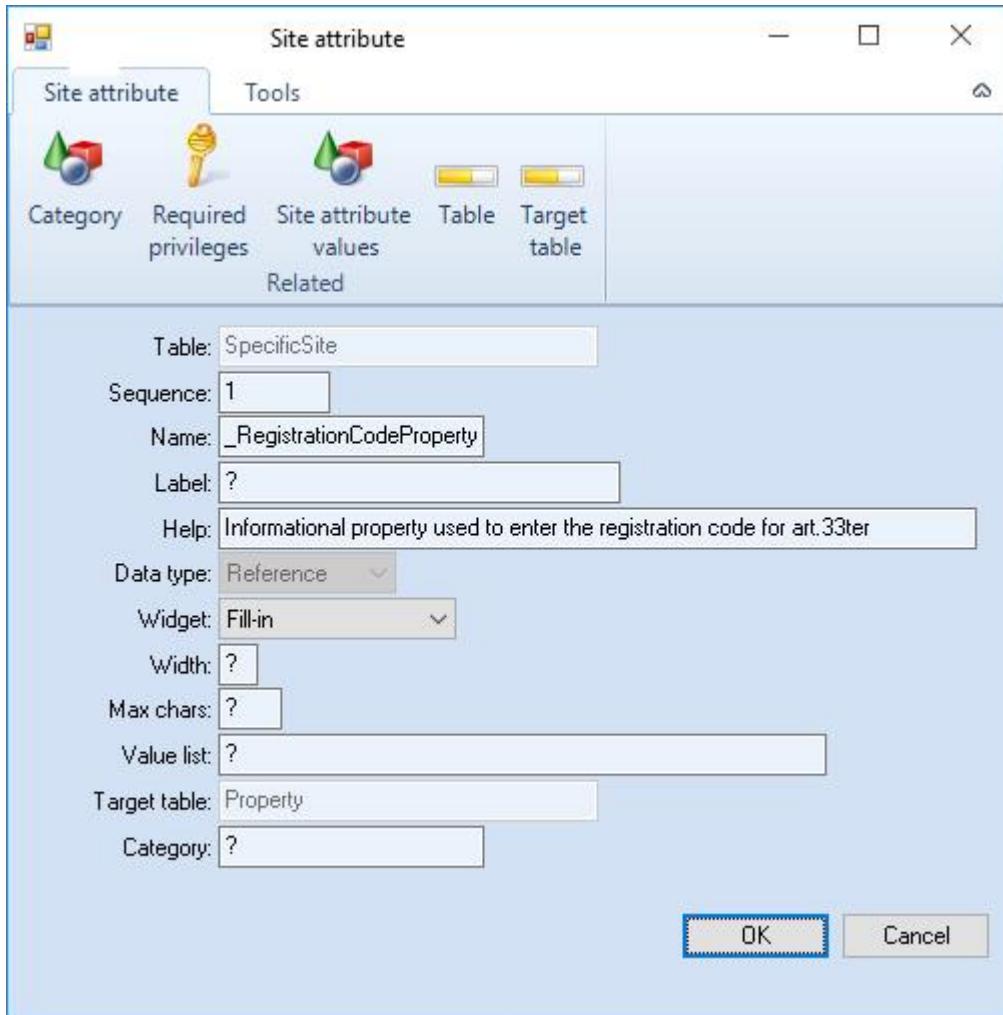
The export of financial data in the **RIZIV** format now exports the "registratiecode" (registration code) for billing items related to art.33ter (in record type 50 Zone 57-59).

Entering the registration code in GLIMS

For GLIMS to be able to export it, the registration code needs to be entered as an informational result during order entry. The (dummy) property used for this purpose needs to be indicated in the **SpecificSite**-based site attribute **_RegistrationCodeProperty** with **Data type = Reference** and **Target table = Property**.

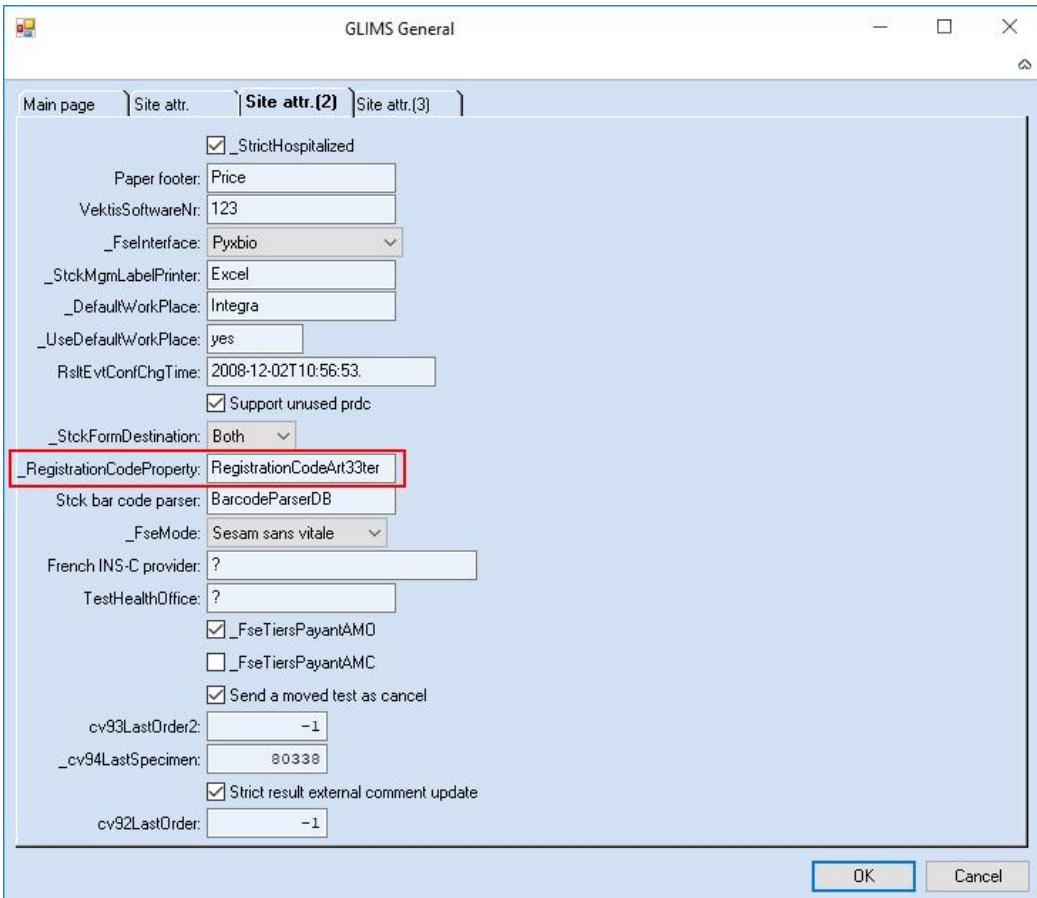
Adding the site attribute

1. Choose **Start > System management > Scheme > Tables**
2. Select the **SpecificSite** table
3. Right mouse click > **Site attributes**
4. Press Insert



Filling in the site attribute

Choose **Start > System management > Customize > GLIMS general**. The selected dummy property can have the datatype **String** or **Numeric**.

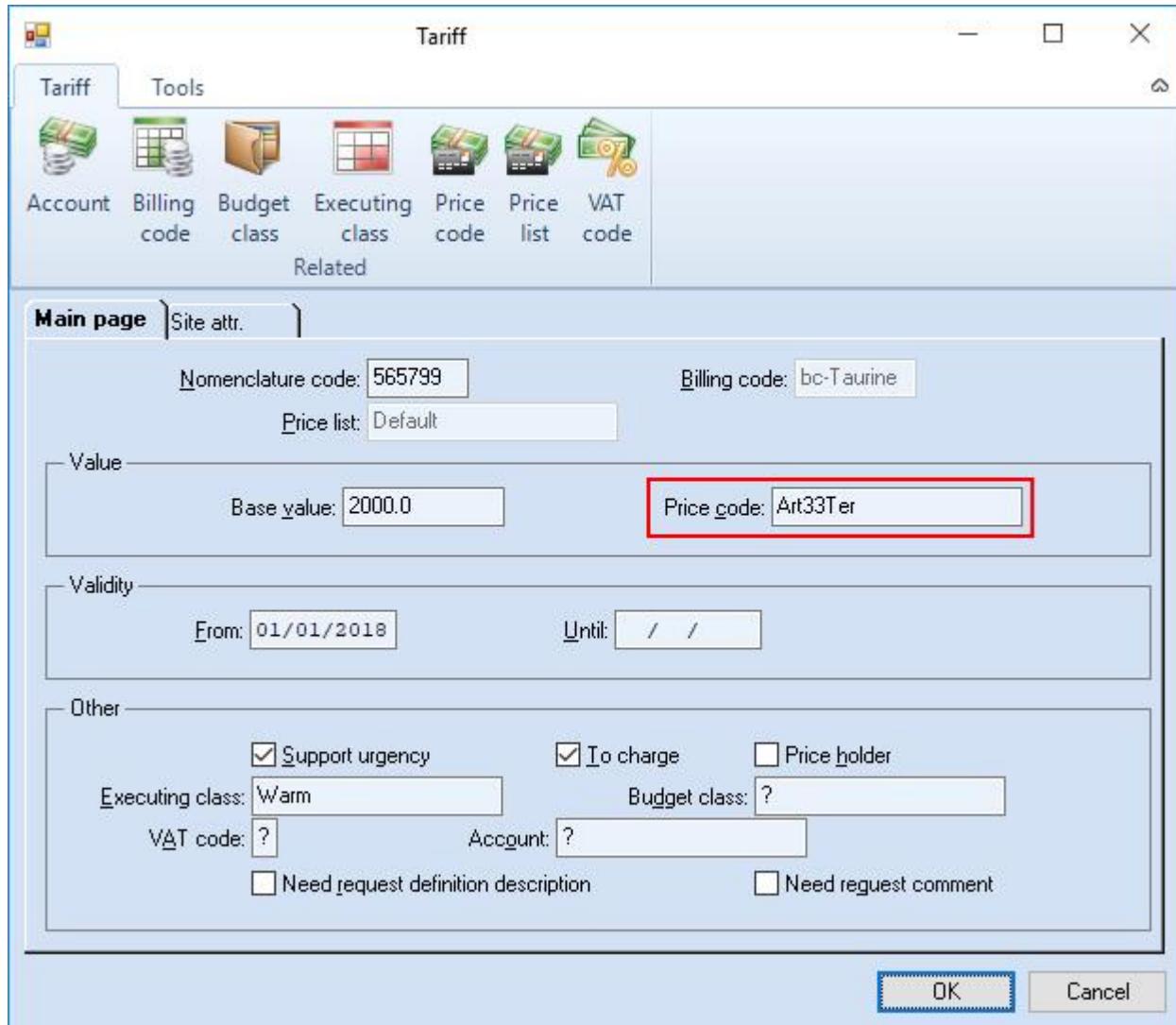


Note

One registration code result per order should be sufficient. However, if more than one is required, the dummy property can be configured as an output of the procedure that also delivers the result of the art.33ter related billing item.

Recognizing art.33ter related billing items

For GLIMS to be able to recognize the art.33ter related billing items, the **Tariff > PriceCode.Mnemonic** should be "* [Art]33ter" (for instance Art33ter, Artikel33ter or 33ter).



In addition

The marker ("merker") which is also required for art.33ter related billing items is exported in the BV ("betrekkelijke verstrekkering") field. It is obtained from the **BillingItem**-based site attribute.

For art.33ter, art.33bis and NIPT related billing items, the part of the invoice to be paid by the patient is exported in the "bedrag patient" (and not the "supplement") field. The recognition of art.33bis related billing items via their **PriceCode.Mnemonic** ("33bis" for instance) is also supported.

Quick invoice only displays one invoice (GLIMS_BILL-03616)

An issue was reported where, for an order containing more than one invoice, the Quick invoice screen only displayed one invoice even though the **Preview party** was set to "?" (meaning "all parties").

Correction of errors during billing document printing (GLIMS_BILL-03624)

The following errors, which occurred since GLIMS 9.8.0 when printing a billing document (via the contextual menu or ribbon item **Print** on invoice, invoice summary, financial shipment, financial transaction or billing document printout) with the option **Handle records separately** disabled, have been corrected:

1. Mismatched number of parameters passed to routine bdtp_prt. (3234)
2. Temporary file was not found. (293)

Matriculation numbers of type German eGknumber are correctly checked (GLIMS_BILL-03634)

When a matriculation number of type **German eGknumber** is entered in the **Payment Agreement** editor, GLIMS checks this number. In certain cases, the checking mechanism did not work properly: correct numbers were sometimes considered incorrect and vice versa.

This has been corrected.

Logging of quick invoice without saving is written to database (GLIMS_BILL-03635)

Background

To avoid lock issues on the log table, the tariffication logging was written to screen instead of database when using the quick invoice program without saving or the price consultation program.

Modification

When using the quick invoice program without saving, the logging is now written to the database.

When using the price consultation program, the logging is still written to screen.

Avoid error when opening a record of the "Invoice summary(ies)" browser (GLIMS_BILL-03636)

An issue was reported where the error **Unable to determ cursor/finder procedure for view InvoiceSummariesOfOrder** occurred in the following scenario:

- From an **Order**, select **Billing > Invoice summary(ies)** in the contextual menu.
- In the **Invoice summary(ies)** browser, double-click (or use F6) on a record to open the **Invoice summary** editor.

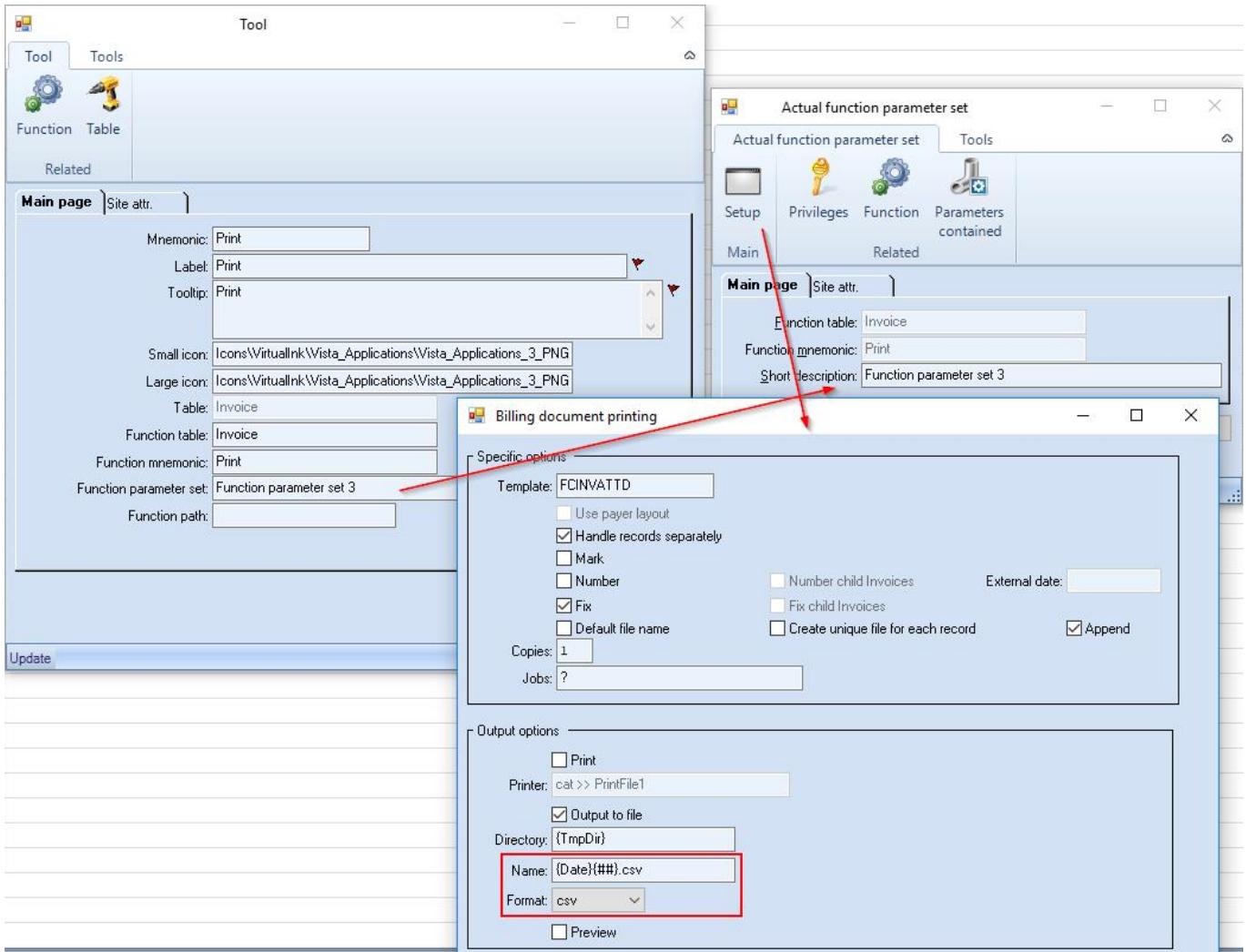
This has been corrected.

Correction of error during collection of invoice summary changes (GLIMS_BILL-03637)

The error **** Unable to update _NewMixedInvoiceSummary Field (142)** which could occur when using the contextual ribbon / menu item **Collect changes** on an **Invoice summary** while the option **Create debit and credit invoice summary** was enabled, has been corrected.

Save other extensions when setting up a function parameter set for printing billing documents (GLIMS_BILL-03640)

When setting up the function parameter set to be used for printing billing documents to file using a Tool and specifying, in the **Name** field, another extension (.csv for instance) than the ones used by the default formats (PDF, XML, TXT), GLIMS did not save the specified extension and would replace it with .txt.



This has been corrected: the specified extension is now saved correctly and is also visible in the **Format** field.

New definition of Forwarded condition on Policy clauses (GLIMS_BILL-03642)

This modification makes it possible to change the interpretation of the Forwarded condition on policy clauses.

Before GLIMS 9.8.6

If the **Forwarded** condition was set to YES for a policy clause, then this policy clause could only be used when the lab executing the request was different from the lab who had received the request.

If the **Forwarded** condition was set to NO for a policy clause, then this policy clause could only be used when the lab executing the request was the same as the receiving lab.

Issue

When both labs are different but belong to the same site (two internal labs), the request sent to the executing lab cannot be considered as forwarded.

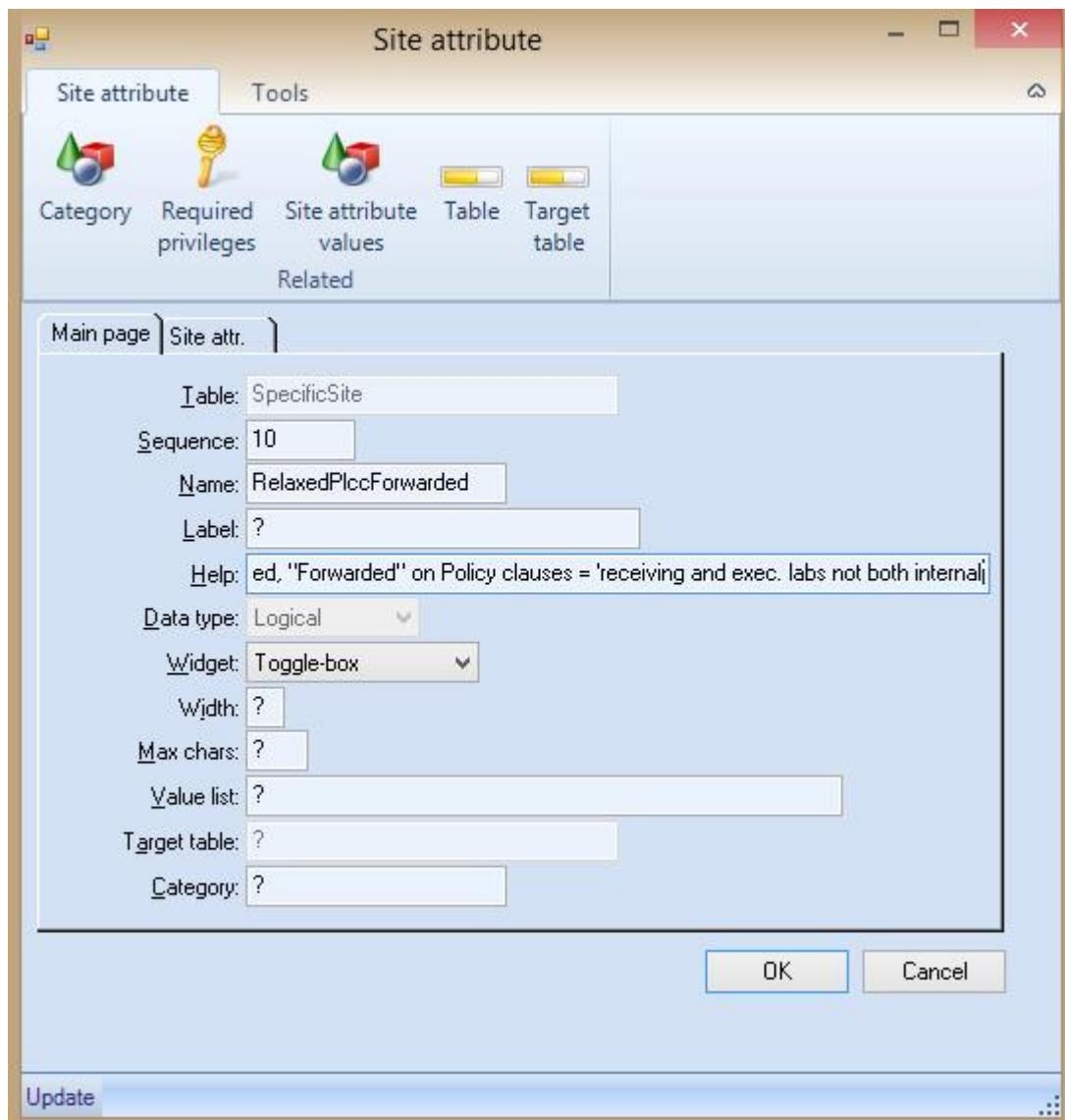
GLIMS 9.8.6 and higher versions

It is now possible to use a different interpretation of the **Forwarded** condition:

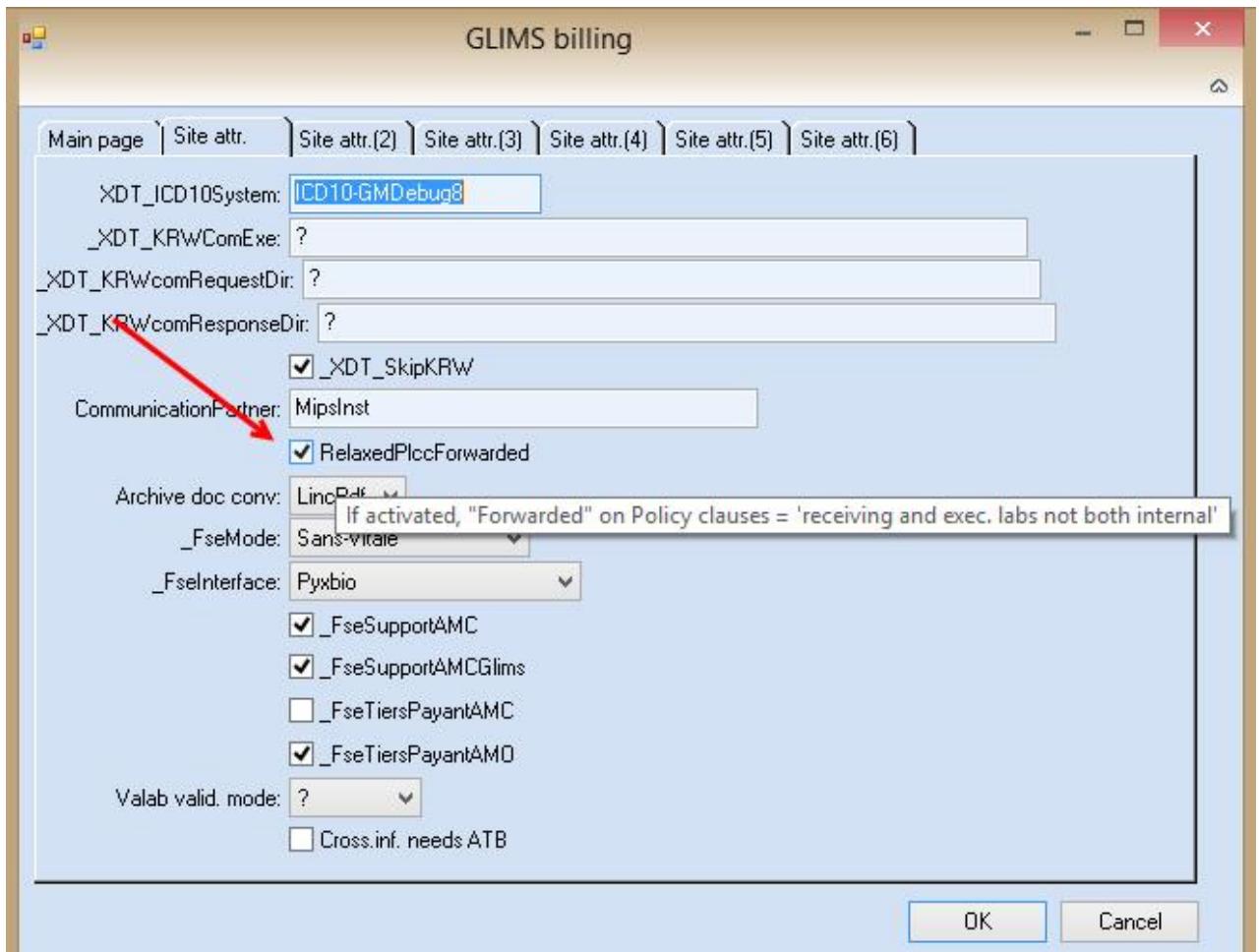
- If the condition is set to YES, the policy clause can only be used when the receiving and executing labs do not belong to the same site.
- If the condition is set to NO, the policy clause can only be used when the receiving and executing labs are identical OR different but belong to the same site ("internal labs").

To use this different interpretation, you need to

- create a site attribute based on the SpecificSite table and with datatype Logical, "RelaxedPlccForwarded":



- activate this site attribute in the Billing general settings ([Start -> System management -> Customize -> GLIMS billing](#)):



- Close and re-open GLIMS.

If this site attribute is not created/activated, the interpretation of the **Forwarded** condition remains the same as before GLIMS 9.8.6.

Avoid error when closing order entry while payment agreement editor is open (GLIMS_BILL-03650)

An issue was reported where an error occurred in the following scenario:

- Open the order entry screen.
- Open the **Billing** tab page.
- Insert a new payment agreement (which is the party's first payment agreement).
- Save / close the order entry screen while the **Payment agreement** editor is still open.

This has been corrected: a message is now displayed asking the user to first close the **Payment agreement** editor.

Gray out "Place credit note on invoice summary" option in credit-note creation screen if opened from an invoice item (GLIMS_BILL-03654)

The option **Place credit note on an invoice summary** is now grayed out in the **Credit-note creation** screen that can be opened from an **Invoice item** as it is not supported in this context. It is supported if the **Credit-note creation** screen is opened from an **Invoice**.

Financial export in Belgian RIZIV format: check digit modulo 89 (GLIMS_BILL-03655)

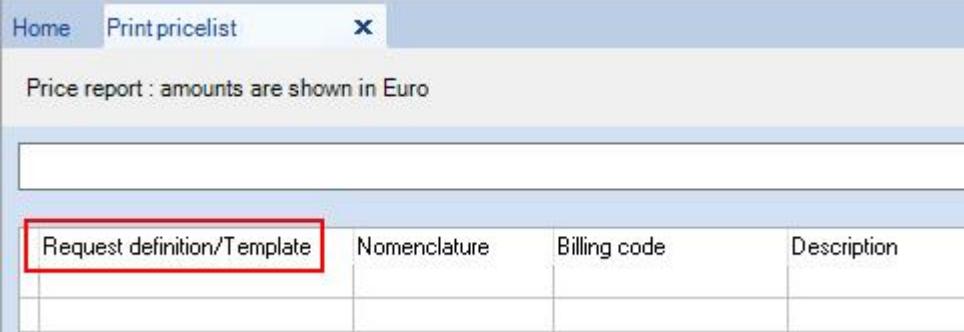
The export of financial data in the **RIZIV** format has been updated to support the following changes:

- As of 01/04/2019, the check digit of RIZIV identifications assigned to HC providers will be calculated according to the modulo 89 method. This modification ensures that GLIMS also supports the module 89-based check digits.
- As of 01/07/2019, zone 47 of record type 50 will have a different format: it will no longer require a date ("datum akkoord verstreking") but an amount ("basiswaarde laagvariabele zorg"). The new format (of which the initial value is +0000000) will be used for financial shipments with an external date >= 01/07/2019.

Enhancements for "Print price list" program (GLIMS_BILL-03661)

A number of enhancements have been implemented for the Print price list program. The program now:

- displays tariffs for all types of billing code assignments (and no longer only tariffs for billing code assignments linked to a request definition). The **Request definition** column header has therefore been renamed to **Request definition / Template**.



Request definition/Template	Nomenclature	Billing code	Description

- immediately displays the query options screen when called from the main menu (previously, an empty browser was opened and the user had to click on the **Options** button to open the query options screen).

Presence of payment agreement information in URL of LDT reports (GLIMS_BILL-03663)

When the prescription time of an order (set) preceded the start date of the corresponding payment agreement, the payment agreement information was missing in the URL of LDT reports.

This has been corrected: the payment agreement information is exported if the agreement is valid on either the prescription time or lowest object time of the order (set).

Financial export in RIZIV format: correction + support for "rekening C" (GLIMS_BILL-03667)

The following improvements have been implemented for the export of financial data in the Belgian **RIZIV** format via the FinancialShipment.Send function:

Correction

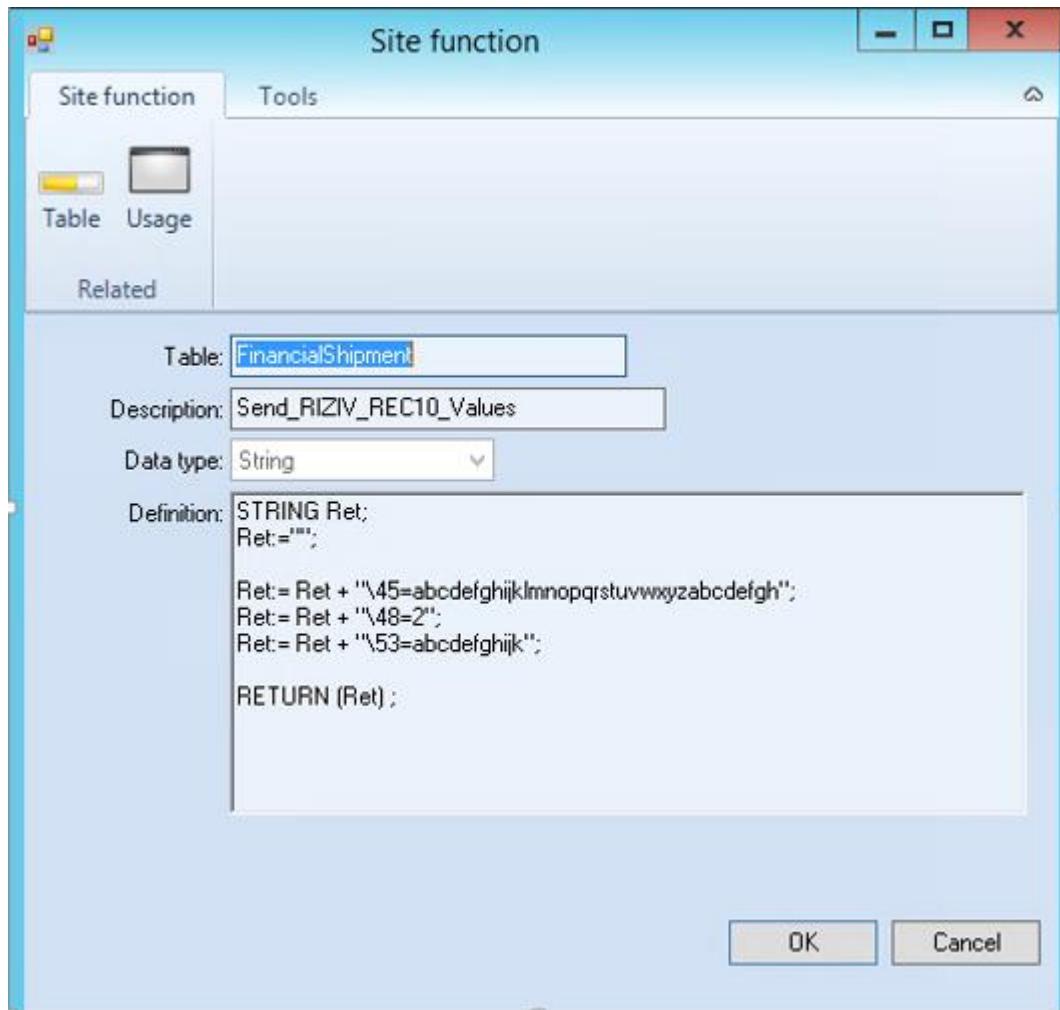
For an **Order** linked to an Encounter with a Stay, field 17 of record types 20 and 80 will now always be filled with the value "0000". In previous versions, this field was filled with an invalid value which caused the **Financial shipment** to be rejected.

Newly supported fields (for "rekening C")

- The combined fields 45-46-47a and 53-54a of record types 10 and 90 will be filled with blanks.
- The combined fields 55-56 of record types 80 and 90 will be filled with the value "+000000000000".
- For record type 95, field 411 will contain "+" and field 412 will contain "000000000000"; for record type 96, field 511 will contain "+" and 512 will contain "000000000000".
- The version in the header segment is now "02".

Site functions

The exported values can be customized using site functions. The name of the site function should match the pattern "Send_RIZIV_RECxx_Values", where xx is the record type.



For the above-mentioned correction, this means that any conversions that were added to the site functions "Send_RIZIV_REC20_Values" and "Send_RIZIV_REC80_Values" as a workaround can now be removed.

For the above-mentioned combined fields, this means that if site functions are required to customize the exported values, only the first field should be mentioned. For instance, if the combined fields 45-46-47 need a different value to be exported, only "45" should be mentioned.

Avoid that budget is calculated twice if two payment agreements are used (GLIMS_BILL-03669)

If an order (set) has two payment agreements and both payment agreements refer to the same (budget) policy, the budget was calculated twice.

Order(set) >

- Payment agreement(1) > PolicyName > Policy > BudgetDefinition > BudgetPolicyName >(Budget)Policy
- Payment agreement(2) > PolicyName > Policy > BudgetDefinition > BudgetPolicyName >(Budget)Policy

This has been corrected: during the calculation of the budget, if the same (budget) policy is used twice (or more), it is now applied only once (provided that the **Period** of the **Budget definition** records is identical). The budget definition of the payment agreement with the lowest OrderSet.Financing.SeqNo is then used for budget calculation. In addition, the retrieval of the payment agreement in the Order.CheckKVDT MISPL function has slightly changed. Since the KBV agreement always has a fund and typically the others do not, preference is now given to the payment agreement linked to a fund.

Order import: selection of payment agreement by "Order set defaults" MISPL (GLIMS_BILL-03672)

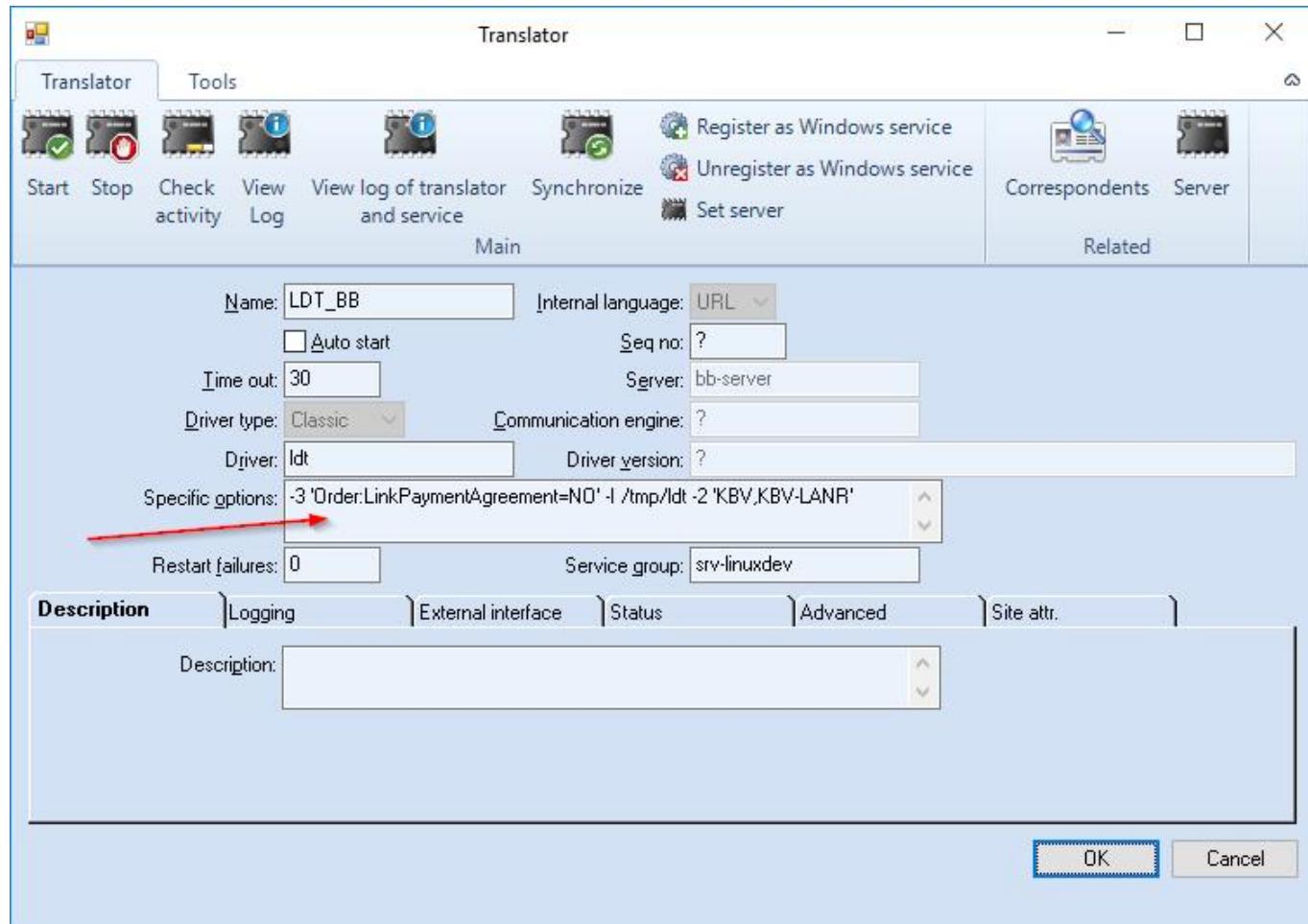
During electronic order import (LDT, HL7 or other), the incoming message typically contains patient insurance payment agreements.

In GLIMS, this results in :

1. payment agreements being created for the patient (if they do not yet exist)
2. the received payment agreement being selected in the order set

However, the customer does not always consider the received payment agreement as the payment agreement that should be selected.

A new option **Order:LinkPaymentAgreement=NO** has therefore been added which allows the user to disable the automatic selection of the received payment agreement in the order set in order to have the payment agreement selected by the **Order set defaults** site function ([Start > System management > Customize > GLIMS billing](#)).



Incorrect invoice summary amount after credit note creation (GLIMS_BILL-03674)

The following issue has been corrected:

1. An invoice summary in status **Initial** containing multiple invoices is created.
2. For one of the invoices, a credit note is created with the option **Delete not yet fixed invoices** enabled in the **Credit-note creation** screen.
3. When returning to the invoice summary and checking the amounts, the amounts in the **Total**, **Amount** and **Unbalanced amount** fields are incorrect.

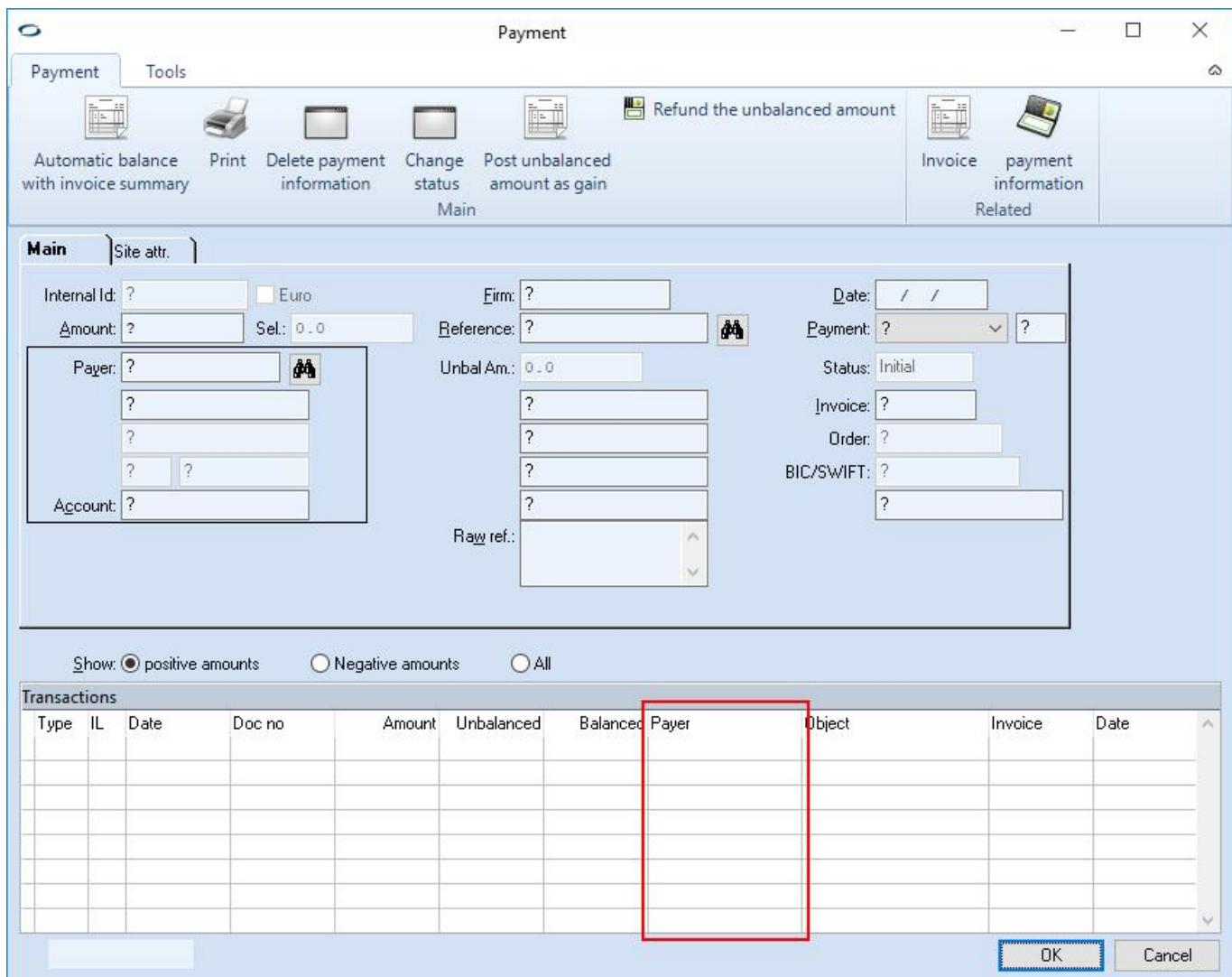
Error during creation of financial shipment (GLIMS_BILL-03676)

An issue was reported where the error "SYSTEM ERROR: Attempt to define too many indexes for area 6 database" occurred during the creation of a **Financial shipment** for an **Invoice summary** containing a large number of invoices (> 32500) using the contextual menu / ribbon item **Place on financial shipment**.

This has been corrected.

Display Payer in Transactions browser of Payment editor (GLIMS_BILL-03677)

The embedded **Transactions** browser of the Payment editor now displays an additional **Payer** column containing the InvoiceSummary.Payer or Gain.Payer.



In addition, an additional **Payer** column is now available as well in the embedded **Transactions** browser of the following editors:

- Invoice summary
- Gain
- Financial transaction

Financial export in German "KVDT" format: correction of lock table overflow error (GLIMS_BILL-03679)

An issue was reported where a lock table overflow error occurred when sending a financial shipment in the **KVDT** format with the option **Mark** enabled. The error occurred if the shipment contained a large number of invoice summaries / invoices with a status lower than **Fixed**.

This error, which occurred since GLIMS 9.8.0, has been corrected.

Tariffication uses the executor of the Provision table if the result responsible is not indicated (GLIMS_BILL-03681)

Context

The result responsible can be used as executor of a billing item if the option Validator is executor is activated.

Issue

If the result responsible had not been indicated (for instance because the results had not yet been validated), an error occurred during the tariffication.

Solution

If the result responsible is not indicated, GLIMS looks for an executor in the Provision table.

Note

If you do not want GLIMS to look for an executor in the Provision table, leave the executor empty in this table for the executing lab in question.

Logging

If there is no result responsible but GLIMS can find an executor in the Provision table, a log entry of type **Warning** is added to the log of type **Tarification**.

If neither a result responsible nor provision executor can be found, a log entry of type **Error** is added to the log of type **Tarification**.

Correction of issue arising when "Clean or credit invoices" is executed on a large invoice summary (GLIMS_BILL-03683)

An issue was reported where a lock table overflow error occurred when executing the Clean or credit invoices function on a very large invoice summary. This has been corrected.

Financial export: visualisation of mandatory fields (GLIMS_BILL-03684)

When the **Full logging** option, if available for the chosen protocol, is enabled for the export of financial data using the FinancialShipment.Send function, the mandatory fields will now be marked with an asterisk ("*") in the **Visualisation of the produced records** window.

Financial export in RIZIV format: export _CostStandardized value of Internal issuer for lab-issued requests (GLIMS_BILL-03685)

Context

During the export of financial data in the Belgian **RIZIV** format, the billing item executor and whether or not they apply standardized prices (implemented via the site attribute **_CostStandardized** on the **HCProvider** table) is exported per billing item. However, for billing items of lab-issued requests, the exported executor should be the **Order.Department.InternalIssuer**.

New behaviour

For billing items of lab-issued requests, GLIMS now correctly exports the value of the site attribute **_CostStandardized** of the **HC provider** specified as **Internal issuer**.

Failure of Invoice item function Credit-note creation should trigger warning message (GLIMS_BILL-03686)

When crediting an invoice item via the contextual ribbon / menu option **Credit-note creation**, the user was not informed if the execution of the function failed, for instance, because the invoice item was part of an invoice that did not have status **Fixed** yet.

This has been corrected: a warning message will now be shown if the execution of the function fails.

Financial export in Vektis format: fixed error logging (GLIMS_BILL-03690)

An issue was detected where exporting financial data in the **Vektis** format with the option **Full logging** enabled did not log all errors (e.g. concerning missing values of mandatory fields) that had occurred during the export. Only the last error was logged.

This has been corrected.

Changing an invoice amount twice results in incorrect credit note creation (GLIMS_BILL-03692)

When changing an invoice's amount, a credit note is created for the old amount and a new invoice is created for the new amount. However, an issue was detected where changing the amount of the newly created invoice resulted in the creation of a credit note for the old amount and another credit note with an incorrect positive amount.

This has been corrected.

Fixed missing budget item for panels in URL of LDT reports (GLIMS_BILL-03694)

Issue

The URL of the LDT report did not reference the budget item in case of a panel (the request definition of which had the option **Charge** set to **Panel only**) with more than one panel member, one of which did not require reporting.

Cause

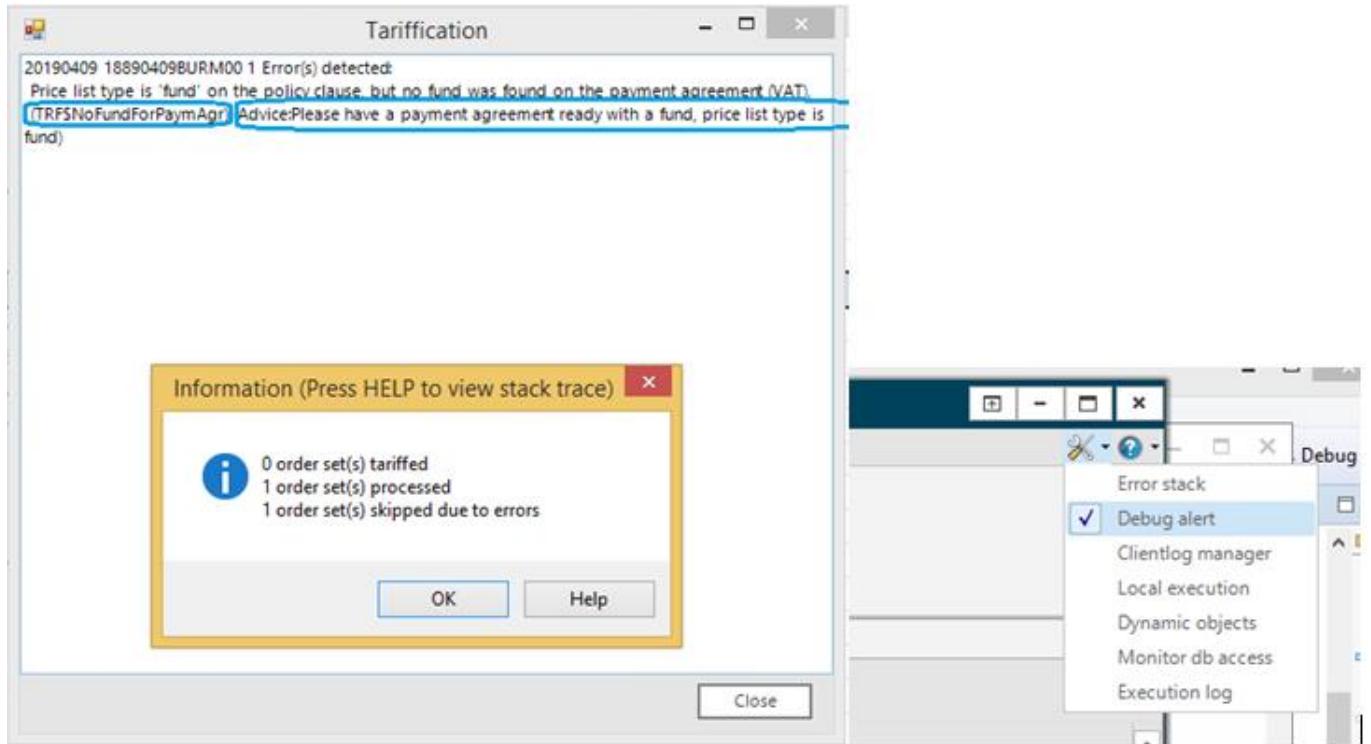
Upon tariffication / budget calculation, one budget item is shared by all panel member requests if the billing code is assigned on panel level. Since this budget item was always linked to the request of the first panel member, the budget item was not included in the URL if this panel member was not to be reported.

Solution

This has been corrected: if a budget item is shared by multiple requests, the budget item will now be linked to the request of the first panel member that appears on the report. This way, the budget item will be included in the URL.

Display error code and advice in tariffication error logging (GLIMS_BILL-03698)

To allow for a better identification of tariffication errors and warnings, the tariffication error logging in GLIMS will now also contain - in addition to the error message - the error code and advice, if available. Advice will only be displayed if debug alert is enabled.



Order set status no longer erroneously downgraded from Complete to Partial (GLIMS_BILL-03700)

An issue was reported where the status of an order set was erroneously downgraded from **Complete** to **Partial** after GLIMS had erroneously shown the following message during order entry:

The chosen order set is already completely tariffed! Do you want to reuse (and reopen) this order set?

This has been corrected.

Avoid misleading tariffication logging (GLIMS_BILL-03702)

Issue

If the tariffication status of an order was downgraded (e.g. invoices were deleted or the tariffication was cleared) or the quick invoice option was used without saving the invoice (with the option TR enabled), the order audit trail showed misleading double **Tariffed** log entries, which was incorrect.

Solution

After a quick invoice or tariffication deletion, the user will now see the following audit trail log, which will display a **Tariffed** log line followed by a new log line **Untariffed**:

Order audit trail

		Creation timing: -> 7.78s Total (BE1-DEV-GL1-ORA) 6.24s Action scheduling + signal to start post-processing in background 0.93s Decide on Pending 0.13s Order id calculation 0.13s Order activation 0.11s Sav	
08/07/2019 15:46:59	Manual order entry timing	7.79s Total (BE1-DEV-GL1-ORA) 6.24s Action scheduling + signal to start post-processing in background 0.93s Decide on Pending 0.13s Order id calculation 0.13s Order activation 0.11s Save billing page data to orderset 0.09s Pass requested codes to Requester 0.07s Commit 0.04s Internalize billing page 0.03s Internalize 0.02s Save RequestedCodes (via Requester) 0.01s RequestedCode expansion 0.00s Prompt for material variables	nathaliev Nathalie Van Parys
08/07/2019 15:51:51	Read audit Order	Order outline Nathalie Van Parys Developer DEPT	nathaliev Nathalie Van Parys
08/07/2019 15:52:17	Order	Tariffed Nathalie Van Parys Developer DEPT	nathaliev Nathalie Van Parys
08/07/2019 15:53:35	Order	Untariffed Nathalie Van Parys Developer DEPT	nathaliev Nathalie Van Parys
08/07/2019 15:54:30	Order	Tariffed Nathalie Van Parys Developer DEPT	nathaliev Nathalie Van Parys
08/07/2019 15:55:34	Order	Untariffed Nathalie Van Parys Developer DEPT	nathaliev Nathalie Van Parys

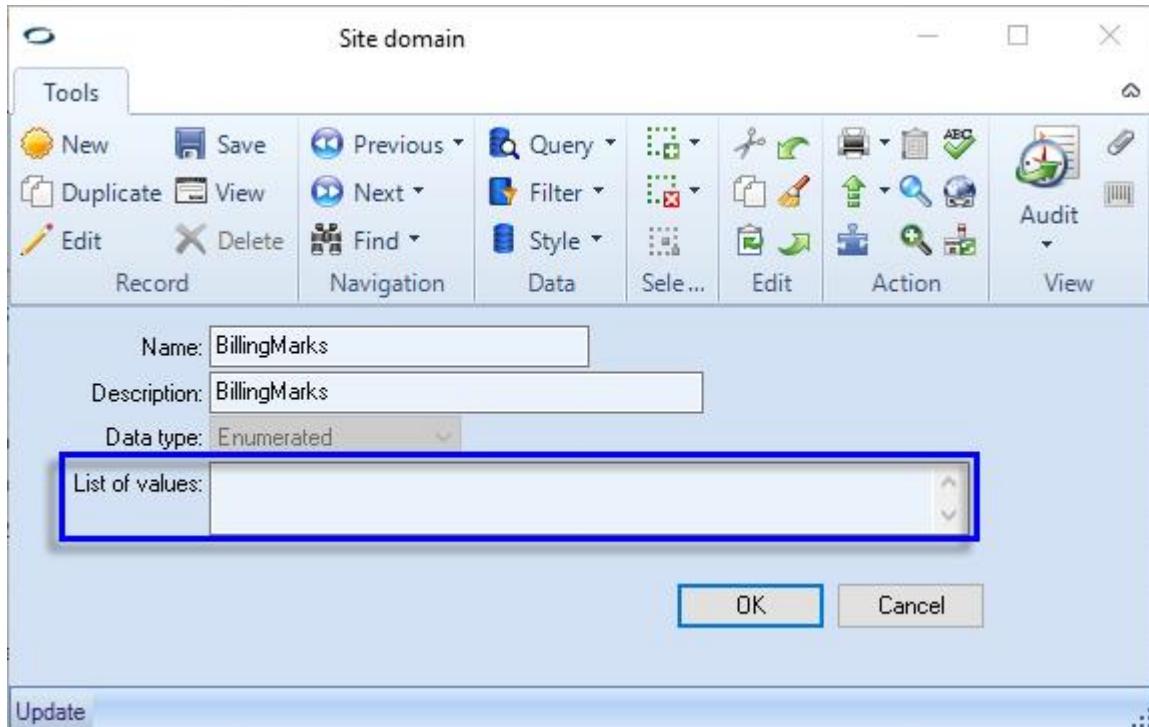
Note

An unsaved quick invoice will either produce a log entry like above or nothing at all, depending on the **TR** option.

Extended maximum value list size for site domain 'BillingMarks' (Progress only) (GLIMS_BILL-03706)

An issue was reported where the maximum value list size of the site domain BillingMarks was insufficient to enter the desired value.

This issue has been fixed: the maximum size of the affected site domain value list has been increased from 512 to 2048 characters.



Additionally, the size of the **Billing marks** field on Panel members, Policy clauses and Tariff members was extended from 12 to 90 characters.

Warning

This change only applies to Progress databases.

Avoid that price consultation fails because of missing billing item executor (GLIMS_BILL-03711)

Since GLIMS 9.6, the result responsible can be used as billing item executor. The executor can be unknown as long as the order set is not complete and as long as there is no invoice summary. However, during price consultation ([Start > Routine > Orders > Price consultation](#)), an unnecessary invoice summary was created, which could result in the error **The billing item executor is unknown - but required**.

In order to avoid this error during price consultation and when choosing the contextual menu / ribbon item **Quick invoice** for an order, the unnecessary invoice summary will now no longer be created.

Avoid double payment agreements after electronic import (GLIMS_OI-00815)

An issue was reported where double payment agreements were created if the same payment agreement was received multiple times (for the same patient but different orders) via electronic import. The issue was only seen in a German GLIMS environment, when the start date of the payment agreement came before the validity period of the

- fund identification assigned by the **HC code provider**,
- fund identification assigned by the **Alternate HC code provider**,
- **Insurance product** of the **Fund**.

GLIMS automatically updates the start date of the received payment agreement to the most recent start date of the fund, that is, the most recent of the following start dates

1. the start date of the fund identification assigned by the **HC code provider**,
2. the start date of the fund identification assigned by the **Alternate HC code provider**,
3. the **Valid from** date of the **Insurance product** of the **Fund**.

However, GLIMS did not take into account the updated start date when searching for existing payment agreements.

This issue has been corrected: in order to avoid the creation of double payment agreements, GLIMS will now take into account the updated start date of the payment agreement when searching for existing payment agreements.

Payment import in "CSV control" format: import payments with no reference to invoice summary (GLIMS_PYIP-00008)

GLIMS allows to import payments in the CSV control format. The import program will import:

- payments that can be linked to an invoice summary via the billing document number in the import file that matches the **Pattern** specified in the payment import options;
- payments with no matching billing document number which can therefore not be linked to an invoice summary.

Correction of error occurring during payment import (GLIMS_PYIP-00011)

An issue was reported where performing payment import via a command resulted in an invalid handle error message. This issue, which occurred since GLIMS 9.8.3, has been corrected.

Blood transfusion

Correction for export of transfusion data in "Ubis" format (BILX_UBIS-00081)

GLIMS allows to export data about transfused blood bags directly in the format of "Rode Kruis Vlaanderen". This modification corrects the following issues which occurred when exporting a **Financial shipment** in the **Ubis** format.

1. When a financial shipment contains blood bags from different blood transfusion centers, a file is created per blood transfusion center. However, for each blood transfusion center in the shipment, a copy of the logging of that shipment was added in the logging, meaning that the same logging information was visible multiple times.
2. When an incorrect path to a jasper template file had been specified (e.g. in the GLIMS general settings), the error about the jasper template file which could not be found, was not visible to the user.

Enhancement for export of transfusion data to "Rode Kruis" (BILX_UBIS-00082)

Context

GLIMS allows to export data about transfused blood bags directly in the format of "Rode Kruis Vlaanderen".

Issue

When exporting a **Financial shipment** in the **Ubis** format via the contextual function **Send**, the shipment is not sent (no file is created) and its status remains **Numbered** if it does not contain any blood requests.

Solution

Define a site function

It is now possible to check via MISPL whether the invoice summaries to be included in the financial shipment contain at least one request of type **Blood**. To make this possible, the existing **InvoiceSummary.Data** MISPL function has been extended with an extra value **ContainsBloodRequest** for the **AttributeList** parameter.

It indicates whether or not there are blood requests:

1. If the string value "0" is returned, there are no blood requests in the invoice summary.
2. If the string value "1" is returned, there is at least one blood request in the invoice summary.

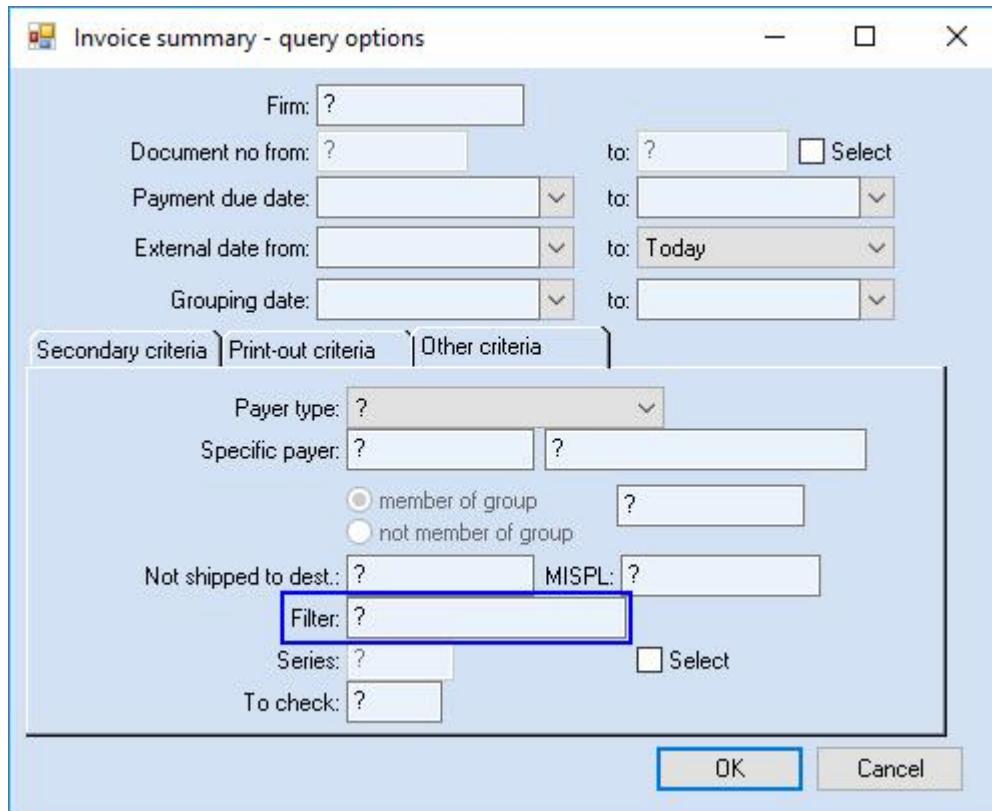
If there are no blood requests with a valid status (it is also checked whether the **Blood bag** has the status **Administered**) in the invoice summary, the invoice summary will not be included in the financial shipment.

Example

Table:	InvoiceSummary
Description:	CheckInvsBldRequest
Data type:	Logical
Definition:	<pre> Logical BloodBagFound; string BloodBagReq; BloodBagReq := .Data("ContainsBloodRequest"); If BloodBagReq = "0" Then Return (NO); Else Return (YES); Endif;</pre>

Use the site function as filter

The site function can be specified in the **Filter** field of the invoice summary query which is used e.g. in the command automating the InvoiceSummary.PlaceOnFinancialShipment function.



Support for secure ([https](https://)) GLIMS-Trix connection (GLIMS-11511)

It is now possible to establish a secure internet connection ([https](https://)) with the external system called Trix. By default, a secure connection is used unless an http connection is specified in the function parameters.

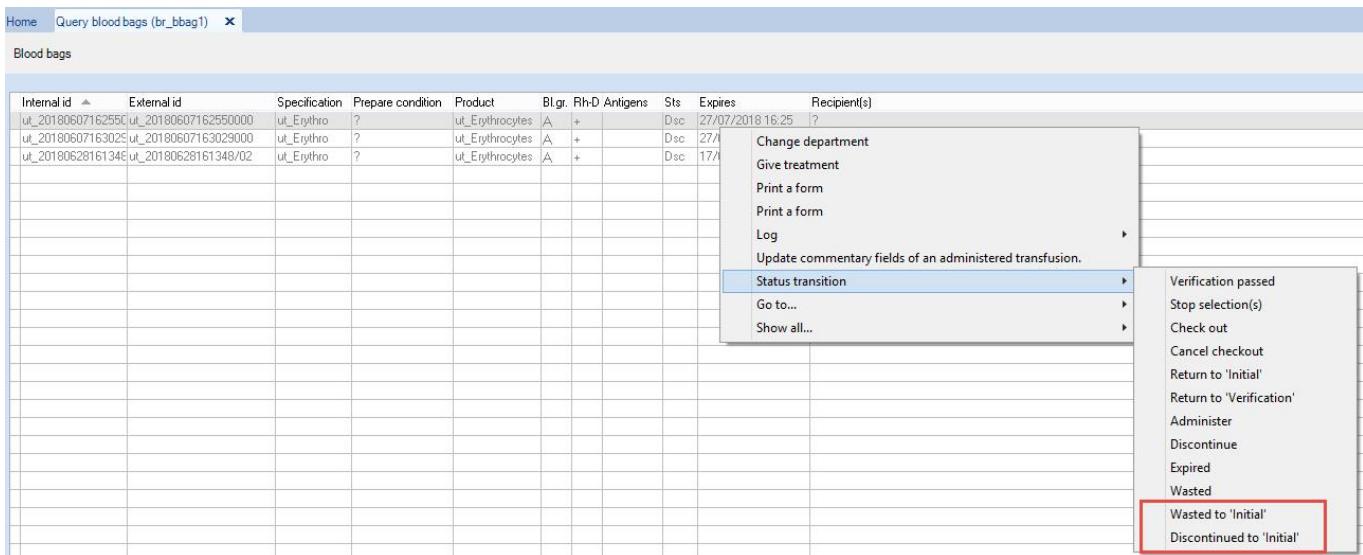
No more error when creating transfusion forms if the user data of a result is inconsistent (GLIMS-11618)

When using the contextual menu/ribbon item Print transfusion form, an error message was displayed if the blood product result fields **Validated by**, **Confirmed by** and **Entered by** contained "0" or the name of non-existing user. Although "0" is not a common value for these fields, it can arise by mistake and should not trigger an error message.

This has been corrected: no error message appears anymore.

Wasted and discontinued blood bags can be set back to status Initial (GLIMS_BTM-00929)

This modification introduces two new contextual ribbon/menu items on Blood bag records: **Wasted to 'Initial'** and **Discontinued to 'Initial'**. As their labels indicate, these items allow setting one or more selected blood bags in status **Wasted** or **Discontinued** back to status **Initial**.



When **Discontinued to 'Initial'** and **Wasted to 'Initial'** are used, the fields of the **Discontinued** tab in the blood bag editor are cleared. If the selected blood bag(s) had been checked out or returned, the fields of the **Checked out** or **Returned** tabs are also cleared.

Note

It is advised to reserve this functionality to specific users, using privileges.

ISBT barcodes correctly scanned (GLIMS_BTM-00990)

Since GLIMS 9.6, some markers of the ISBT-128 blood bag barcodes were not recognized when barcodes were scanned. This has been corrected.

Fixed sorting in blood selection browser (GLIMS_BTM-00991)

An issue was detected where data in the blood selection browser was sorted incorrectly when trying to sort in descending order of order internal ID, urgency, blood bag status, blood group, rhesus, positive screening.

This issue, which occurred since GLIMS 9.8, has been corrected.

Blood selections browser: separate columns for External ID and Internal ID (GLIMS_BTM-00992)

Some browser columns offer a "Cycle" icon that allows to switch between different columns. This was the case for the **External ID / Internal ID** column in the blood selection browser.

Internal id
?
?
?
?
?

This has been changed. In the blood selection browser, the external ID and internal ID are now displayed in separate columns.

External Id	Internal Id
?	?
?	?
?	?
?	?
?	?

Correction for export of blood bag data (GLIMS_BTM-00993)

When exporting blood bag data via **Start > System management > Database > Specific export > Blood bag data** and enabling the option **For recipients, export PIN**, the export file was created but not all blood bags were separated by "---" (to indicate the end of the bag's info). This happened if, during the export, PIN-related errors had occurred ("No PIN found for person"). In this case, some of the data of the blood bag for which the error had occurred was still exported.

This has been corrected.

Blood selections in status Ready and linked to a checked out blood bag can be discontinued (GLIMS_BTM-00995)

Issue

GLIMS did not allow the discontinuation of a blood selection which was in status **Ready** and linked to a blood bag in status **Checked out**.

Solution

This has been corrected: it is now possible to discontinue a blood selection in status **Ready** and linked to a blood bag in status **Checked out**. If such a blood selection is discontinued, the status of the blood bag linked to the blood selection is set back to **Initial**. Note however that, if this blood bag has also been planned for another patient and is in status **Reserved** or **Checked**, it remains in this status.

Product code requested when scanning non-ISBT barcodes (GLIMS_BTM-00996)

Background

ISBT blood bags are uniquely identified by their donation identification number and product code. In order to ensure that the product code of such blood bags is specified, the Always scan the product code option can be activated.

Blood bag barcodes do not always have the ISBT format. However, GLIMS can turn them into ISBT barcodes.

Issue and solution

When

- Always scan the product code was activated, and
- an initially non-ISBT blood bag barcode is turned into an ISBT barcode (by deleting the " ", ".", "-" characters and pre-fixing with "=", e.g. "=B03101678953000"), and
- this barcode was scanned,

the window asking to also scan the product code was not shown.

This has been corrected: GLIMS now asks for the product code, independently of whether the blood bag barcode was originally an ISBT barcode or not.

Note

Note

This issue occurred since GLIMS 8.

Blood bag import in "ETS Mont-Godinne" format supports ISBT-128 codes (GLIMS_BTM-00998)

GLIMS supports importing blood bags in the **ETS Mont-Godinne (Belgium)** format. This blood bag import format now also allows importing blood bags identified by an ISBT-128 code.

Blood bags that are provided with an external ID of 14 or more characters will be treated as ISBT 128. The corresponding "External ID as barcode" is formed by "=" + first 13 characters of the external ID + "00". E.g.: External ID "B038718600000A" will have "=B0387186000000" as "External ID as barcode".

Opening the barcode scan program for blood bags no longer displays a warning (GLIMS_BTM-01000)

An issue was reported where the following warning was displayed when starting the barcode scan program for blood bags:

Note for system management: 'Skip setup' not allowed for menu option gp_Site.EnterBloodbags

This issue, which occurred since GLIMS 9.8.0, has been corrected.

Support of DGTI files with <CR> as end of line marker (GLIMS_BTM-01009)

Issue

GLIMS was only able to process DGTI blood bag files in which end of lines were marked with "<CR><LF>" (carriage return/line feed). However the DGTI documentation states that end of lines should only be marked with "<CR>".

Solution

The import system has been adapted: both import files using "<CR>" and import files using "<CR><LF>" as end of line markers can now be processed.

Correction of error occurring when scanning blood bag with blood bag typing indicated (GLIMS_BTM-01012)

Since GLIMS 9.6, when

- a blood blood bag with a barcode starting with "=%" was scanned, and
- the blood bag typing was indicated,

an error message, "No antigen available", appeared.

This issue has been fixed: no error occurs anymore and the blood bag is created.

Process multiple bags function should automatically preselect the scanned blood bags (GLIMS_BTM-01015)

An issue was reported where the Process multiple bags function did no longer automatically preselect the scanned blood bags. As a consequence, the user had to manually select the scanned blood bags which resulted in the blood bags being processed in random order when executing a function on the selection (in previous GLIMS versions where automatic pre-selection still worked, the blood bags were processed in the order they had been scanned).

This issue, which occurred since GLIMS 9.6, has been corrected. The scanned blood bags will be automatically preselected and will be processed in the order they were scanned.

Blood bag import: reading of D antigen information from Progesa file (GLIMS_BTM-01017)

When importing blood bags using the Progesa format, the field containing the antigen information D-/D+ was not read.

This has been corrected: the D antigen information provided in the Progesa file is now imported.

Warning

Customers who used a MISPL function to set the antigen D should deactivate this function when importing with the Progesa format.

Correction of issue with blood selection repetition/discontinuation (GLIMS_BTM-01027)

When a blood bag is wasted, for instance, the blood selection linked to this blood bag should be discontinued and repeated. However, the report result was not correctly scheduled. This prevented the blood selection discontinuation/repetition and an error message was displayed.

This issue, which occurred since GLIMS 9.5, has been corrected.

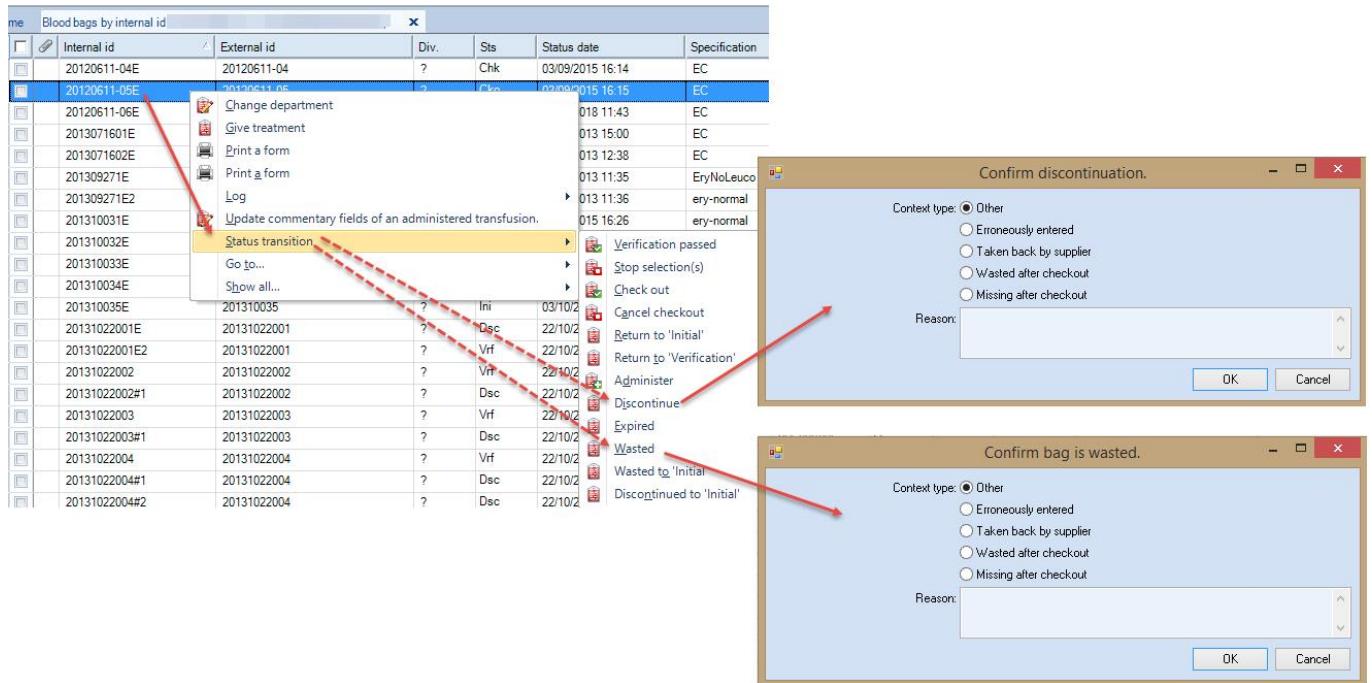
Clear check out information when check out of blood bag is cancelled (GLIMS_BTM-01028)

When a blood bag was selected and checked out for a patient but returned to the lab because it hasn't been used, the function Cancel checkout can be used. Using this function clears the check-out information of the returned blood bag. However, not all check out information was cleared.

This has been corrected. Note: The "To ward" field in the "Checked out" tab of the "Blood bag" editor is still not cleared but will be updated when the blood bag is checked out for another patient.

Same screen to set blood bags as Wasted and Discontinued (GLIMS_BTM-01029)

The status of one or more blood bags can be changed by clicking-right on the blood bag(s) in the Blood bag browser > Status transition. When clicking on **Wasted** in previous GLIMS versions, the confirmation window that opened was different from that which opened when clicking on **Discontinued**. However, the **Discontinued** and **Wasted** statuses have identical parameters, such as the status date, the user who set the status and the reason for setting the status. It was therefore necessary to make the user interface more consistent: when choosing **Wasted** or **Discontinued**, a similar window opens. This is illustrated here:



DGTI import possible with different unit dimensions (GLIMS_BTM-01038)

This modification solves the following issue, which occurred when importing blood bags in DGTI format: when the dimension of a blood bag unit was different from that of the related blood product unit, the DGTI import did not work.

This issue has been corrected: the import will work even if the blood product unit dimension and the blood bag unit dimension are not identical.

New log types for unusual blood bag work flow (GLIMS_BTM-01041)

New log types have been added for which a log entry is created each time the status of a blood bag is demoted. These log entries can be accessed via:

- the main menu: **Start > System management > Logging**,
- the contextual ribbon item **Audit > Log entries** on a blood bag.

Log type	Old status	New status
BloodbagReturnToVerification	Checked out	Verification
BloodbagReturn	Checked out	Initial
BloodbagDiscontinueToInitial	Discontinued	Initial
BloodbagWasteToInitial	Wasted	Initial
BloodbagUndoCheckout	Checked out	Checked
BloodbagUndoAdminister	Administered	Checked out
BloodbagDiscontinue	-	Discontinued
BloodbagWasted	-	Wasted

Executing the BloodSelection-based function PrintTransfusionForm via a command (GLIMS_BTM-01043)

GLIMS now allows to automate the execution of the BloodSelection-based function **PrintTransfusionForm** via a command.

Import of new blood attribute of Red Cross Luxembourg (GLIMS_BT M-01044)

The Red Cross Luxembourg introduced a new blood attribute : "00010" - NON_TRAITE_PRT. When blood bag files were imported into GLIMS, this attribute was not taken into account.

This has been corrected.

Scanning a blood bag typing barcode resulted in an invalid error message (GLIMS_BT M-01048)

GLIMS features a blood bag scan program in the blood transfusion module to register blood bags into the system.

The following issue was detected: scanning a correct barcode for an existing blood bag typing record resulted in a redundant error message "Barcode not recognized".

This had no impact on the performance of the program but led to confusion concerning the correctness of the barcode.

This issue has been fixed, the error message will not appear when the scanned barcode matches the blood bag typing data in the database.

Correct storage of the result of a cross match performed on a sub-specimen (GLIMS_BT M-01049)

When a cross match was performed, the sample indicated in the result message (also containing the result of the compatibility test and the blood bag id) from the analyzer was compared with the root specimen linked to the result of the cross match, to which the blood selection refers.

However, if the cross match was carried out on a sub-specimen, this check failed (error message: "No blood bag found with specified identification"). As a result of this error, the cross match result from the analyzer was not stored in GLIMS. This problem has been fixed.

Scanning of Eurocode blood bag barcodes is now supported (limited) (GLIMS_BT M-01056)

New functionality

From now on, GLIMS provides limited support for Eurocode barcodes in the blood bag scan program. The currently supported barcodes contain the expiration time and the blood group and antigen typing information. Any other type of Eurocode barcode is not supported yet, and will result in an error / warning.

Additionally, the performance of the scan program has been improved.

Blood group and antigen typing

Format : !Rxxxx

!: Primary data identifier (Eurocode)

R: Secondary data identifier (blood group information)

xxxx are numbers (0-9)

Example

!R1131 encodes the red cell antig. of the unit A Rh pos (D pos) CcD.ee Kell pos.

Warning

The special(s) of the blood group / blood typing barcode (digit 9) are not supported!

Expiration date

!EYYYYMMDD: Expiry date (day)

!FYYYYMMDDHH: Expiry date (hour)

Example

!E20191224 encodes the expiry date of the unit: 24 December 2019.

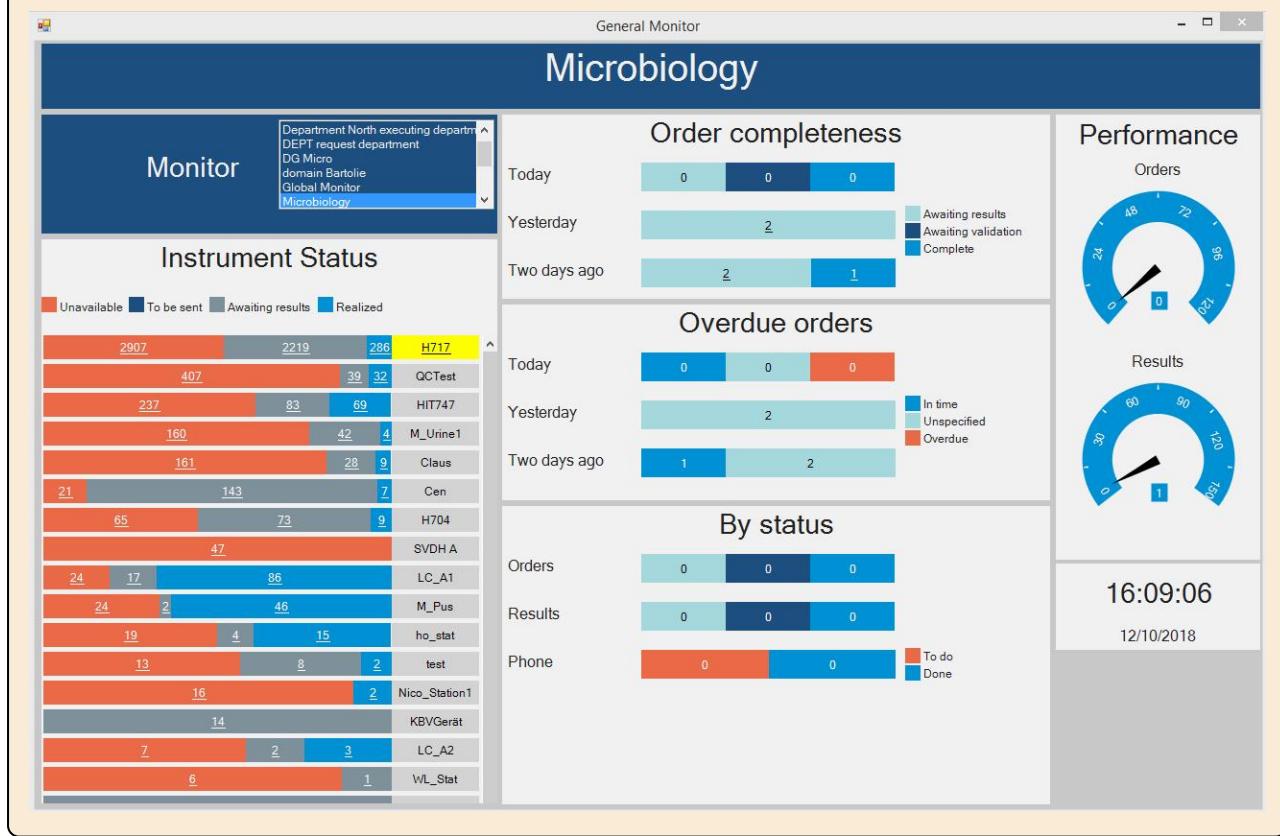
Business activity monitor

More customization possibilities in the Business activity monitor (GLIMS_BAM-00010)

The number of customization features of the **General monitor** in the Business activity monitor has increased. In particular, it is now possible to choose the font style and size for the whole monitor and for individual panes. The customization possibilities are described in details in the BAM documentation.

Warning

Upgrading to GLIMS 9.9 will reset the XML code entered in the Business activity monitor settings field: the default settings will be applied, which will make the General monitor look as follows:



The implementation of shielding is now less strict (GLIMS_BAM-00112)

Background

The shielding functionality is used to limit access rights (to results, orders, persons,...) to specific user profiles or departments.

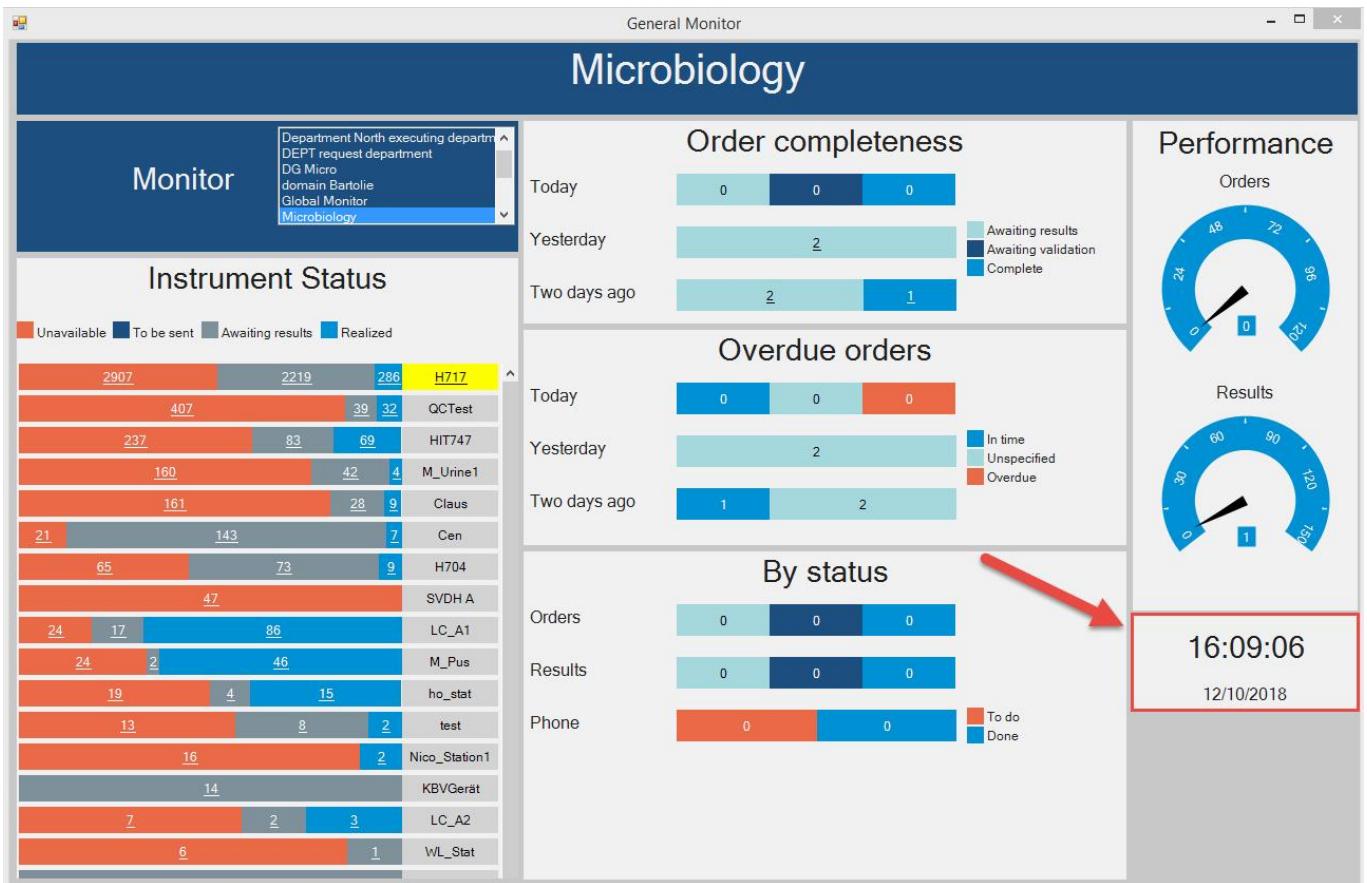
Issue and solution

The shielding functionality applied too broadly. As a consequence, the Getresults function, for instance, would only return unshielded results.

This has been corrected: the shielding functionality now only applies to data that is displayed by the user-interface, such as the data shown in browsers opened from the Business Activity Monitor. In the BAM statistics, however, both shielded and unshielded data are counted.

Date and time displayed on the General monitor of the Business activity monitor (GLIMS_BAM-000114)

The General monitor of the Business activity monitor contains a new pane indicating the time and the date. Like the other panes, this pane and its content can be customized.



Coding systems

Correction for inserting a coding system code in a specific context (GLIMS-10858)

The following issue has been corrected:

1. Choose **Start > Configuration > Properties > By mnemonic.**
2. Select a **Property**.
3. In the contextual **Tools** ribbon, choose **Codes** in the **View** ribbon group.
4. Press **INSERT**.
5. Issue: when selecting a coding system that does not have a code set for the Property table, the value of the **Table** field automatically changed into ? and could no longer be updated.

A warning message will now be shown informing the user that the coding system does not have a code set for this table and hence that it cannot be selected.

Error when copying a code set (GLIMS-11160)

An issue was reported where an error occurred when trying to copy a code set of a coding system via the contextual menu / ribbon item **Copy** on a **Code set**.

This issue, which occurred since GLIMS 9.3, has been corrected.

Description of Code does not refresh correctly (GLIMS-11223)

Issues

1. Choose **Start > Configuration > Coding systems > Coding systems**.
2. Select a coding system and right click: choose **Show all... > Code sets**.
3. Select a code set and right click: choose **Show all... > Codes**.
4. Double click on a record in the **Codes** browser to open the **Code** editor.
5. In the **Codes** browser, click on another record.
 - => The **Code** editor refreshes correctly, except for the **Description** field. If the **Code** which was selected first had a **Description** specified and the **Code** which was selected next did not, then the **Description** of the first code was still displayed.
 - => Moreover, when updating the **Description** by typing directly in the **Description** field of the **Code** editor, the changes were not saved.

Solution

These issues have been corrected.

Description of code in coding system is now saved (GLIMS-11465)

The **Description** specified in the **Code** editor was not saved.

This issue, which occurred since GLIMS 9.3, has been corrected.

Communication

Correction for error when (un)linking a station to (from) a LAS or concentrator (GLIMS-08133)

An issue was reported where an error occurred when linking (or unlinking) a **Station** of type **Analyzer** to (or from) a **Station** of type **LAS** (or **Concentrator**, if linked to a LAS) as too many assessment methods at once received a new **LAS status**, and each change caused a **Station log** record to be created.

This issue, which occurred since GLIMS 9.5, has been corrected.

Station log screen only displays the logs of the selected station (GLIMS-10706)

After having selected a station in the Station browser, the Station log screen can be opened using the menu/ribbon item **Log > Station log**. This screen should only display the logs of the selected station. This was however not the case: the logs of all the stations were displayed.

This issue, which occurred since GLIMS 9.8.0, has been corrected.

Error "Unable to convert foreign database date" in CyberLab-GLIMS communication (Oracle DB only) (GLIMS-11031)

An issue was detected where the error "Unable to convert foreign database date (1466)" occurred when using GLIMS in combination with an Oracle database. The error occurred in case of CyberLab-GLIMS communication where PMR information was needed.

This has been corrected.

One result can be reported with different external placer codes (GLIMS-11375)

Context

GLIMS receives via electronic order entry requests from an external system (e.g. Epic). Since the HL7 message may contain duplicate requests (for instance because the same request was entered twice by different HC providers for the same patient and sent to GLIMS with different external placer codes), GLIMS consolidates the received requests upon order creation so that every property is measured once (even if requested twice).

Issues

Because of the required consolidation of requests in GLIMS, there can be a one-to-many relationship between result and request (one result for multiple requested codes / external placer codes). During electronic result reporting, GLIMS did not always seem to send the result back for the same external placer code (e.g. in case of a status update). As a result, the following issues could occur in the requesting application (for the same order / property in GLIMS):

- results were shown double
- a confirmed result was shown for request A, the validated result for request B.

Solution

This has been corrected. GLIMS will now make sure that a result is always sent back for the same external placer code.

Incorrect action scheduling upon reception of specimen information with material variable choice (GLIMS-11714)

If specimen information was sent to GLIMS using an HL7 message with an OBX segment that contained the code of a material variable choice (during lab-lab communication for instance), GLIMS did not correctly schedule the actions for this specimen. This issue, which occurred since GLIMS 9.6, has been corrected.

ADT event creation when merging Person records (GLIMS-11843)

Context

GLIMS offers an event handling system that can be used to send ADT messages to a result server or other system when relevant patient data is updated.

Issue

Until now, when merging multiple **Person** records, only one ADT event was created containing information of the ('incorrect') person that was merged last and the remaining ('correct') person. However, because of this, the result server was not updated correctly.

Solution

This has been corrected. GLIMS will now create ADT events for the other merged **Person** records as well.

Example

GLIMS and the result server contain four similar **Person** records. These four records are merged into one 'correct' **Person** record.

GLIMS will now publish three ADT events to ensure that the result server is synchronized correctly: one 'correct' record remains, the other three 'incorrect' records are deleted. If GLIMS had published only one event, the result server would still contain two 'incorrect' records.

Analyzer communication: allow update of confirmed / validated results (GLIMS_ANLZ-01316)

New option "Result update status limit"

A new option is available in the Station editor: **Result update status limit**. It allows to limit the status in which results can be updated by an instrument. Its possible values are:

Available (default value)

If the result in GLIMS is confirmed or validated, the update is rejected. Available results may be updated.

Confirmed

If the result in GLIMS is validated, the update is rejected. Available and confirmed results may be updated.

Validated

The update is always allowed, even for validated results.

Station

Station Tools

Edit procedures	Assessment methods	Result flags	Procedures	Stations of distributor	Stations of concentrator	QC	Mic...	W...	R...	Ta...
Reload configuration	Station log	Related		Related stations						
Results to confirm	Main	Log								

Mnemonic: 1250 Name: 1250
Type: LAS Code: ?
Work place: ? Group: ?
 Scheduling availability Seq no: ?
Associated archive: ?

Instrument | Identification | Work order | **Result** | Maintenance | Microbiology | Transfusion | Replacement | Site attr.

Comments | Runs | Synchronization | Reagents | QC | **Other**

Verify uploaded material
 Store operator id
 Store verifier id
 Upload per specimen
 Result start time lookup
 Result completion time lookup

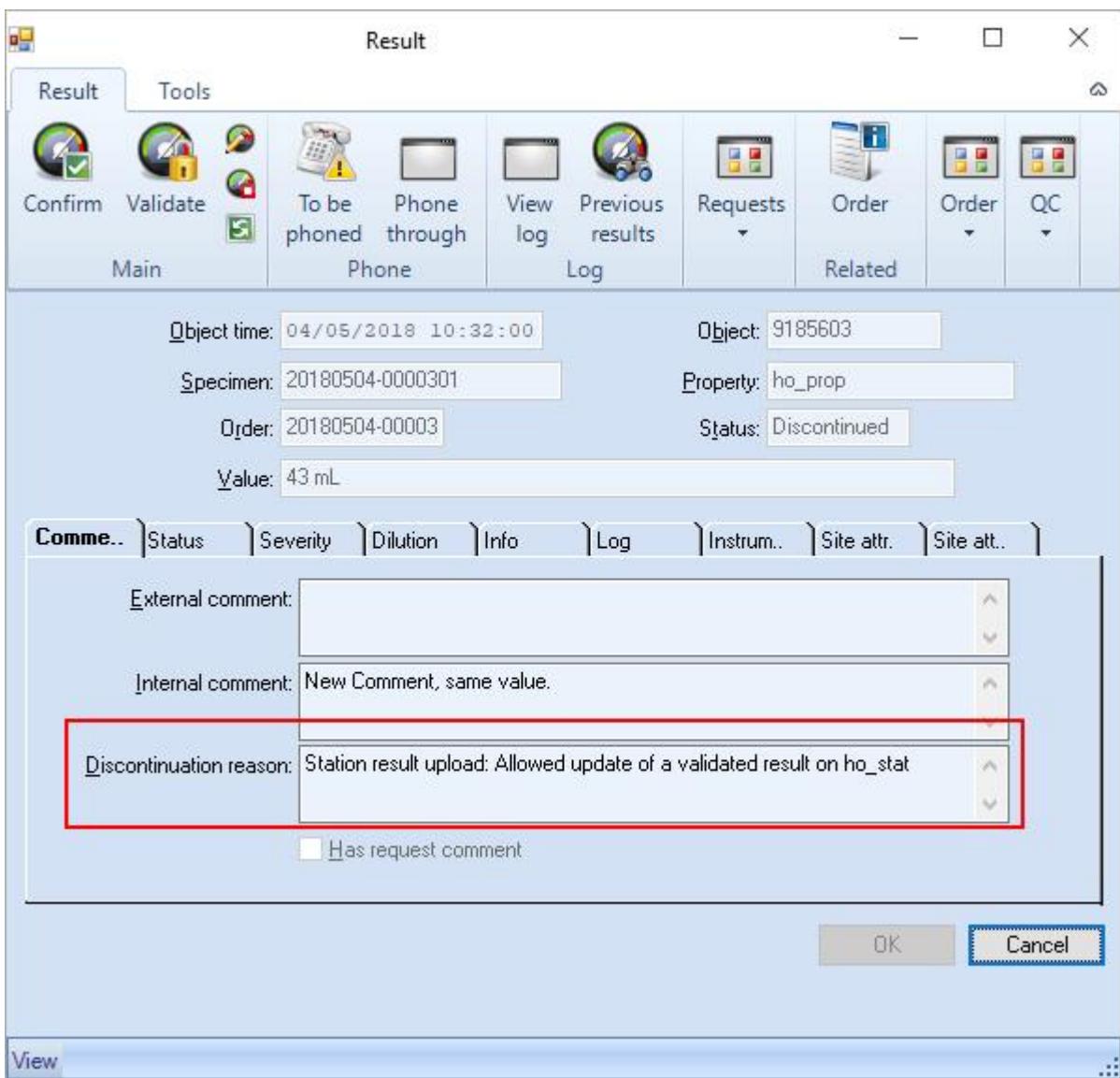
Result update status limit: Available

Note

Similar options which are already available in GLIMS are: Isolation update status limit and Isolation test update status limit.

Discontinuation reason of confirmed / validated results

If an update is received for a confirmed or validated result and the update is allowed by the **Result update status limit** setting, then this result is automatically discontinued and a new **Result** record is created containing the update. The discontinuation reason will then be logged in the **Result** editor of the discontinued result.



Distributors in slave mode: sorting influenced by order in which sorting zones are created (GLIMS_ANLZ-01320)

Context

GLIMS can communicate with specimen distributor systems.

Issue

An issue was detected where the order in which sorting zones had been created influenced the selection of a sorting zone if certain procedures targeted the same zone, meaning that a sorting zone could be selected first because it had been created first (lower record id) in spite of a higher sequence number (i.e. it should have been selected much later).

Archive zones, for example. They usually have the highest sequence number, as they should be the final target for a specimen. Moreover, archive zones can be a common target for several procedures. If an archive zone happened to be created before any other routine zones also targeted by these procedures, then GLIMS incorrectly skipped certain routine zones while collecting all possible zones to which a specimen should be sorted. This resulted in a different sorting sequence which influenced the work flow within the lab.

Example

Configuration

A specimen has 2 actions:

- Actn1 for Test1
- Actn2 for Test2

The following sorting zones are configured:

- An archive zone (record id = X)
- A routine zone "Zone1" (record id = Y > X)
- A routine zone "Zone2" (record id = Z > Y)

The following procedures are configured:

- Procedure1 (of Actn1) has 2 sorting targets:
 - Target1 (archive zone) with seq no = 911
 - Target2 (Zone1) with seq no = 600
- Procedure2 (of Actn2) has 2 sorting targets:
 - Target1 (archive zone) with seq no = 921
 - Target2 (Zone2) with seq no = 580

Expected behaviour

A sort query should select Zone2 as target zone to sort the specimen to. However, before this modification, Zone1 was selected.

Solution

This has been corrected.

Note

This problem occurred since GLIMS 8.10.

Unknown station flag should set result's station severity to ? instead of 0 (GLIMS_ANLZ-01325)

Upon receiving a result accompanied by a flag which was not configured as Station flag in GLIMS (while the station had other station flags configured in GLIMS), then the result's **Station severity** was set to 0 instead of ?.

This has been corrected.

Note

This issue occurred since GLIMS 9.5.

New Station record cannot be created when LAS station is specified (GLIMS_ANLZ-01327)

When, during the creation or import of a new **Station** record in GLIMS, a **LAS station** or a **Concentrator** was specified, an error occurred which prevented the creation or import of the record. However, specifying a **LAS station** or a **Concentrator** once the record was created was still possible.

This has been corrected.

Note

This problem occurred since GLIMS 9.6.0.

Correct logging for LAS status changes of assessment methods with the same Outbound Id (GLIMS_ANLZ-01343)

Since GLIMS 9.6.3, when (un)linking a station of type **Analyzer** to (from) a LAS (or concentrator linked to a LAS), too many LAS status changes were executed for assessment methods having the same **Outbound Id**. This gave rise to the creation of unnecessary Station log records.

This issue has been corrected. Now, when a station has been (un)linked to (from) a LAS, the station's log only contains one record for the LAS status change (to **Connected**/ **Disconnected**) of the station and one for the LAS status change of each assessment method.

See also [GLIMS-08133](#).

Error in service log file when reloading station configuration (GLIMS_ANLZ-01346)

An issue was reported where changing the configuration of a station in GLIMS, e.g. a LAS station for which sorting zones and sorting targets were defined, and reloading the station configuration caused error messages to appear in the service log file.

Note

This problem occurred since GLIMS 9.5.5.

This has been corrected. Sorting zone and sorting target related data will now be removed from the cache before being reloaded from the database. This way errors about already existing records should be avoided.

Correction for crash of translator service (GLIMS_ANLZ-01351)

In very rare cases, it could happen that the ASTM-server encounters more than one historical result in memory when constructing a work order message reply. When this happens, GLIMS will try to log this situation to the service log file. However, this logging caused the service to stop working.

This issue, which occurred since GLIMS 9.5.10 (GLIMS_ANLZ-01148) and GLIMS 9.6.0 (GLIMS_ANLZ-01147), has been corrected.

Ensure correct requested code creation for results received via point-of-care connection (GLIMS_ANLZ-01357)

In the following point-of-care-connection-related circumstances, the **Order** in GLIMS was created but a requested code had only been created for the material and not for the property of the received result. This incorrect requested code creation resulted in incorrect (electronic) reporting.

- A POC instrument sends a message for an unknown specimen with a result for a certain property ("Prop1" for instance).
- The Station in GLIMS has an **Unknown specimen trigger** which calls the CreateSpecimenOrder MISPL function for the material "Mat1".
- A procedure is configured having "Mat1" as material input and "Prop1" as property output.

This issue, which occurred since GLIMS 9.5, has been corrected. The **Order** will now have two requested codes: one for the material and one for the property.

Priority given to Mtst-segment in result messages (GLIMS_ANLZ-01359)

This modification corrects an issue occurring since GLIMS 9.3 with the MIPS-specific ASTM protocol.

Issue

When an ASTM-result message is not explicitly marked as MICRO (O.27.1.1), GLIMS looks at the Mtst-segment (if present). However, if an Mtst-segment appeared in a MICRO result message in combination with the test order record fields O.5.1.6 (Microbiology procedure) and/or O.5.1.7 (Microbiology test), GLIMS ignored this segment. As a consequence, the explicit negative answer of the microbiology action (Mtst-record field 5.1.1) was not stored in GLIMS.

Solution

When GLIMS receives an ASTM MICRO result-message, it now gives priority to the data in the Mtst-record.

If an ASTM MICRO result-message

- contains the test order record fields O.5.1.6 / O.5.1.7 as well as the Mtst-record fields M.4.1.1 (Microbiology procedure) / M.4.1.2 (Microbiology test), and if
- M.4.1.1/M.4.1.2 differ from O.5.1.6/O.5.1.7,

a warning is logged in the service log file with a timestamp, as this indicates a possible inconsistency in the translator that constructs the ASTM-messages.

Example

```
*** WARNING [Translator server] 2018-10-10 16:49:14.68
[ASTM-Manager]: Inconsistent ASTM-result message translation: Microbiology test (<Incorrect
InboundID of assessmentmethod for the grafting property>) in O-segment (field O.5.1.7) differs from
the microbiology test (<InboundID of assessmentmethod for the grafting property>) in the Mtst-
record (field M.4.1.2).
Mtst-record data gets priority.
```

Empty negative answers in microbiology test records do not prevent GLIMS from processing result messages (GLIMS_ANLZ-01363)

Context

GLIMS allows defining a negative answer to be displayed on reports when no growth is detected. This negative answer is communicated using the field M.5.1.1 in the microbiology test record of result-messages.

Issue and solution

Since GLIMS 9.8.6, when the field M.5.1.1 contained an empty value " ", GLIMS rejected the entire result message. This has been corrected: empty negative answers are now ignored and GLIMS accepts the result message.

Allow update of microbiology action comment via ASTM result message (GLIMS_ANLZ-01370)

GLIMS is now capable of storing a microbiology action comment (that is typically not specific to a carrier, isolation, antibiogram, etc.) received from an instrument (WASPLab for instance). The internal ASTM protocol has therefore been extended with the field M.6.1.1 for the Microbiology test record of a microbiology result message.

Reference	Name	Description
M.3.1.1	Record type code	Fixed: 'MTst'
M.4.1.1	Microbiology procedure	Microbiology procedure
M.4.1.2	Microbiology test	Microbiology test
M.5.1.1	Negative comment code	Negative comment code
M.6.1.1	Microbiology test comment	Microbiology test comment

The comment received via this field will be appended to the existing comment of the microbiology action, if not yet included. If the maximum length of the microbiology action comment is exceeded because of the append, the first line(s) (being the oldest ones) are trimmed and replaced with "...". This trimming is logged in a log entry with severity **Warning** of a log type named **microbiology action comment** with an **Expire period** of 60 days.

For this to work, the ASTM message should be processed by a translator that supports the new field. Currently, only WSPL 2.1.0 does.

Prevent deadlock situation during analyzer communication when setting the download status of an action (GLIMS_ANLZ-01372)

This modification implements a correction to prevent that the communication with an instrument is interrupted because of a locked action in the database.

If an ALL query ASTM message is received from an instrument, GLIMS goes through all open actions for that station in order to determine which actions need to be included in the work order reply ASTM message.

GLIMS_ANLZ-01371 prevents that such a deadlock situation occurs when the translator service tries to set the download status of the included actions (as, by then, another session could have a lock on a selected action the translator service is trying to mark).

If a translator service fails to get a lock on an action that is selected to be sent in the work order reply ASTM message, the action will now be skipped (the service log will indicate this) on the assumption that it will be picked up during the next query.

Different processing of microbiology ASTM result message to ensure execution of AddSubCarrier MISPL (GLIMS_ANLZ-01377)

A microbiology-related ASTM result message informing GLIMS about a (newly) detected **Micro-organism** (isolation) on a **Carrier** that needs to be created, is now processed differently to ensure that the AddSubCarrier MISPL function can be used in the **When isolation entered** trigger of the micro-organism.

Because of the way such a message was previously processed, the execution of the MISPL function failed: upon execution of the trigger during the creation / update of the isolation according to the detected micro-organism, the link with the carrier had not yet been set. And for AddSubCarrier to be executed correctly, the carrier of the isolation should be known.

The way such a message is currently processed reduces the risk of the MISPL function failing because of a missing **Carrier** record. However, when defining the site function, it is recommended to at least check if a parent carrier exists before trying to call the AddSubCarrier function.

Option to clear the download status of all specimen actions when Specimen.SamplingTime is updated (GLIMS_ANLZ-01381)

Issue

When a station was working in download mode (ALL query), the action/specimen was forwarded as soon as the action was known in GLIMS based on the **Inputting** Station.MinimalActionStatus. This message has a scheduled sampling time deriving from the Specimen.SamplingTime.

However, when GLIMS received an update of the Specimen.SamplingTime, this information did not trigger a new message to the station, although that new information can be crucial.

Example

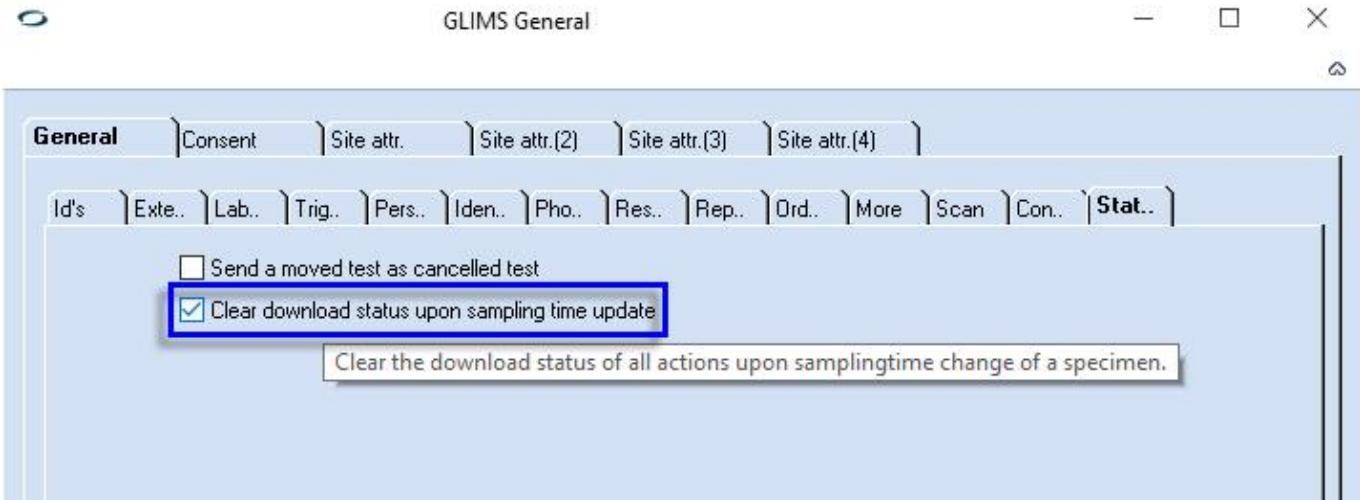
A GLP LAS/Distributor needs to keep a specimen for 15 minutes after sampling on the track, before it can go to the analyzers.

New functionality

A new system wide option is available in the GLIMS general settings for stations to clear the download status of all actions upon a Specimen.SamplingTime update:

Clear download status upon sampling time update

When enabled, each update of the sampling time of a specimen will clear the download status of all the actions for which the specimen is the input. It is the equivalent of manually going over all the actions of a specimen and applying the pop-up menu function Clear download status with all of its options activated.



Note

The option is disabled by default for backwards compatibility.

This new feature must be seen in the broader context of Specimen collection, together with the functionalities provided by the following modifications:

- [GLIMS-11353](#) which introduces the specimen status change from **Initial** to **Expected** if a specimen sampling time is confirmed (i.e. Specimen.Sampled = YES).
- [GLIMS_ANLZ-01382](#) which introduces a new station option to not just look for actions with a minimal status **Inputting**, but also ignore the ones with specimens that are not yet **Expected** (thanks to GLIMS-11353 **Expected** more or less means **Sampled**).

Introduction of a Minimal specimen status on a station for batch download ([GLIMS_ANLZ-01382](#))

Issue

A distinction needs to be possible between the work planned for specimens that already exist (i.e. active **Sampled** parameter > specimen status is **Expected**, see modification [GLIMS-11353](#)) and the work that is planned for specimens that do not yet exist (specimen status **Initial**).

This way it can be guaranteed that all the actions a station receives from GLIMS upon reply of an ALL-query of its translator are in fact to be actually executed in the near future, when the samples are confirmed available.

GLIMS should thus be able to only select the actions of **Expected** (and already available) specimens during batch download (i.e. ALL-query).

Solution

A new option **Minimal specimen status** is available in the **Work order** tab > page **General** of a station editor. This new option is only editable when the **Minimal action status** is **Inputting**.

The corresponding drop down field can have two possible values, **Initial** (default value) and **Expected**:

Instrument	Identificati..	Work order	Result	Maintenan..	Microbiolo..	Transfusion	Replacem..	Site attr.
------------	----------------	------------	--------	-------------	--------------	-------------	------------	------------

General Worklist Report Worklist

Test selection

Check downloaded actions
 Mark actions by download group
 Send complete selection
 Maximal result status: Available
 Minimal action status: Inputting
Minimal specimen status: Expected
 Download finished tests
 Send modification method
 Past object time limit: ?
 Future object time limit: ?

Patient data

Person last name: last name
 Person alternative name: spouse last name

OK **Cancel**

Fixed failing result upload when result was moved to another procedure, discontinued and requested again (GLIMS_ANLZ-01386)

Problem description

Configuration

A property PropA with two procedures:

- Procedure A on station A with material A as input and PropA as output.
- Procedure B on station B with material A as input and PropA as output.

Routine

Example

1. Create an order containing a request for PropA.
2. The result for this request is scheduled on station A via an action of procedure A.
3. However, the result value for PropA is received from station B.
4. The result is moved to an action of procedure B on station B.
5. Discontinue the request for PropA. The result is discontinued as well.
6. Request PropA again. An action of procedure A is scheduled on station A.
7. The result value is again received from station B.

Issue: the error "result is discontinued" occurs and the result upload fails.

Solution

This issue, which occurred since GLIMS 9.6, has been corrected.

Laboratory Code Set Distribution: export should include "Electronically explicitly requestable" setting of a request code (GLIMS_CX-00021)

Context

GLIMS allows to export its configuration data such as properties, units, request definitions, request codes, etc. to an external system (using the j_LcSD driver). This functionality can be accessed by selecting a Property classification and choosing **LCSD Export** in the contextual menu / ribbon.

New functionality

New option: "Electronically explicitly requestable"

The Request code field **Electronically explicitly requestable** has been added in GLIMS to ensure that certain request codes can be requested during manual order entry but not via electronic order entry and vice versa. By default, this field is enabled.

Existing option: "Explicitly requestable"

The **Electronically explicitly requestable** field was added because the existing **Request code** field Explicitly requestable only applies to manual order entry. That is: a **Request code** with **Explicitly requestable** disabled can still be requested electronically.

LCSD export

The purpose of the modification is to have the value of the **Electronically explicitly requestable** field exported during the LCSD export so that external systems that communicate with GLIMS are aware of this. The exported value (and no longer the exported value of the **Explicitly requestable** field) is used to fill the HL7 OM1.12 field (Orderability).

Note

Order entry does currently not check the **Electronically explicitly requestable** setting of an electronically received request code.

Laboratory Code Set Distribution: export should exclude material if station is unavailable (GLIMS_CX-00022)

Upon LCSD export of a property, the related material (HL7 field OM4-6 Specimen) will now no longer be exported if the **Station** on which the procedure of the property is configured is not available (Scheduling availability is not active).

Additionally, if the procedure that determines whether or not a property is calculated (which implies that there is at least one property input) is linked to an unavailable station, then the property is now no longer exported as **Calculated** (the **Calculated** information is used for M11 messages - OM6 segment).

Note

If a property is configured on one station as to be assessed on a material and on another station as to be calculated from other properties, then either **Material** or **Calculated** are set in the exported file and not both. Which one is set depends on the **Scheduling preference** of the property output.

For instance:

```

Property ID="prop_1234721362">
<prop_Id>1234721362</prop_Id>
<Mnemonic>rr_PropertyY</Mnemonic>
<ShortName xsi:nil="true"/>
<Code xsi:nil="true"/>
<Description xsi:nil="true"/>
<DataType>Numeric</DataType>
<AutoPrompt>false</AutoPrompt>
<ChoiceList xsi:nil="true"/>
<Unit>unit_82</Unit>
<ReportedDecimals xsi:nil="true"/>
<Material>mat_1234706491</Material>
<DefaultRequestable>pprb_1234721365</DefaultRequestable>
<Dynamic>false</Dynamic>
<Informational>false</Informational>
<Calculated>false</Calculated>
<LastUpdateTime>2019-06-26T11:47:57.000</LastUpdateTime>
<DerivationRule xsi:nil="true"/>
/Property

```

Laboratory Code Set Distribution: export should include the Property field AutoPrompt (GLIMS_CX-00023)

Context

GLIMS allows to export its configuration data such as properties, units, request definitions, request codes, etc. to an external system (using the j_lcsd driver). This functionality can be accessed by selecting a Property classification and choosing **LCSD Export** in the contextual menu / ribbon.

New functionality

The LCSD export message now contains the Property field **AutoPrompt** as well.

Laboratory Code Set Distribution: export should include the Choice field Enabled (GLIMS_CX-00024)

Context

GLIMS allows to export its configuration data such as properties, units, request definitions, request codes, etc. to an external system (using the j_lcsd driver). This functionality can be accessed by selecting a Property classification and choosing **LCSD Export** in the contextual menu / ribbon.

New functionality

The LCSD export message now contains the Choice field **Enabled** as well.

Laboratory Code Set Distribution: export should include all correspondent identifications (GLIMS_CX-00025)

Context

GLIMS allows to export its configuration data such as properties, units, request definitions, request codes, etc. to an external system (using the j_lcsd driver). This functionality can be accessed by selecting a Property classification and choosing **LCSD Export** in the contextual menu / ribbon.

New functionality

The LCSD export message will now include all identifications of a correspondent (for instance: all identifications of a department that is used for a procedure that produces a property that will be exported).

Laboratory Code Set Distribution: export should include specimen handling information (**GLIMS_CX-00026**)

Context

GLIMS allows to export its configuration data such as properties, units, request definitions, request codes, etc. to an external system (using the j_lcsd driver). This functionality can be accessed by selecting a Property classification and choosing **LCSD Export** in the contextual menu / ribbon.

New functionality

GLIMS now allows the user to enter specimen handling information which will be included in the LCSD export message.

Entering specimen handling information

Entering specimen handling information in GLIMS can be done via the new **SpecimenHandling** table which can be accessed via **Start > Configuration > Specimen handling**. A **Specimen handling** record has a **Mnemonic**, **Name** and multilingual **Description**.

Linking specimen handling information to a request definition

In the request definition editor, the **Specimen handling** field is now available. It allows the user to open the specimen handling browser and select a **Specimen handling** record. This way, it is possible to indicate how a specimen needs to be handled for a certain request.

Exporting specimen handling information

The specimen handling information is exported automatically during the LCSD export. The **SpecimenHandling** table can now be included as well in the coding system that may be used during the export so that the corresponding code is exported as well. The language of the user performing the export is taken into account when exporting the SpecimenHandling.Description.

Error during result import: "No b_SizeUnit record is available" (**GLIMS_OI-00791**)

An issue was reported where during result import the following error occurred: "No b_SizeUnit record is available". Because of this error, the result was not imported. This happened if the import message contained a size but not a size unit.

This has been corrected. Such results will now be imported correctly.

Note

This issue occurred since GLIMS 9.5.

Import / export the sampler(s) of a specimen via electronic communication (**GLIMS_OI-00794**)

Context

The modification [GLIMS-11129](#) made it possible to indicate one or more samplers for each specimen of an order.

New functionality

It is now possible to import / export the sampler(s) of a specimen from / to external systems via electronic communication.

For more information, see Sampler info.

Respect order of requests during electronic reporting of specimen details (GLIMS_OI-00806)

For an electronically created / updated order containing the following requests:

- a request for a panel with, as member, a property, as well as
- an explicit request for that property (which is added later on),

GLIMS would choose to report the request which was added later on as "directly requested property" and not as panel member when replying to a "ReportSpecimenDetails" message (to provide an overview of the created / updated order for the requesting application).

This issue, which occurred since [GLIMS-11344](#), has been corrected.

Electronic orders: find received country code in coding system configuration (GLIMS_PI-00349)

If an electronic order message contains a country code that is not matched by any **Country** defined in GLIMS, GLIMS will now try to find the received code by going through the code sets of all coding systems. This implies that a **Coding system** should exist with a **Code set** for the **Country** table. This **Code set** should contain a **Code** that maps the received value to the corresponding **Country** record in GLIMS.

The default **Country** (that is: the **Country** of the **Municipality** of the **Organization** specified in the **Own organization** field of the GLIMS general settings) is applied if no code can be found in the coding system configuration.

Note

The **Code function** and **Code check** fields of the **Code set** are not taken into account.

Severity of imported result not set when OrderImportResultNorms=NO (GLIMS_RI-00174)

Context

In an electronic order entry context, when a result is received electronically while the environment variable OrderImportResultNorms is set to NO (in the **MA Section** of the progress.ini / .glimsrc file) (by default, OrderImportResultNorms is set to YES), the reference values and severity which are sent along with the result in the result message should not be taken into account. This might be the case e.g. in a lab-lab context, if the requesting lab does not want to import the reference values of the executing lab. GLIMS is then required to calculate the result's reference values and norm severity.

Issue

However, upon reception of the result message, the reference values calculated by GLIMS were not taken into account and the result's norm severity was not set.

Solution

This has been corrected.

No new result record created by lab-lab import of result value (GLIMS_RI-00179)

Background

When an order is saved at the end of order entry, actions are scheduled and result records (without value) are created in the database. Once the tests are done, these result records are filled in with the result values.

Issue

When an available result value for an implicitly requested material (more specifically, an aliquot) was imported from a lab-lab message, this value was not added to the existing result records. Instead, a new result record was created. This had to do with the fact that the lab-lab messages often only indicate the specimen internal or external id. With this information only, GLIMS

could not find the matching result record in the database. GLIMS would have needed a reference to the corresponding explicit request (root specimen), the sampling time of the specimen or the reference time of the request.

Solution

This issue occurred since GLIMS 9.3 and with electronic result import only. It has been fixed: even if the result message only contains the specimen internal or external id, GLIMS can find the corresponding result record in the database and fill it with the received value.

Additionally, if the result message does not contain any reference, sampling or object time, the order lowest object time found in the database is used as reference time for the request.

Respect order of requests during electronic result reporting (GLIMS_RX-00717)

For an order containing the following requests:

- a request for a panel with, as member, a property, as well as
- an explicit request for that property (which is added to the order later on),

[GLIMS-11344](#) changed the order in which the request (and its result) was reported electronically. Although the property requests refer to the same result, the result was initially reported as the result of the panel property, and later on (i.e. when the explicit request was added) as the result of the explicitly requested property, giving the impression (e.g. to result viewing systems) that there are 2 results, while there is only one.

Revised handling of a service's "Allowed to start" status (MATE_COMHL-00451)

When a shutdown operation is interrupted, some services can still have a **Service status** of which the option **Allowed to start** is set to **No**. The application would then just issue the error "Service is not allowed to start". This error message has been clarified:

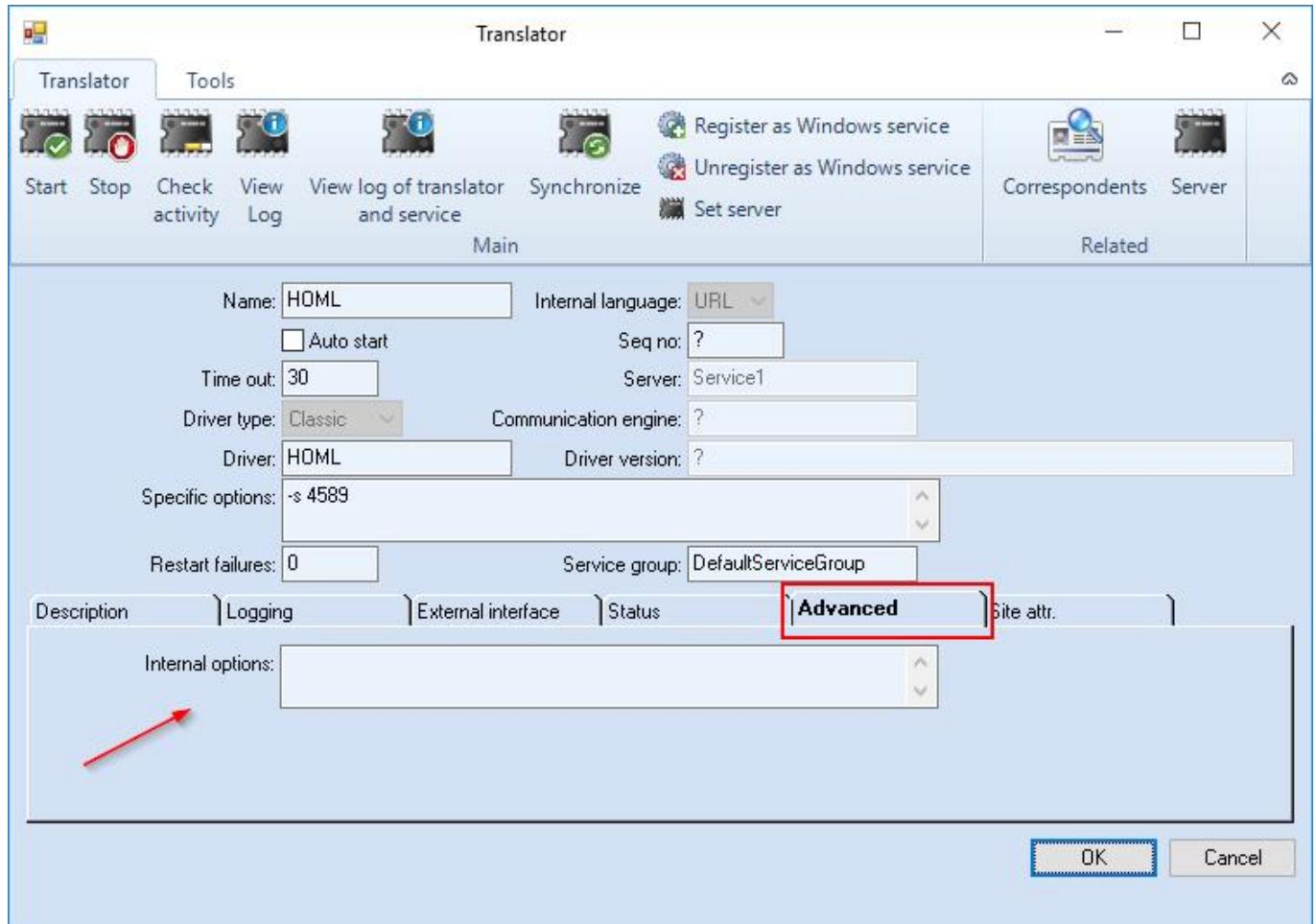
Service is currently not allowed to start because a shutdown has been initiated. If there is no shutdown ongoing and you still want to start the service, use the **Reset status** function on the service to change the status before starting the service.

If the database startup time is later than the time the **Service status** record was last modified, starting up will silently set **Allowed to start** to **Yes**.

Translator editor extended with "Advanced" tab page (MATE_COMHL-00456)

The Translator editor now has an additional tab called **Advanced**. This new tab contains the (read-only) field **Internal options** which is used to store the option list sent by some translators upon registration (HOML for instance). In previous versions (since GLIMS 9), this option list was stored using a site attribute.

The new field is also available for display in the **Translators** browser.



Extended Services browser and editor (MATE_COMHL-00461)

The Services browser and editor now show extra information.

Services browser

Extra column that displays ServiceStatus.AllowedToStart.

Services editor

Extra **Status** tab page that displays ServiceStatus.AllowedToStart, Service.ProcessId, Service.RestartFailures.

Consult registration

Extended consult registration screen: up and down arrow keys no longer change the value of a numeric field (GLIMS_CONSXT-00019)

In the consult registration screen, using the up and down arrow keys in a field configured as a property with datatype **Numeric** no longer increases or decreases the value of the field by 1.

Extended consult registration screen: warning when inactive correspondent is selected as contact (GLIMS_CONSXT-00032)

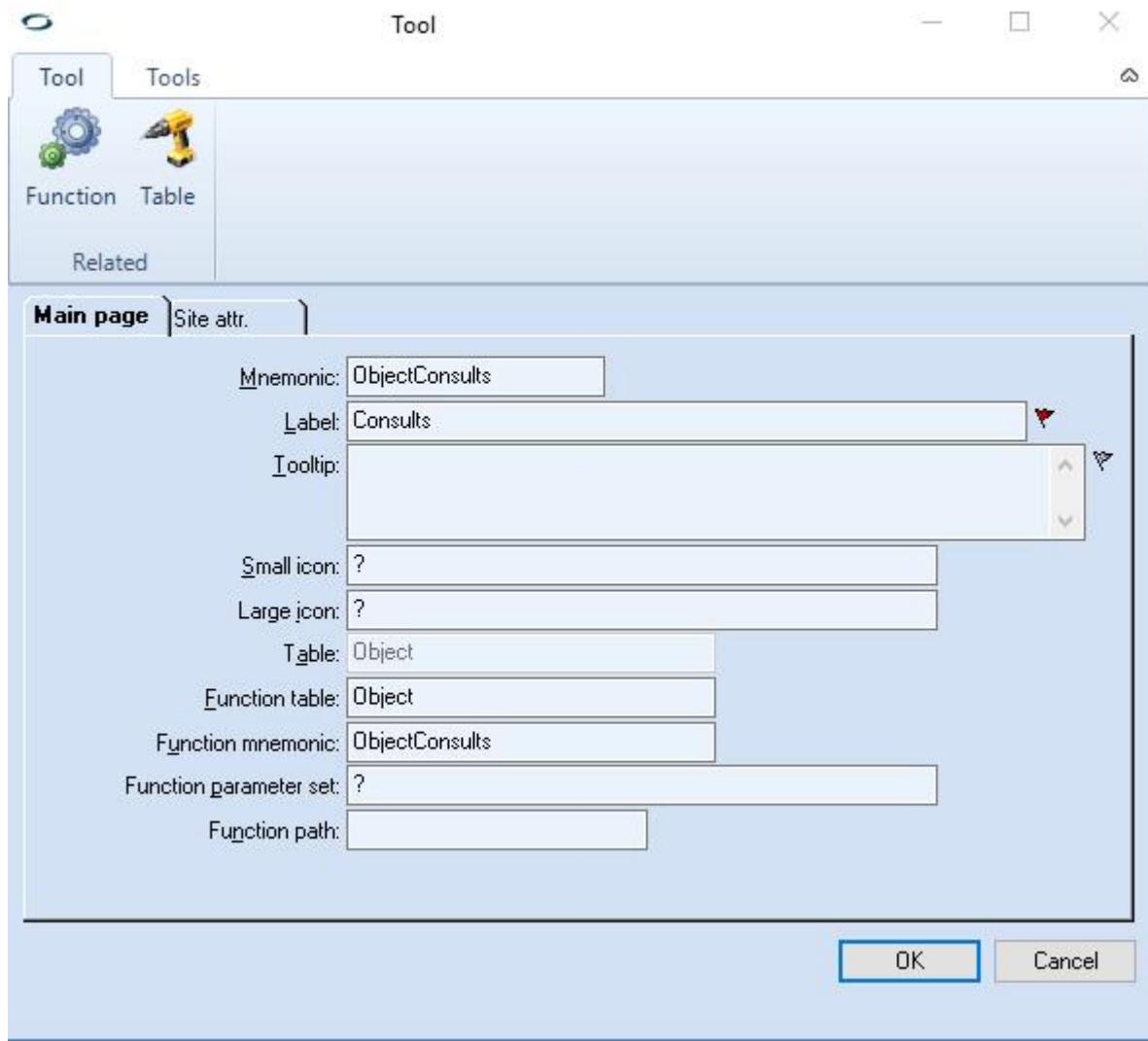
In the extended consult registration program, a message will now be displayed (when clicking **OK** in the **Register consult** screen) if an inactive correspondent (its **Active until** date lies in the past) was selected as contact.

Overview of the consults registered for an object (GLIMS_CONSXT-00033)

GLIMS now allows the user to open a browser that contains all consults that have been registered for an object via the extended consult registration program. This browser can be accessed:

- From an Object via the contextual menu item **Show all... > Consults**.
- From a Person, **Animal**, **Lot** or QC lot via the contextual menu item **Object... > Show all... > Consults**.
- From a Correspondent via the contextual menu item **As Person > Object... > Show all... > Consults**.

For this purpose, the following tool is now available:



Extended consult registration screen: do not display non consult results for preceding / subsequent consults (GLIMS_CONSXT-00034)

Context

The extended consult registration screen shows a summary of the preceding / subsequent consults (if there are any) for the consult's object (patient, animal or lot) in a dockable window which can be accessed through the tab pages on the right side of the screen.

Issue

If consult orders contain non consult requests as well (for instance after migrating from GLIMS 8 to GLIMS 9 since it was possible to add a consult request to an existing order in GLIMS 8), then the results of these non consult requests were also displayed in the preceding / subsequent consults window.

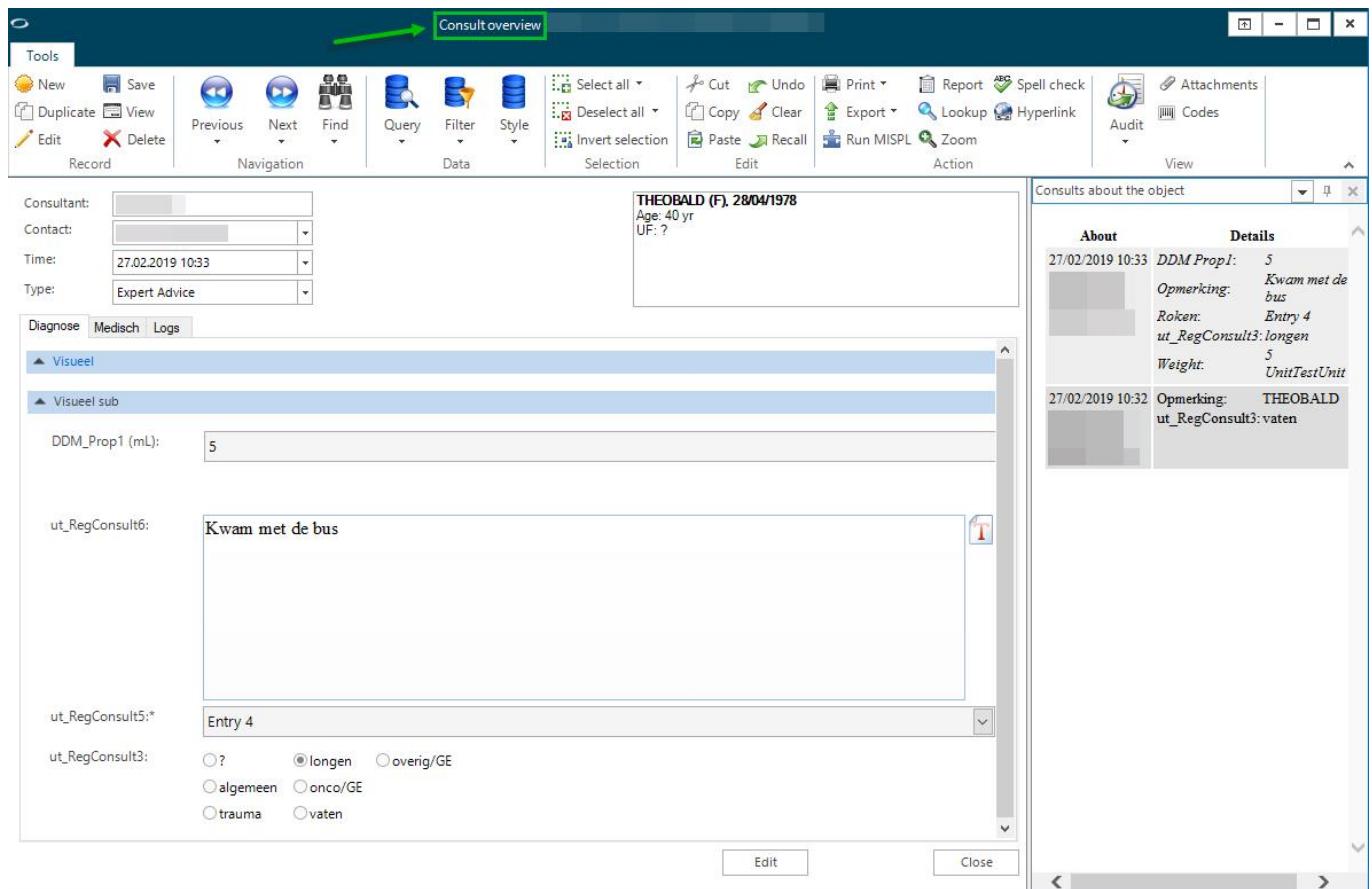
Solution

The property classification of the consult type will now be taken into account when displaying the results of preceding / subsequent consults. Only the results of the properties that belong to this property classification will now be displayed.

Extended consult registration screen retains size and position (GLIMS_CONSXT-00035)

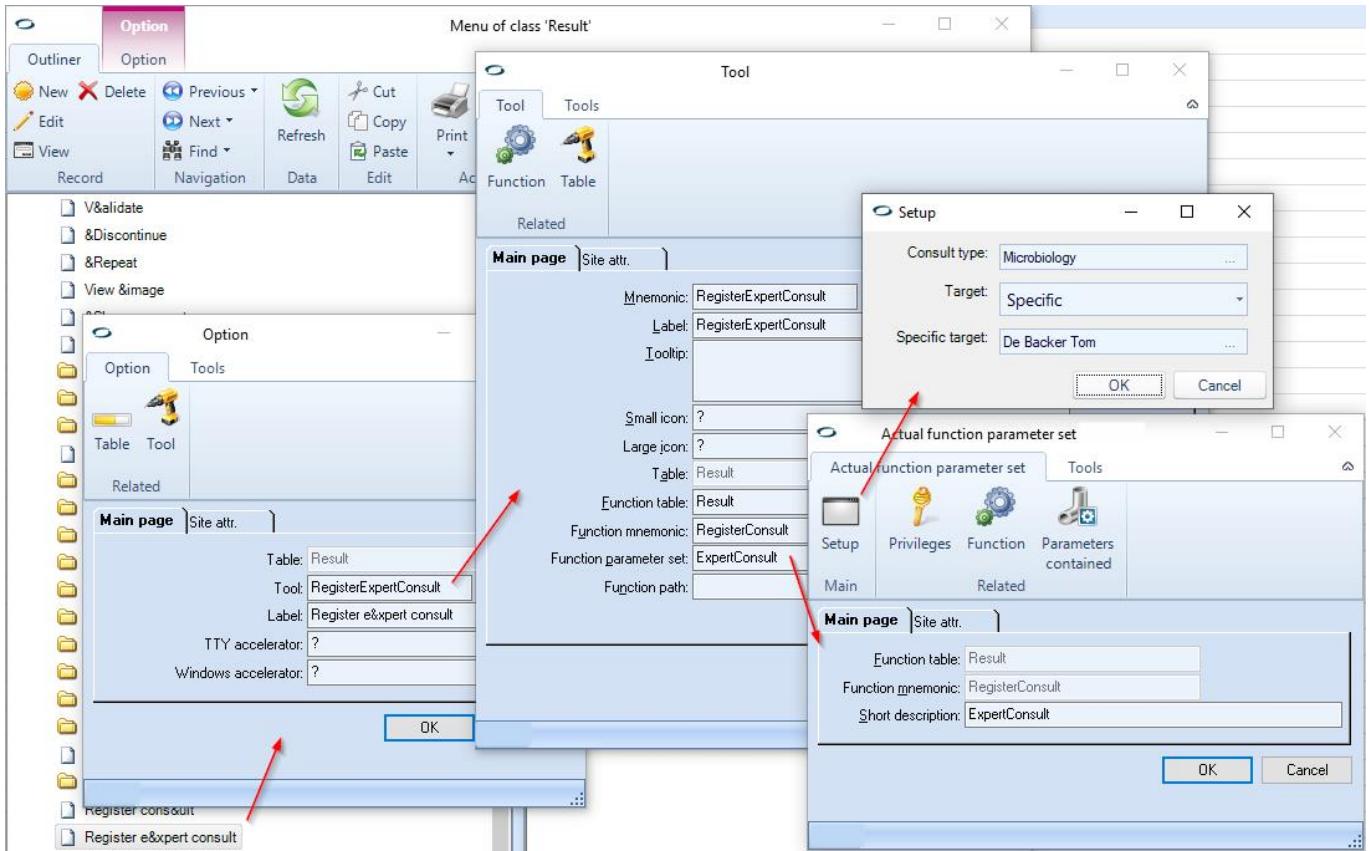
An issue was reported where no adjustment changes would be saved after resizing and closing the Consult overview screen (the accessibility of this screen is described here). The size and the relative position of the screen always remained the same, which disturbed the workflow.

This issue has been fixed, the extended register consult screen ([Consult overview](#)) opens at the same relative position and with the same size as set when last closed.



[Support for pre-configured "Consult registration" \(GLIMS_CONSXT-00036\)](#)

The Register consult function can now be used in a tool with a pre-configured parameter set. The parameter set allows the user to pre-define the **Consult type** and the **Target**. The **Target** can be the target type such as Issuer, Patient or Agent, or a Specific correspondent.



Extended consult registration screen: display preceding / subsequent consults in one single window (GLIMS_CONSXT-00037)

The extended consult registration screen now displays the preceding / subsequent consults (if there are any) for the consult's object (patient, animal or lot) in one single dockable window which can be accessed through the tab page on the right side of the screen. Moreover, the overview includes the current consult as well of which the details are displayed in *italic*.

Extended consult registration screen: default value for fields in result section (GLIMS_CONSXT-00038)

Context

GLIMS offers a consult registration module. Registering a consult allows you to indicate that the lab has e.g. made a call based on a result or has received a call e.g. for advice.

The result section of the consult registration screen is configurable. The fields in the result section are defined via property classification nodes. The property classification to which these nodes belong can be linked to a Consult type so that when this Consult type is selected in the consult registration screen, the property classification nodes of the linked property classification are displayed as fields for which the user should enter a value.

Default value

If an Order-based MISPL function of data type **String** is specified in the **Default value** field of the **Property classification node**, the return value of the MISPL function will be used as default value for the corresponding field in the consult registration screen.

Notes

- The MISPL function should return the mnemonic of a choice if the property classification node is linked to a property for which a choice list is specified.
- The MISPL function is only evaluated for new consults and not for registered consults that are being edited.

Extended consult registration screen: spell checking for text boxes (GLIMS_CONSXT-00039)

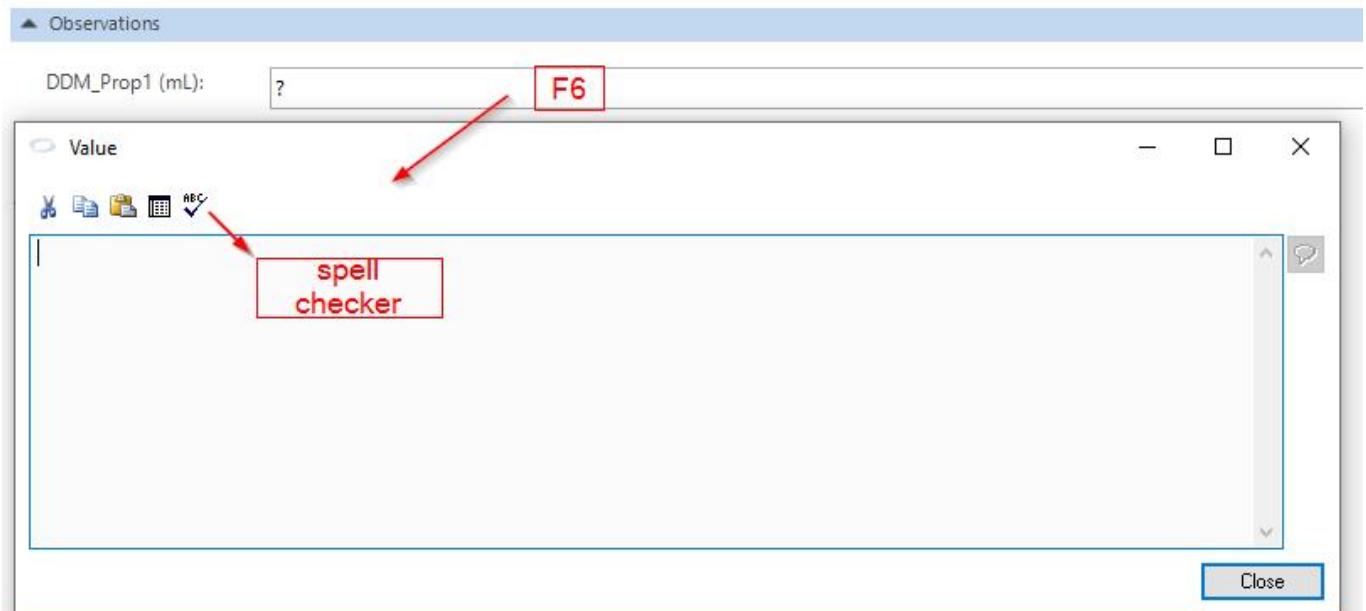
Context

GLIMS offers a consult registration module. Registering a consult allows you to indicate that the lab has e.g. made a call based on a result or has received a call e.g. for advice.

The result section of the consult registration screen is configurable.

New functionality

For text boxes (configured as properties of datatype **String**), the F6 key can now be used to open a larger text box that allows the user to run spell checking on the entered text.



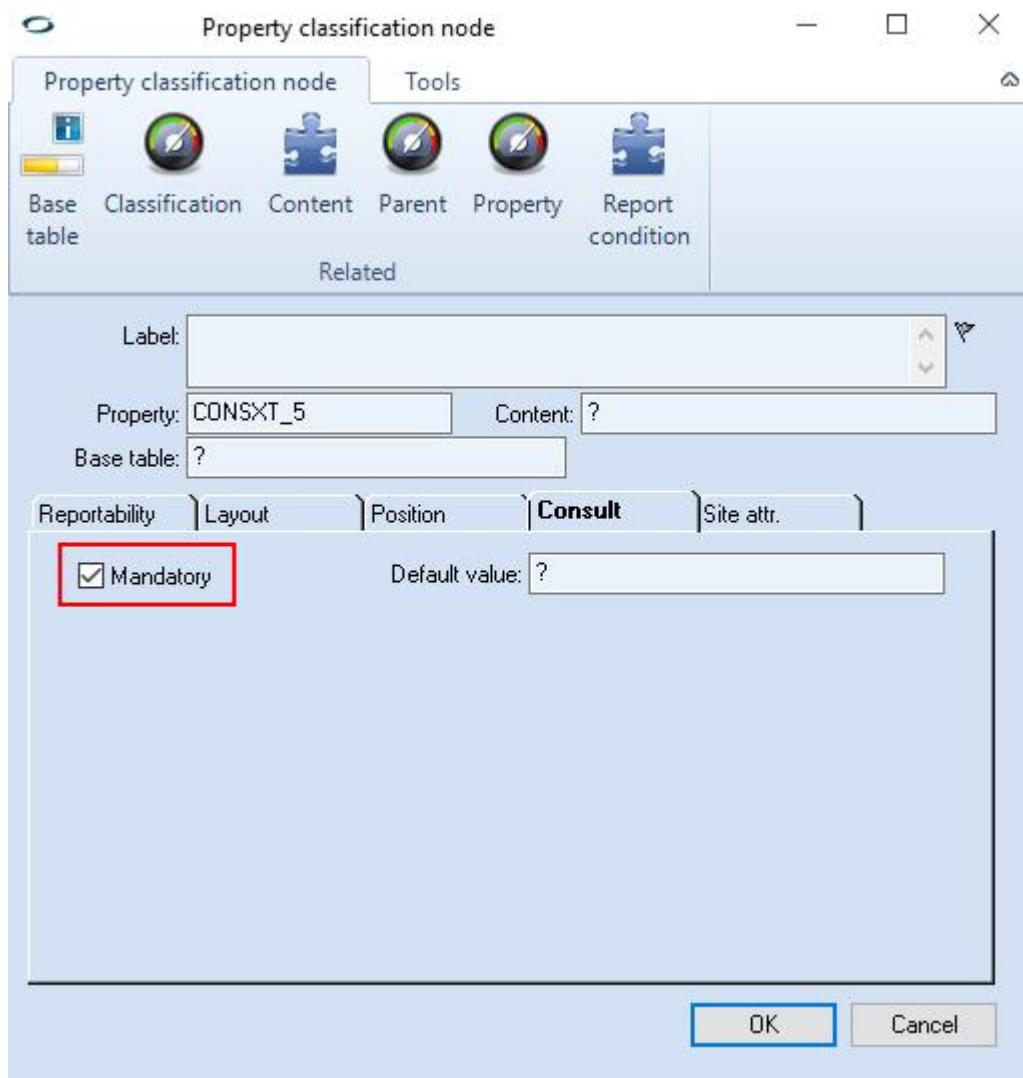
Extended consult registration screen: mandatory fields (GLIMS_CONSXT-00040)

Context

GLIMS offers a consult registration module. Registering a consult allows you to indicate that the lab has e.g. made a call based on a result or has received a call e.g. for advice.

Mandatory fields

The fields in the consult registration screen are defined via property classification nodes. The **Property classification node** editor now has a new option: **Mandatory**. If set, the corresponding field in the consult registration screen - for the consult type to which the property classification with the mandatory node belongs - will be a mandatory field with an asterisk next to its label. Moreover, a warning message will be shown when trying to save the consult registration screen and the mandatory field does not have a value.



Extended consult registration screen: default contextual ribbon for Consult and Consult type (GLIMS_CONSXT-00041)

Context

GLIMS offers a consult registration module. Registering a consult allows you to indicate that the lab has e.g. made a call based on a result or has received a call e.g. for advice.

Contextual ribbon

A default contextual ribbon is now available for the **Consult** and **Consult type** browser and editor.

Extended consult registration screen: vertical scroll bar for text boxes (GLIMS_CONSXT-00042)

Context

GLIMS offers a consult registration module. Registering a consult allows you to indicate that the lab has e.g. made a call based on a result or has received a call e.g. for advice.

The result section of the consult registration screen is configurable.

Modification

For text boxes (configured as properties of datatype **String**), a vertical scroll bar will now be shown if - because of its size - the text box cannot display all of the entered text.

Extended consult registration screen: editing a registered consult (GLIMS_CONSXT-00043)

Context

GLIMS offers a consult registration module. Registering a consult allows you to indicate that the lab has e.g. made a call based on a result or has received a call e.g. for advice.

Editing a registered consult

It is now possible to edit a registered consult via the **Edit** button at the bottom of the **Consult overview** which can be opened by double-clicking / using F6 on a **Consult** in the Consults browser.

Extended consult registration: configurable consult statuses (GLIMS_CONSXT-00045)

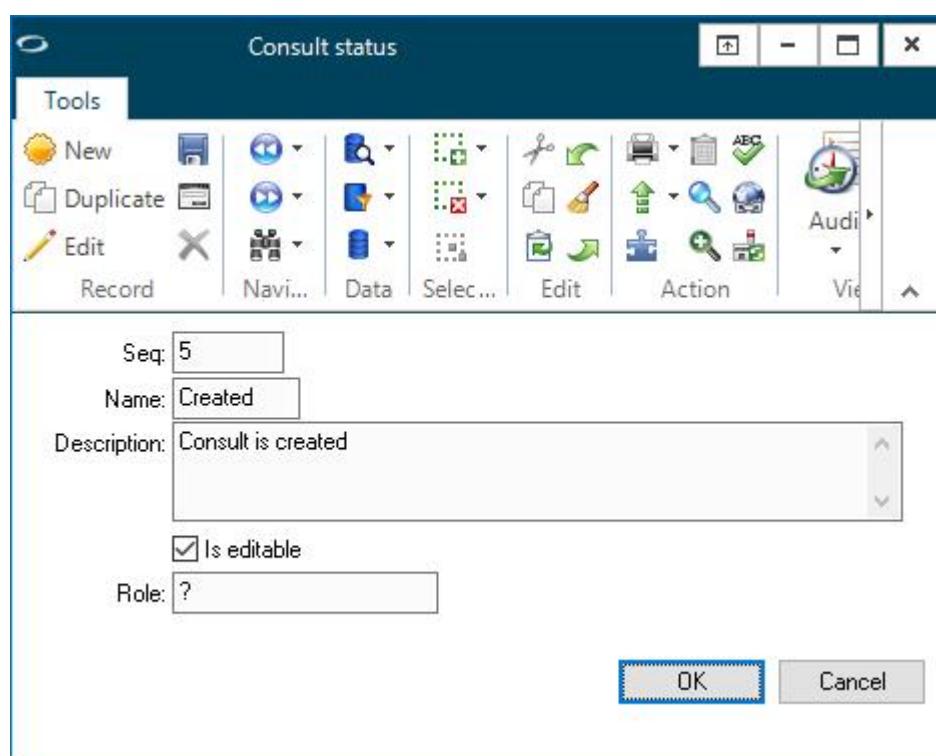
Context

The consult registration module now allows the user to define statuses for consults.

Consult statuses

Configuration

Consult statuses can be defined via **Start > Configuration > Consult statuses**.



Seq

The sequence number of the status determines the sorting order of the status in the life cycle of the consult. A newly created consult will have the status with the lowest sequence number.

Is editable

Determines if a consult with this status can be edited.

Role

If set, only users with this role can change the consult's status to this status.

Note

By default, GLIMS will contain one **Consult status** record with:

- Seq =1
- Name = Created
- Is editable = enabled

Visualisation

The **Status** of the consult is visible in the consult registration screen, the consult overview and the Consults browser.

Query option

The Search for consults screen now allows the user to specify a status range to only select consults with a status within this range.

The screenshot shows a Windows-style dialog box titled "Search for consults". It contains various search criteria fields: "From:" dropdown (set to "This year"), "Until:" dropdown (set to "This year"), "Consultant:" dropdown, "Consultant role:" dropdown, "Contact person:" text input, "Specimen:" text input, "Object:" text input, "Type:" dropdown, "Logs for:" text input, "Status from:" text input, "to:" text input, and a "Filter:" dropdown. The "Status from:" and "to:" fields are highlighted with a red rectangular border. At the bottom right are "OK" and "Cancel" buttons.

Contextual menu / ribbon items

The status of a consult can be changed via the contextual menu / ribbon items **Upgrade status / Downgrade status**.

Extended consult registration : consult review by supervisors of HC providers in training (GLIMS_CONSXT-00046)

Context

The consult registration module now offers support for a work flow where the consults registered by HC providers in training need to be reviewed by their supervisors.

Logs

Consult registration screen / Consult overview

The consult registration screen and the consult overview now contain a **Logs** tab page that gives access to an **Add log** button and a browser with the added logs.

Register Consult Huylebroeck, S. (F), 01/03/1982

Consultant:

Contact:

Time:

Type:

Status Creating

[Diagnose](#) [Medisch](#) **Logs**

[Add log](#)

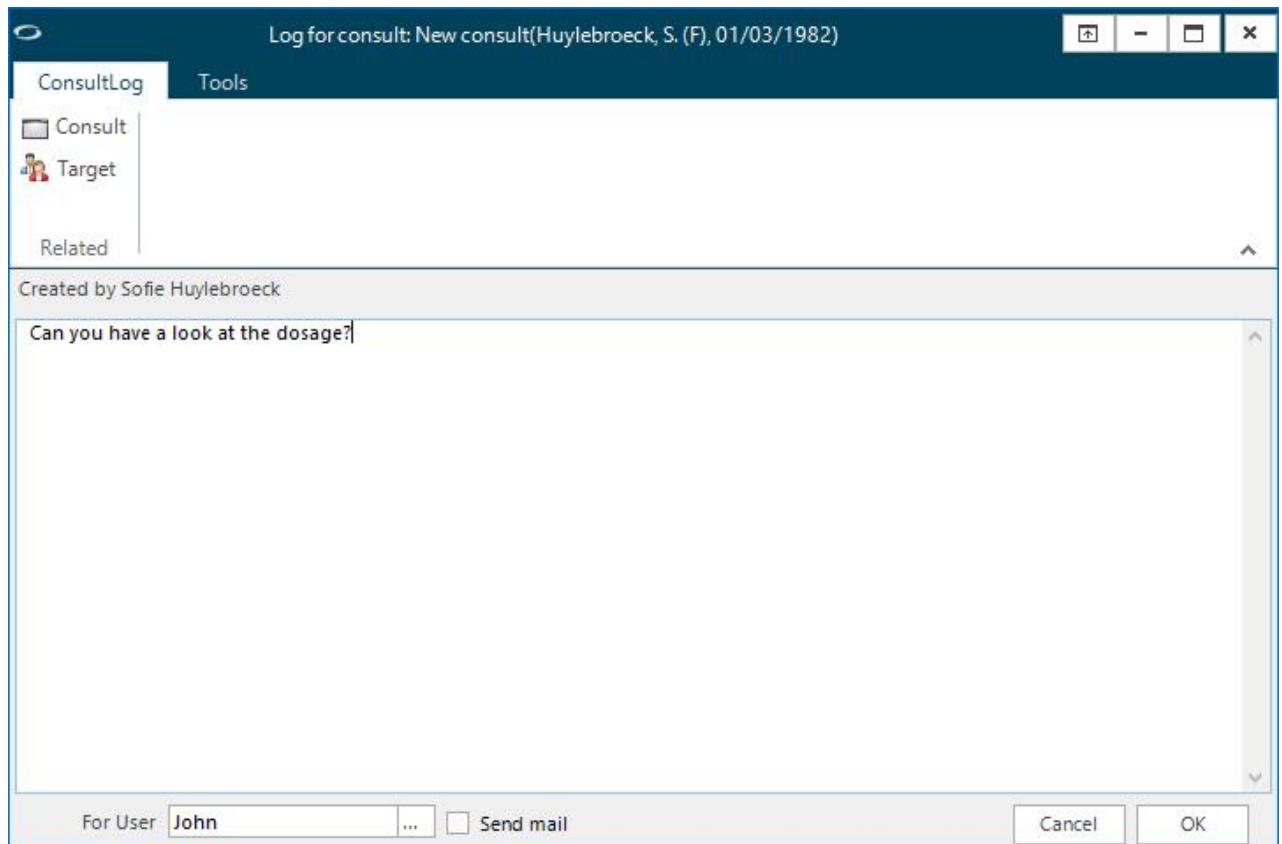
By	When	For	Log
Sofie Huylebroe...	John Victor		Can you have a look at the dosage?

[OK](#)

[Cancel](#)

Adding a log

Use the **Add log** button in the **Logs** tab page to open the **Consult log** editor and add a comment or instructions.



For user

Specify the user for whom the log is intended.

Send mail

If enabled, an internal or external e-mail - depending on the **Mail method** of the User record - will be sent to the specified user.

Consulting a previously added log

Double-click / use F6 on a log in the **Logs** tab page of the consult overview to open the **Consult log** editor in read-only mode.

Consults browser

A new query option is now available in the Search for consults screen: **Logs for**. It allows to only select consults having a log for the specified user.

The screenshot shows a search dialog titled "Search for consults". It includes various filters: "From: This year", "Until: This year", "Consultant: ?" (with dropdown arrow), "Contact person: ?", "Object: ?", "Type: ?" (with dropdown arrow), "Status from: ?" (with dropdown arrow), "Filter: ?", "Consultant role: ?" (with dropdown arrow), "Specimen: ?", and "Logs for: ?" (which is highlighted with a red rectangle). At the bottom are "OK" and "Cancel" buttons.

Extended consult registration screen: register consults for specimens (GLIMS_CONSXT-00047)

Context

GLIMS offers a consult registration module. Registering a consult allows you to indicate that the lab has e.g. made a call based on a result or has received a call e.g. for advice.

Consult registration for a specimen

It is now possible to,

- open the consult registration screen to register a consult about a specimen by choosing the contextual menu item **Register consult** from a **Specimen**,
- open a browser with all consults registered for a specimen:
 - by choosing the contextual menu item **Show all > Consults on this** from a **Specimen**,
 - by using the newly added **Specimen** query option in the Search for consults screen.

Consequently, the column **Discussed specimen** has been added to the **Consults** browser. In addition, the editor of the **Discussed specimen** can be opened via the contextual menu / ribbon of the **Consults** browser or the **Consult overview**.

Extended consult registration screen: rich text boxes supporting formatting, dynamic text and MISPL expressions (GLIMS_CONSXT-00048)

Context

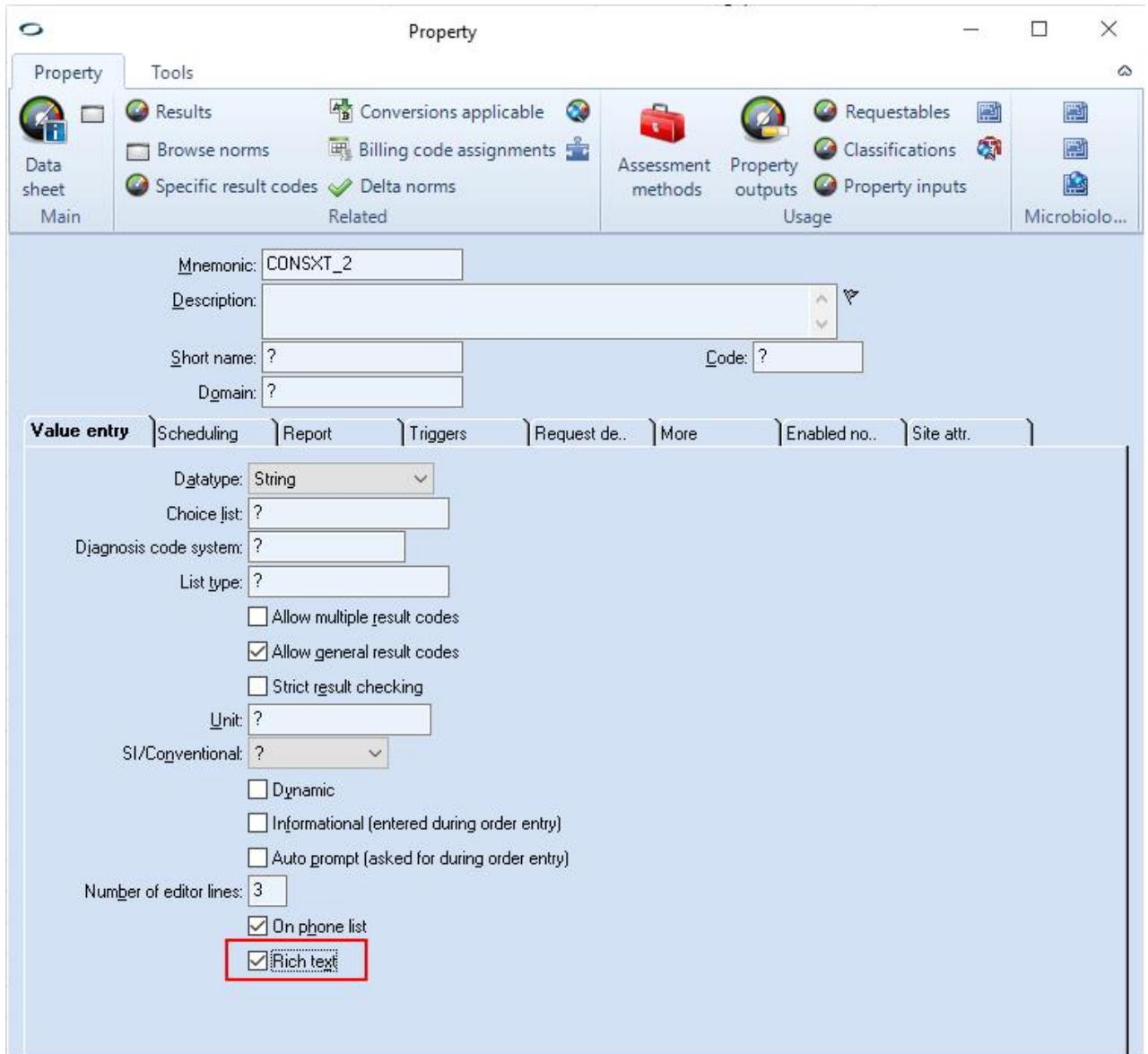
GLIMS offers a consult registration module. Registering a consult allows you to indicate that the lab has e.g. made a call based on a result or has received a call e.g. for advice.

The result section of the consult registration screen is configurable.

Support for rich text boxes

Configuration

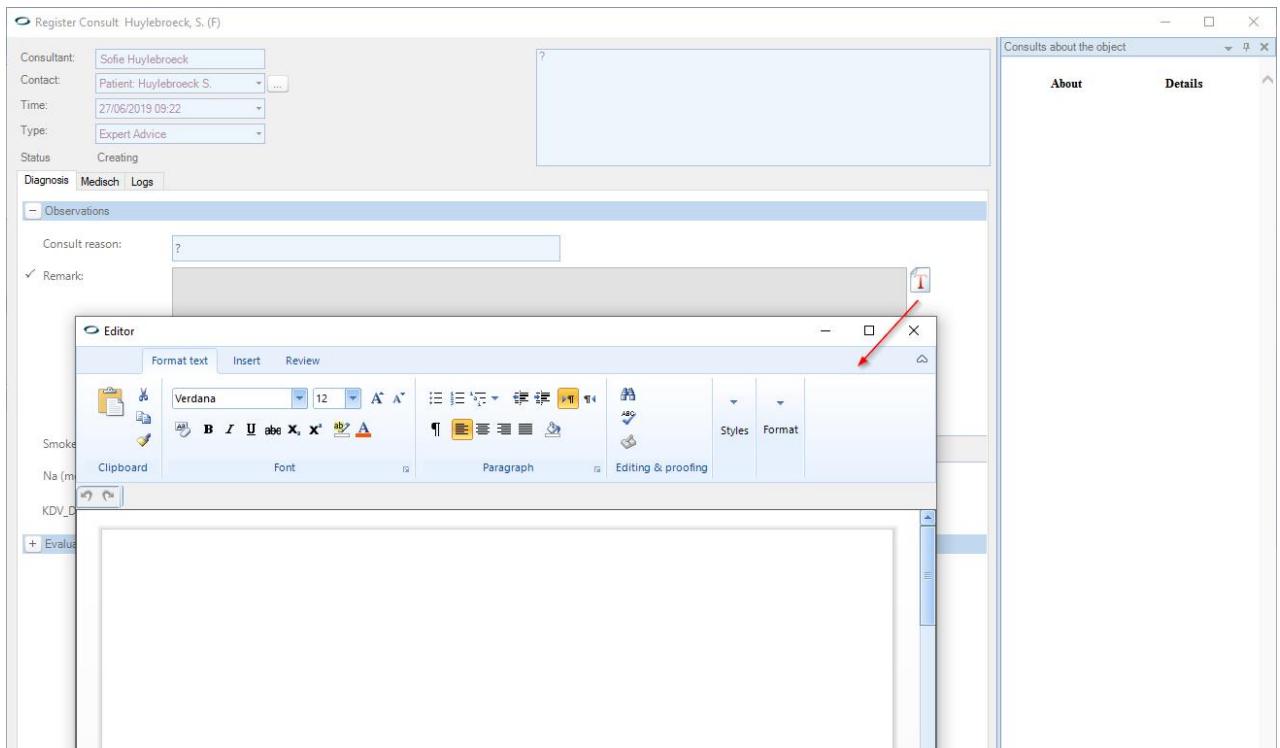
For text boxes (configured as properties of datatype **String**), the possibility has been added to configure them as rich text boxes by enabling the **Rich text** check box in the **Property** editor.



Opening the rich text editor

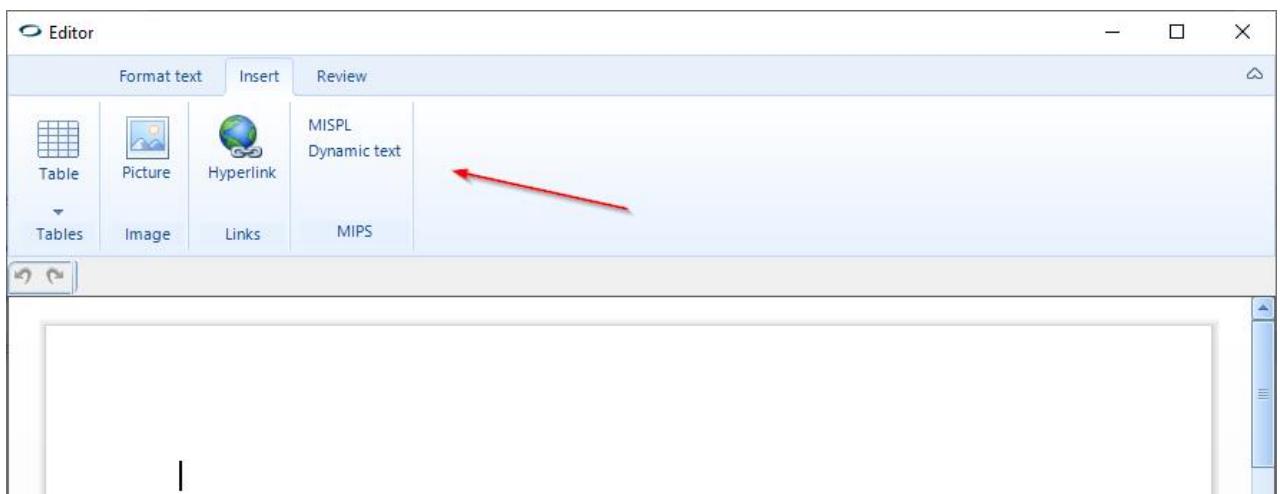
The rich text editor can be opened from the consult registration screen by using:

- F6 in the rich text box or
- the icon on the right side of the rich text box.



Purpose

The rich text editor offers the user a broad range of text formatting options. Moreover, entering dynamic text and MISPL expressions is supported as well.



Dynamic text

Dynamic text can be entered between brackets: {< >}. For instance: {<pos>} where "pos" is the mnemonic of a Result-based Text. The dynamic text will be expanded when clicking on the **OK** button in the consult registration screen.

MISPL expressions

Result-based MISPL expressions can be entered between brackets: {= >}. For instance: {=.Order.InternalId} to insert the internal ID of the order. The MISPL expression will be evaluated when clicking on the **OK** button in the consult registration screen.

Result code expansion in non rich text boxes

It is possible to enter result codes in non rich text boxes (text boxes configured as properties of datatype **String** for which the **Rich text** check box is disabled) by using the **Expansion sign for result codes** specified in the GLIMS general settings, followed by the result code.

Extended consult registration screen: show name of consultant (GLIMS_CONSXT-00050)

In the extended consult registration program, the **Consultant** field now displays the first name and last name of the consultant instead of the login name.

Consultation

No restricted access when HC provider uses order consultation (GLIMS-10704)

Context

Since GLIMS 7.7.0, a GLIMS user can be linked to a HC provider. This has the effect that when this user is logged on, the order consultation browser will automatically be restricted to orders issued by this HC provider (or members of his group practice).

Issue

As, in this case, the **Correspondent** fields in the order consultation query screen are prefilled with the HC provider linked to the logged on user and these fields are grayed out, the order consultation program cannot be used to consult orders of which the logged on HC provider is not the issuer or the agent.

Moreover, since GLIMS 9.6, the link between a HC provider and a user is also used to determine the result responsible and the report responsible. As a result, the "restricted access" during order consultation was considered to be too restrictive.

Solution

As the "restricted access" during order consultation was considered to be too restrictive, this functionality has been removed. As of now, when a GLIMS user is linked to a HC provider and this user is logged on, the **Correspondent** fields in the order consultation query screen will no longer be grayed out.

The screenshot shows the 'Active order consultation - query options' dialog box. The 'Patient' and 'Study' sections are at the top. Below them is a large red-bordered box containing the 'Correspondent' section. Inside the red box, there are fields for 'Correspondent' (set to 'hcpr'), 'Identification' (grayed out), 'as:' dropdown (set to 'Issuer'), and a checkbox for 'For all group practice members'. Below this is a grid of filters: 'Department' (dropdown), 'Executing department' (dropdown), 'Executing department group' (dropdown), 'Received since' (dropdown set to '2 months ago'), 'Order short id' (text input), 'Order status option' (dropdown set to 'Active'), and 'until' (dropdown). At the bottom, there are radio buttons for 'Patient' (selected) and 'Animal', and a checkbox for 'Support object pattern search'. On the right side, there are 'OK' and 'Cancel' buttons.

Order consultation query always displays active orders when used in a tool (GLIMS-11827)

When using the OrderConsultation function in a tool, setting the value of its **Order status option** parameter to **All** or **Pending** in the function parameter set was not saved. This has been corrected.

Correspondents

The function `gp_Site.MergePersonsFromFile()` can be run in batch (GLIMS-07200)

Issue

An issue was reported where the Person merge function Merge persons from file on gp_Site could not reliably be executed in batch. When executing the command on the server, the mandatory file name was not saved, so no setup was done and no merge action was performed. Therefore, large amounts of records could only be merged successively in limited amounts and over a long period of time.

Additionally, no errors about merging appeared in the task service log file.

Solution

The function `gp_Site.MergePersonsFromFile()` now fully supports execution in batch mode, i.e. via a task. All errors are correctly logged in the service log file.

Additionally, the function setup can now be skipped entirely.

The decease time of a person is taken into account for age calculation (GLIMS-07977)

The age of a deceased person was calculated as the time range between the birth date of the person and a reference date (in most cases the current date).

The value of the field **Decease time** was not taken into account, which led to incorrect age information.

This issue has been fixed: the age of a deceased person will be calculated based on the birth date and the decease date of this person.

Warning

Setting the **Decease time** to a date in the future should be avoided, as it will lead to issues regarding the **Age** calculation of a person.

Enhancements for the definition of person relations (GLIMS-10484)

The definition of person relations has been improved since it was possible to define a **Person** as her own mother or one of her children as her mother for instance. This kind of incorrect person relations is now no longer allowed as they could lead to errors. An error message is now shown to the user when s/he tries to define a descendant as an ascendant or vice versa.

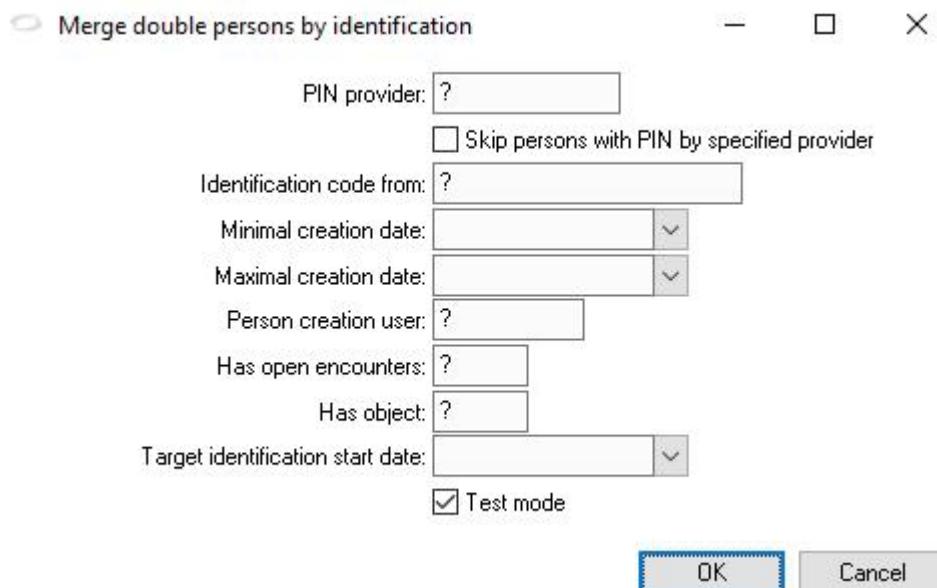
Function to merge patients by common PIN assigned by different providers (GLIMS-11279)

Introduction

For certain sites working with a specific environment, a new backwards compatible functionality has been introduced to merge patients based on a common PIN, assigned by different PIN providers.

This new function **Merge double persons by identification** can be accessed from **System management > Database**.

Description



Field	Data type	Description
PIN provider	Reference to correspondent	After merging, a PIN by this provider will be assigned to the final patient.
Skip persons with PIN by specified provider	Logical	If set, then persons with PIN assigned by specified provider will be skipped.
Identification code from	String	If set, then only identifications with code higher than the specified code will be selected.
Minimal creation date	Extended date	If set, only identifications created from this date will be selected.
Maximal creation date	Extended date	If set, only identifications created until this date will be selected.
Person creation user	Reference to sc_User	If set, only persons created by this user will be selected.
Has open encounters	Logical	If set, only persons with open (yes) or no (no) encounters will be selected.
Has object	Logical	If set, only persons with (yes) or without (no) an object will be selected.
Target identification start date	Extended date	Start date for the final PIN, can be left blank for no start date.
Test mode	Logical	If set, then persons to be merged will be logged, but no database changes will be performed.

Procedure

The program first preselects duplicate identifications (with the same code). For each person, the number of orders is counted. This phase is logged as "collecting candidate persons". After this pre-selection, the program loops through the candidate persons per code, starting with the person in possession of the most orders.

If a duplicate person (same identification code) is found, further criteria for person identification are checked: [Last name](#), [First name](#), [Birth date](#), [Sex](#), [Address line 1](#), [Municipality name](#), [Postal code](#), [Country code](#).

Only if all the criteria match, the person records will be merged. Merging is done by the standard person merge functionality.

The final person record will get an identification code assigned by the specified provider with the start date [Target identification start date](#). The old code will be maintained, but the end date will be set to the merge execution date.

Logging

The program to merge patients by common PIN logs all actions to the screen (interactive) or to the service log.

It will also create two additional log files in the temporary session folder:

- prsn_mrg.txt: contains all patients (externalization) that match the criteria for merging (except the additional criteria set by the standard merge program) and will be merged, while not in test mode.
- prsn_rej.txt: contains all patients (externalization) that do not match the criteria for merging and will not be merged.

Note

The log file prsn_rej.txt also contains persons that cannot be merged due to other reasons.

GLIMS now fills Person.Department upon Person record creation (GLIMS-11297)

Context

To indicate to which department (legal entity) a **Person** in GLIMS is linked, the changes described below have been made to GLIMS. The Person.Department information is required e.g. for shielding purposes in case several departments (legal entities) share 1 GLIMS database and a patient can only be visible in the legal entity in which he/she was seen.

Person.Department

GLIMS now fills the **Person.Department** field upon creation of the **Person** record. The **Person.Department** is displayed in the **Person** editor and can be updated by the user.

The screenshot shows the GLIMS Person editor interface. At the top, there's a toolbar with various icons for Data sheet, Quick report, Generate document, Merge, Result overview, Orders, Encounters, Group memberships, Phone log, and Specimens. Below the toolbar, tabs are labeled Main, Extra, Foetus, Site attr., Site attr., Site attr., and Site attr. The 'Extra' tab is currently selected and highlighted with a red box. In the main content area, there are several input fields: External id (with a question mark), Department (highlighted with a red box), Fam. Doctor, Employer, Mother, DoB status (set to Standard), Decease time, Real identity, Keyword, a checkbox for 'Foetus on creation', Before birth, Dialysis encounter, and two checkboxes at the bottom: 'Keep manually entered payment agreements' and 'Foetus on creation'. Most fields contain a question mark, indicating they are either required or have not been populated yet.

If a Person record is created:

Manually

The **Department** field in the **Person** editor is filled with the department for which the active user is logged in.

Electronically

Via electronic order entry. The **Department** field in the **Person** editor is filled with the department of the batch

user linked to the service.

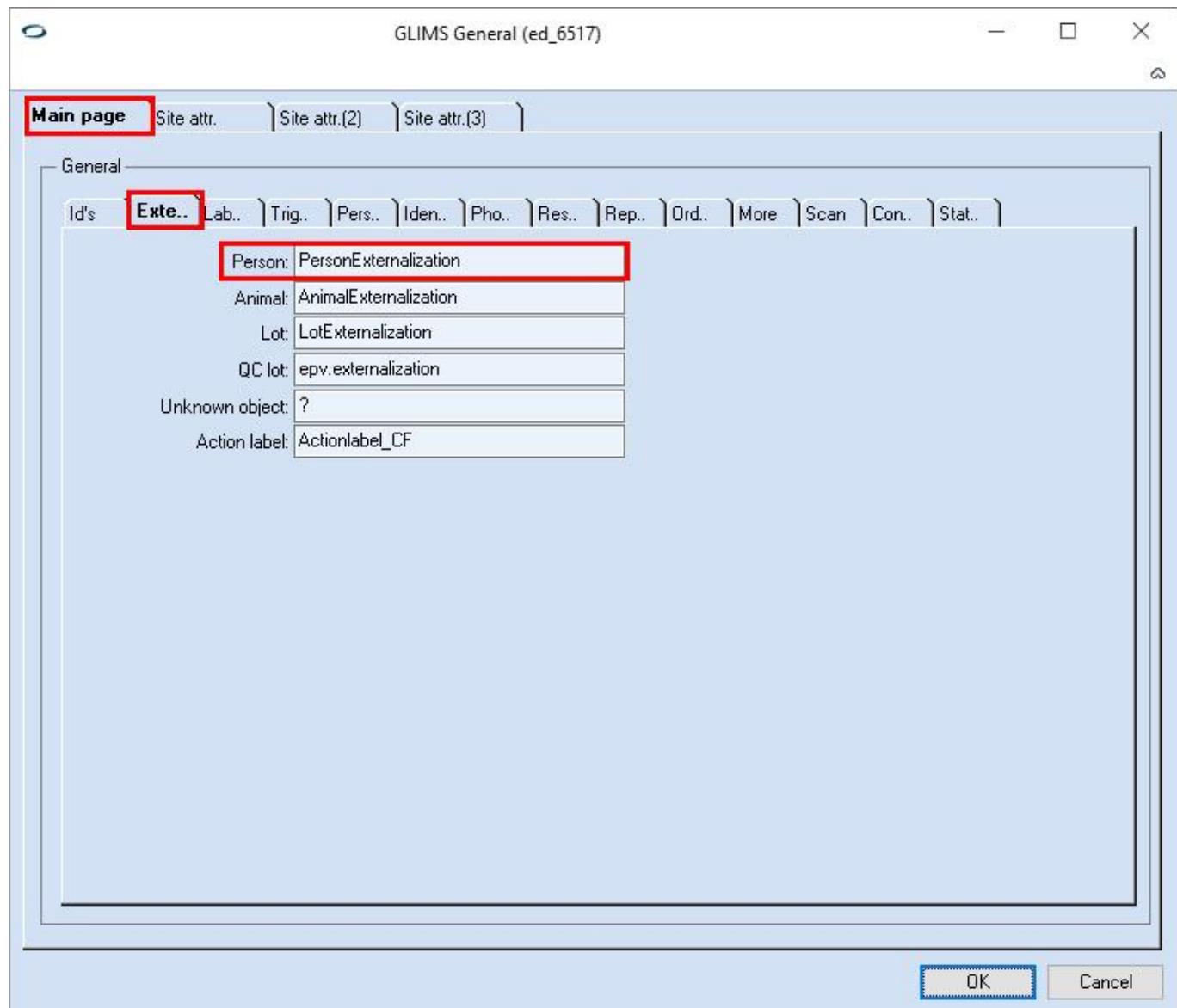
Person externalization

Default externalization

The default person externalization has been extended so that it will now also contain the code of the department stored in the **Person** record. If the **Code** of the **Department** is not specified, it will not be included in the externalization.

User-defined externalization

If a site function is used in the general options (**Start > System management > Customize > GLIMS general**) to calculate the person externalization and it should also include the person's department, then it is required to update this site function.



The screenshot shows a table with columns: Externalization, Internal id, and Municipality. The 'Externalization' column contains several rows of blurred text. The 'Internal id' column contains values like '?', '?', 'Beernem', 'TILBURG', '?', '?', '?', '141200TATJTESC?', and '?'. The 'Municipality' column contains values like '?', '?', '?', '?', 'AVIGNON', '?', 'Stekene', and '?'. A specific row is highlighted with a red border around the 'Internal id' cell '141200TATJTESC?'. A red arrow points from the 'Legal name' field ('Test Tatjana DEPN') in the same row to the 'Display last name' field ('141200TATJTESC?').

Externalization	Internal id	Municipality
...	?	
...	?	
...	Beernem	
...	TILBURG	
...	?	
...	?	
...	?	
Test Tatjana DEPN	141200TATJTESC?	
...	?	
...	?	
...	?	
...	?	
...	AVIGNON	
...	?	
...	Stekene	
1	?	
...	?	

New fields "Display last name" and "Legal name" (GLIMS-11350)

Two person-related fields have been introduced:

Display last name

Last name used by the person

Legal name

Person's name as indicated in national registers

Features of the fields

The two new fields

- are visible in the Person browsers and in the Person editor.
- can be exported and imported (see [GLIMS_PI-00344](#) and [GLIMS_RX-00705](#)).
- replace the site attributes "DisplayName" and "_LegalName" on the Person table (see the following section).
- can be used to search for a person record (see below).

When the value of these fields is modified, the person externalization MISPL is executed.

Manual conversion

If you used at least one of the two sites attributes "DisplayName" and "_LegalName" in your previous GLIMS version, you need to execute a conversion procedure when upgrading to GLIMS 9.9. This conversion will copy the site-attribute values to the new database fields.

Note

If the database fields already contain a value, this value will not be replaced by the value of the site attributes.

Before starting the conversion

Update the person externalization MISPL as well as any other MISPL in which the site attributes were used for these MISPLs to now make use of the new database fields. As the fields could have value "?", use the MISPL function "IfKnownString()" to prevent the MISPL from returning "?".

Note

Person records created after the upgrade to GLIMS 9.9, but before the conversion will NOT get a new externalization if the person externalization MISPL was changed in function of the conversion script.

Starting the conversion

The conversion is done manually using the conversion script mcv99_PersonLegalNameDisplayLastName.r ([Start -> Development -> 4GL -> Run procedure](#)).

During the conversion

Triggers will be run, so MISPL functions may be executed.

At the end of the conversion

Once all the person records have been converted, the script will delete the site attribute values and then the site attributes themselves.

Check <GLIMS-TEMP>/ Person_LegalNameDisplayLastName_mcv.log to see if the conversion was successful. If something went wrong, the site-attribute(s) will not have been deleted.

Searching for a person

To search for a person record on the basis of its [Display last name](#) and/or [Legal name](#),

- add these fields to the person externalization MISPL,
- use the order consultation query, which can look in the externalization MISPL:

Active order consultation - query options

Patient

Externalization: FISCHER, FERNANDO HENRIQUE (M), 26/03/1975

Study

Correspondent

Department: ?

Executing department: ?

Executing department group: ?

Received since: ?

Filter: ?

Order short id: ?

Order status option: Active

until: ?

Patient Animal Support object pattern search

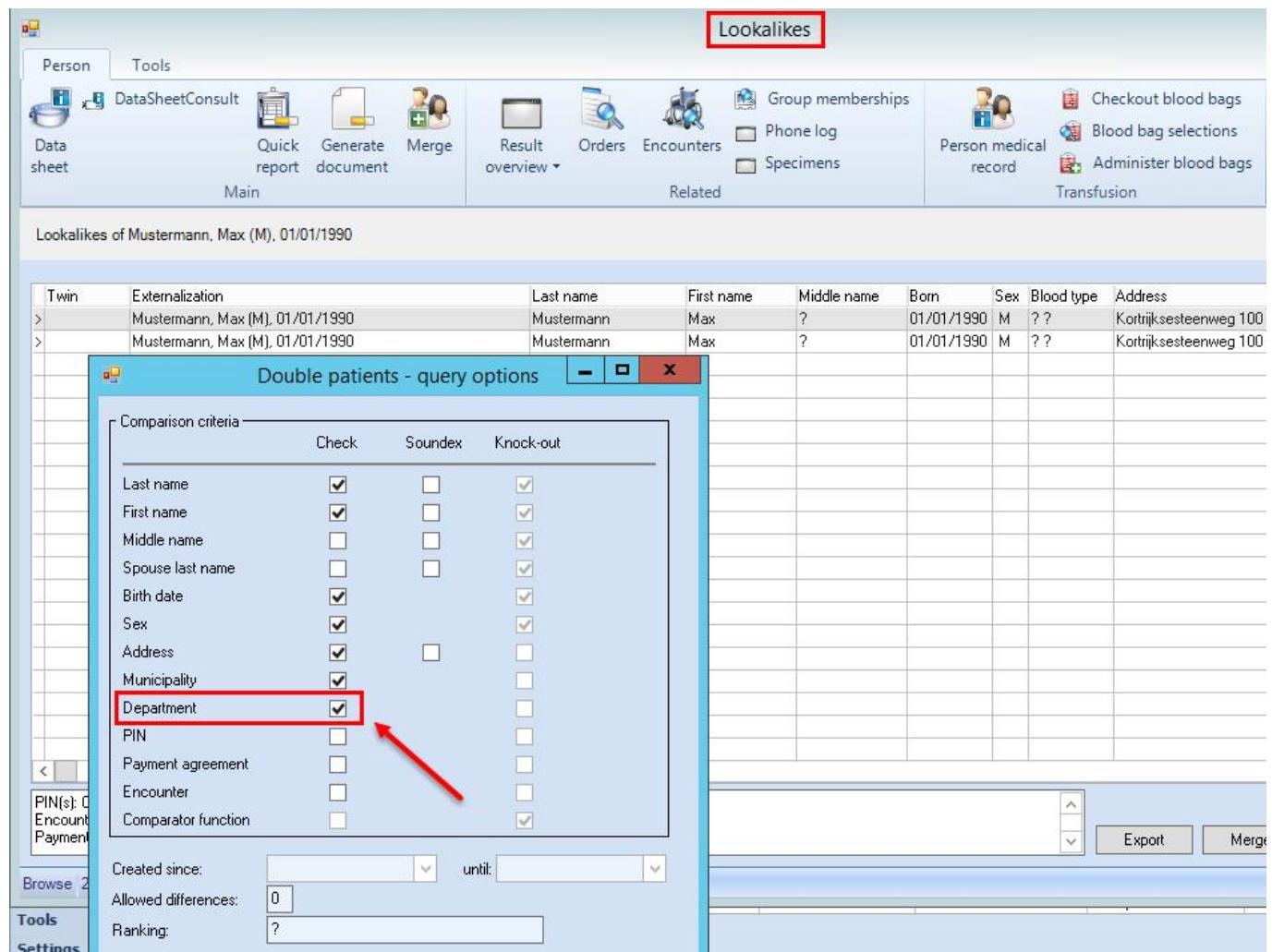
OK Cancel

New query option "Department" in the Double patient detection program (GLIMS-11355)

The Options button in the Double patient detection program allows the user to select the relevant criteria for the search for double patients, who subsequently can be merged by the Person merge program.

In certain cases, the only difference between two person records is the department (legal entity), which until now has been ignored by this program.

From now on, a new option **Department** exists in the query options of the double patients search screen. This option also applies to persons without a department (value "?"), in which case all persons to be merged should not have a department.



Performance of Person browsers in .NET (GLIMS-11731)

The performance of the .NET version of the Person browsers was poor. This has been corrected and the performance is now better.

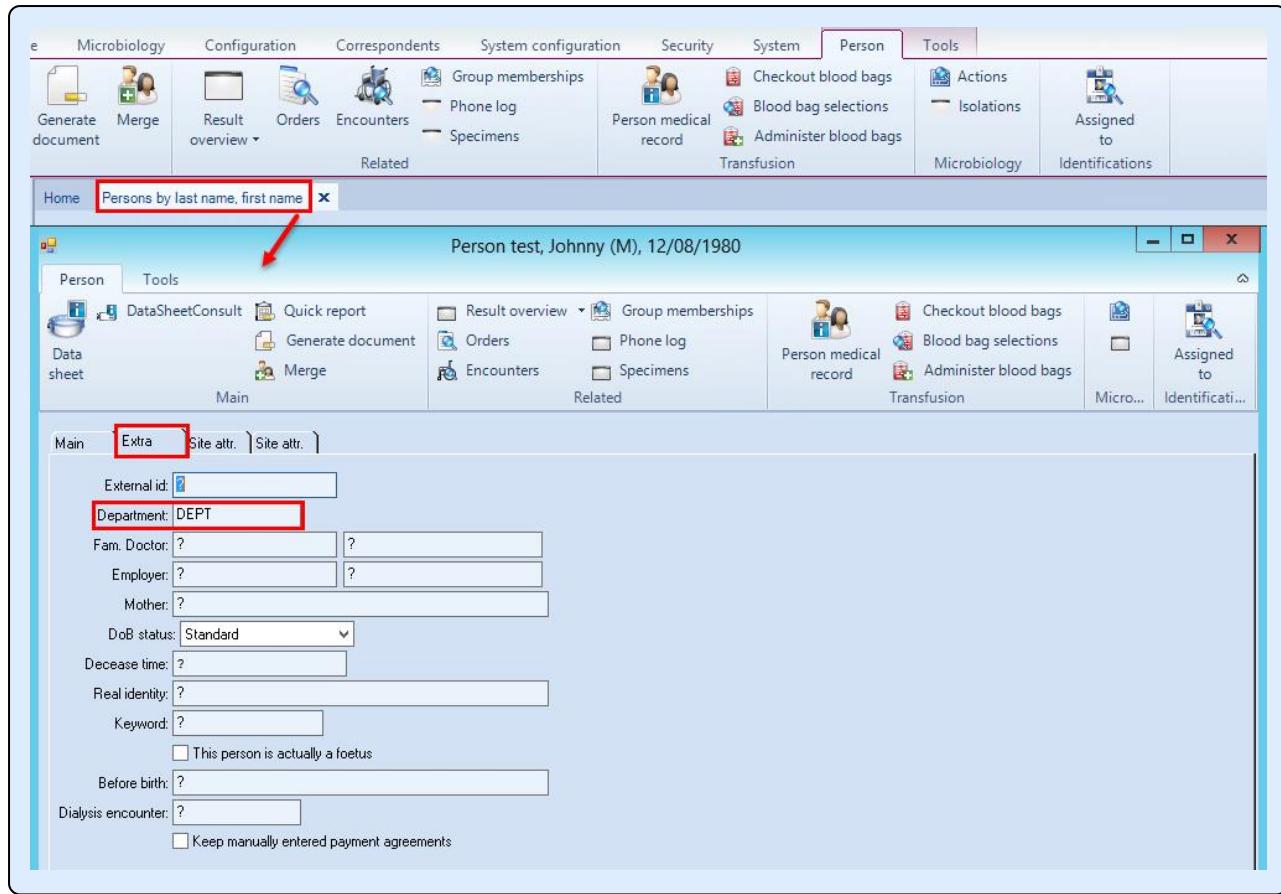
Restriction concerning the number of characters in Department field on Person editor is removed (GLIMS-11829)

An issue was reported where the Department field in the **Extra** tab of the **Person** editor cut off all department mnemonics at the first 8 characters.

When the user attempted to perform and save changes on person level, an error message was shown, stating that the department was ambiguous, which interrupted the workflow and did not allow the user to continue.

This issue has been corrected, the **Department** field now accepts the full length of department mnemonics.

Example



Added support for person names containing Windows-1250 characters (GLIMS-11858)

Until now, when running a GLIMS database with the code page Windows-1250, the attempts to create a Person record using characters from this encoding resulted in an error output.

Example

It was not possible to correctly enter and save **Person** records with Hungarian names containing characters from Windows-1250.

The screenshot shows the 'New Person' dialog box in GLIMS. The 'Main' tab is selected. In the 'Name' field, the value 'Pet?finé' is entered, and in the 'Spouse name' field, the value 'Enik?' is entered. Both of these fields are highlighted with a red border.

This issue has been solved: From now on, **Person** names containing characters from Windows-1250 are valid and will be saved.

Correction of error in Lookalikes browser (GLIMS-11922)

An error occurred in the Lookalikes browser if the comparison criteria **Address** and **Municipality** were used.

This issue, which occurred since GLIMS 9.8.8, has been corrected. In addition, the performance of the browser in an Oracle environment has been improved.

"Display last name" and "Legal name" included in person import (GLIMS_PI-00344)

The [new fields](#) **DisplayLastName** and **LegalName** are now included in the (electronic) person import.

"Display last name" and "Legal name" included in the electronic result and order export (GLIMS_RX-00705)

The [new fields](#) **DisplayLastName** and **LegalName** are now included in the electronic result and order export.

Correction of unmatched quote error when merging persons (MATE-06003)

When

- merging person records, and
- the label of one of the person's order sets contained a quote,

an "unmatched quote" error message was displayed and GLIMS had to be restarted.

This issue has been corrected.

CyberLab

License check introduced on Export configuration data to CyberLab (GLIMS_CBL-00101)

The Export price list functionality to export price data from GLIMS to CyberLab is subject to a license: GLIMS CyberLab synchronization. The Export configuration data functionality to export configuration data from GLIMS to CyberLab is now also subject to this license.

CyberTrack

Blood selection data correctly displayed when room number consists of diverse character types (GLIMS_CBT-00261)

When a patient's room number did not only consist of digits but also other character types, blood selection data for that patient was not displayed correctly in CyberTrack.

This issue has been corrected.

No "Transfusion started" message when using a wasted blood bag (GLIMS_CBT-00264)

In CyberTrack, when

- a transfusion was started with a wasted blood bag, and
- the CyberTrack general setting **Send emails about transf. reactions to** was empty,

a message was displayed and wrongly indicated that the transfusion was started.

This has been corrected for CyberTrack 4.0.2 on GLIMS 9.8.6 and higher versions.

Transfusion-related emails optionally sent to responsible HC provider (GLIMS_CBT-00265)

Context

The field **Send emails about transf. reactions to** of the CyberTrack general settings allows you to set a list of emails addresses to which an email should be sent when transfusion reactions are registered.

Issue

When at least one email address was indicated in this field, the transfusion responsible HC provider also automatically received transfusion reaction emails, even if his/her email address was not indicated in the field. However, when the transfusion responsible HC provider is the patient's GP, s/he should not receive emails regarding transfusion reactions.

Solution

An option has been added to the CyberTrack general settings: **Send emails to responsible hcpr**. The transfusion responsible HC provider will only receive emails regarding the transfusion (transfusion reactions emails as well as other transfusion-related emails such as in the case of wasted blood bags, etc) if this option is activated.

Form-based authentication for CyberTrack REST services (GLIMS_CBT-00268)

The default authentication mode of all REST services for CyberTrack is now form-based.

If you

- are using CyberTrack 4.1 (or a higher version) and
- are upgrading to GLIMS 9.9.0 and
- want to use the form-based authentication,

you should set the CyberTrack4 and CyberTrack4PDA configuration file parameter "use_form_authentication" to TRUE.

Please also check in the web.xml file if the parameter value "/WEB-INF/appSecurity-basic-orealm.xml" has been replaced by "/WEB-INF/appSecurity-form-orealm.xml" after the installation.

Blood bag authorization is logged and only possible once the blood bag has been checked out (GLIMS_CBT-00272)

This modification changes two aspects of the blood bag authorization function in CyberTrack:

- In the past, blood bags could already be authorized when their status in GLIMS was **Checked (Lab** in CyberTrack). From now on, the **Authorize** button will only be visible once the blood bag has reached status **Checked out** in GLIMS (**Ward** in CyberTrack).
- When a blood bag is authorized, a log entry is now added to **Log** tab page of the Blood bag editor. This log entry indicates who authorized the blood bag and when.

Absence of blood group in PMR no longer leads to errors when sending transfusion remarks (GLIMS_CBT-00276)

The absence of a blood group in the patient's PMR triggered an error in CyberTrack when transfusion remarks were sent per e-mail.

This has been corrected.

Results of previous transfusions are displayed (GLIMS_CBT-00278)

Since GLIMS 9.8.8, the REST service did not return the previous transfusion results anymore. Therefore, the **Results** tab page in CyberTrack did not display former results.

This has been corrected.

Correction for log creation and login error message (GLIMS_CBT-00284)

This modification corrects two issues in CyberTrack:

- Each time a patient barcode was scanned in CyberTrack, a log was created. This has been modified: when a patient barcode is scanned, a log entry is added to the **CyberTrack patient scan** log.
- When a wrong user name was entered in the CyberTrack login screen, an error message was displayed. This message was different from the one displayed when a wrong password is entered. This has been corrected: the error message is now the same in both cases.

Patient PIN or encounter number no more visible in error messages (GLIMS_CBT-00286)

In CyberTrack, when scanning a wrong patient barcode, an error message is displayed. The problem was that the patient's PIN or encounter number was included in this message.

This has been corrected: PIN or encounter numbers are no more visible in error messages.

The PIN or encounter number can still be consulted in the logs of type **CyberTrack patient scanned**.

Parameters correctly displayed in Cybertrack transfusion reaction e-mails (GLIMS_CBT-00288)

Context

E-mails can be sent to a defined list of users when transfusion parameters and remarks have been registered in CyberTrack.

Issue and solution

In the e-mails, the same transfusion parameters were displayed several times.

This has been corrected.

No pending order activation if the issuer is inactive (GLIMS-07779)

When activating a pending order with an inactive issuer, an error message "Issuer is no longer active. Please ensure that an active issuer is set in the order! Activation has failed" was shown, but the activation process continued nevertheless after the user clicked on "OK".

This presented an issue, since if the issuer is inactive, the order should remain in its **Pending** status and the order activation should stop.

This issue has been corrected, the order activation will not continue after the warning message about an inactive issuer is shown.

Pending orders: object time of request added via MISPL matches object time of request added during order entry (GLIMS-10636)

Consider the following scenario:

- A default report has an eligibility MISPL that adds a request.
- This default report is linked to an issuer.
- A pending order containing a request is created by this issuer
- The pending order is activated after at least one minute

In this scenario, the object time of the request added via MISPL did not match the object time of the request selected during order entry.

This issue, which occurred since 9.6.0, has been corrected.

Note

Note

Using an eligibility MISPL in default reports in order to automatically add requests is not recommended.

Scheduling issues during pending order activation with specimen reuse (GLIMS-10773)

Problem description

Multiple scheduling issues could occur in case of two pending orders for the same patient, activated using the same time and allowing reuse of a specimen :

1. The second order that reuses a specimen from the first will not have a request for that specimen.
2. Tests (and specimens) originating from the reused specimen do not have a correct parent specimen reference.

Because of these two shortcomings, diverse issues can manifest themselves (e.g. insufficient report generation / scheduling and incomplete label printing during specimen scan).

Note

The first issue occurred since GLIMS 9.5, the second issue occurred since GLIMS 9.5.19.

Solution

This modification ensures correct order scheduling during activation when reusing a specimen so that the order that is reusing a specimen has:

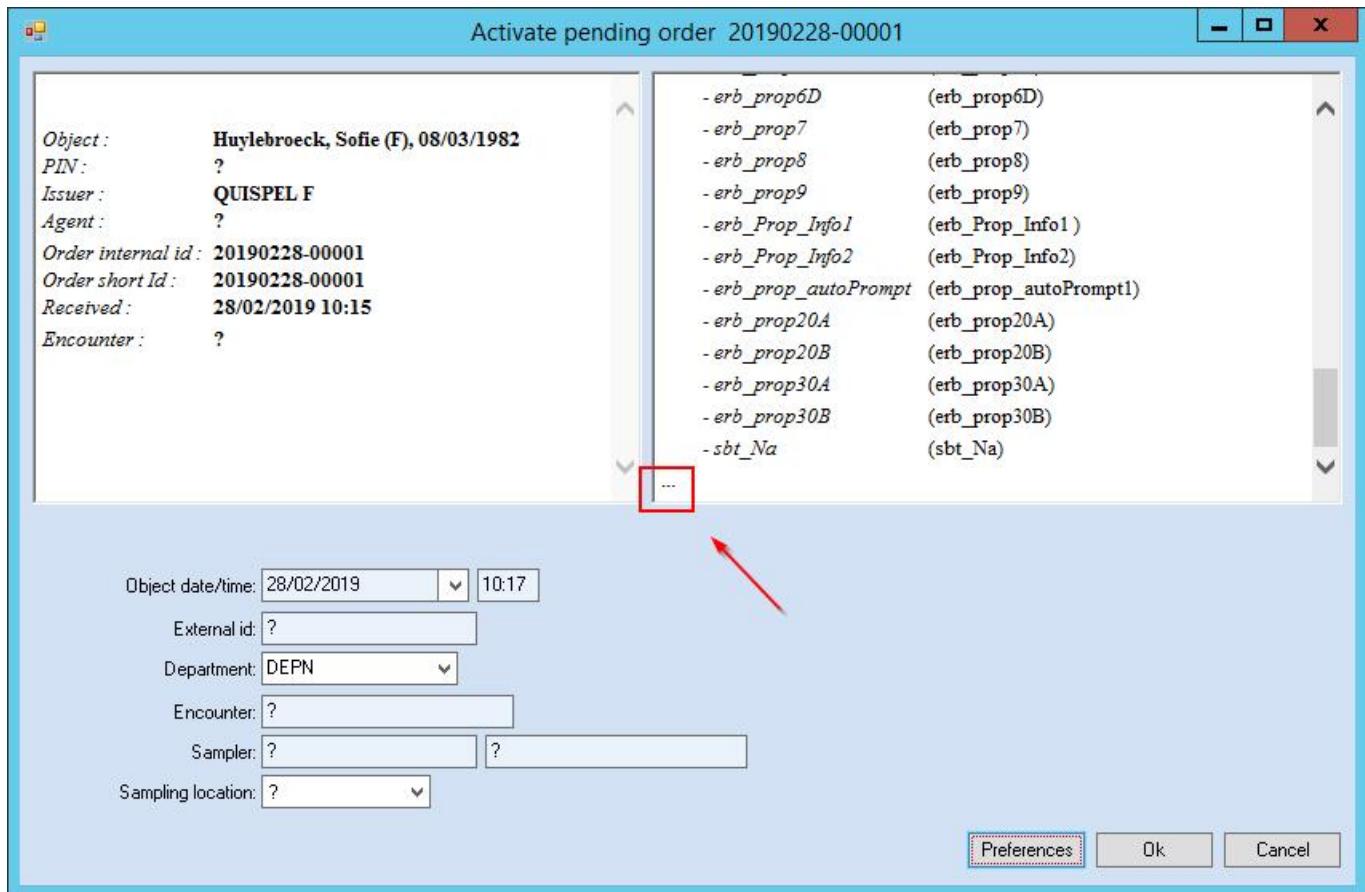
1. A request for that specimen.
2. Any sub-specimen resulting from the reused specimen correctly refer to the reused specimen.

Changing the object time of a pending order should not activate the requests (GLIMS-11679)

Changing the object time now no longer activates the requests of pending orders.

Limit information in header zone of pending order activation screen (GLIMS-11836)

When activating a pending order, the right-hand side of the header zone of the activation screen shows property information. In order to avoid errors when activating pending orders with a very large number of requests, the contents of this zone is now limited. If more requests are to be included, suspension points "..." are displayed at the end of the list.



Orders without reports after pending order activation (GLIMS-11975)

An issue was reported where no reports were scheduled when activating a pending order. This issue occurred when an Order internal id on activation site function was used to add requests upon order activation while the lowest object time of the order did not change.

This issue has been corrected.

Pending order activation: display property comment at the top of the header zone (GLIMS_EOS-00192)

When activating a pending order, the right-hand side of the header zone of the activation screen shows property information. For each property, the content of the **Property** field Comment text displayed in alert-box is shown. This information is now displayed at the top to ensure that the user does not have to scroll down to see it.

The left-hand side of the header zone now displays the **Order description** and **Object comment** if the default header is applied.

Electronic pending order update should trigger "On electronic order entry" evaluation (GLIMS_EOS-00212)

The option **On pending electronic order upd.** is now available in the general options of the **Electronic order scheduler** module.

This new option allows the user to specify an Order-based site function which is evaluated upon electronic pending order update. If the site function returns TRUE, the On electronic order entry site function is again evaluated. If the requirements defined in the **On electronic order entry** site function are no longer met, the pending order is activated automatically.

Warning

This feature is intended exclusively for the improvement of the GLIMS-CyberLab (1+1=3) communication. This feature cannot be used with other third party Order Entry solutions.

See also [GLIMS_EOS-00216](#) and [GLIMS_OI-00858](#).

Epidemiology

Isolation audit trail should mention health office of issuer (GLIMS_BAC-01479)

Context

In some countries (e.g. Germany), labs have to send a report to an official health office when certain micro-organisms have been detected. Health offices in GLIMS can be configured via [Start > Correspondents > Health offices](#).

Issue

When executing the generate document function to report an isolation to a health office, the isolation audit trail was updated with the health office linked to the municipality of the patient. However, according to German legislation, the health office linked to the municipality of the issuer of the order needs to be logged.

Solution

This has been corrected. The isolation audit trail will now indicate the health office linked to the municipality of the issuer of the order.

Export

Correction of export of order information in "Labco DataWareHouse" format (GLIMS-11203)

Context

Since GLIMS 9.3.0, GLIMS allows to export order information in the **Labco DataWareHouse** format.

Issue

The invoiced amounts were not correctly distributed over the payer 1, payer 2, payer 3 and payer 4 columns in the request.csv and testorder.csv files.

Solution

This has been corrected.

HyBase

Extension of the HyBase export (GLIMS_HYB-00021)

This modification introduces new parameters and exported data for the HyBase export. Please consult the HyBase export chapter.

Lab archive

Error when storing a specimen in an archive (GLIMS-10861)

An issue was reported where the following errors occurred when trying to store a specimen in an archive:

- Error No b_Rack record is available (91)
- Error attempting to push run time parameters onto the stack (984)

This has been corrected.

Correct execution of MISPL function .SetStorage on carriers (GLIMS_SERO-00165)

In the following scenario,

1. Creation of a Carrier-based MISPL function running .SetStorage(),
2. Execution of this function on a carrier,

a message error, "Rack and position must be empty in status To do" was displayed.

This error has been corrected and the carrier is stored.

Specimen archive scan: fixed "Use first free position" (GLIMS_SERO-00173)

Context

When scanning a specimen to an archive, the specimen scan program proposes by default the position following the highest taken position in the rack. However, if the **Use first free position** option of the rack type is enabled, the first free position of a rack will be used.

Issue

The Use first free position option was only applied correctly when opening the specimen scan program and scanning a specimen to an archive. It was not applied correctly when scanning a specimen to an archive after scanning another specimen. In the latter case, the position following the last used position was proposed which could already be taken. The user then had to either manually find the next free position, or close and reopen the specimen scan program to have the **Use first free position** option working correctly.

Solution

This has been corrected: **Use first free position** is now also applied correctly when scanning a specimen to an archive after scanning another specimen.

Correction of issues with Storage query (GLIMS_SERO-00177)

Issues

- An error occurred when using the Storage query to show the **Item storage** records of a Rack, the Rack type of which was set to **Linear (1-D)** numbering with leading zeros, and a **Capacity** over 6619.
- The same error occurred when trying to show all **Contained items** of a **Rack**, the **Rack type** of which was set to **Linear (1-D)** numbering with leading zeros, and a **Capacity** over 6398.
- When using a **Rack type** with **Alpha** numbering (A-ZZ), the maximum value was YL rather than ZZ.
- When using a **Rack type** with **Alpha** numbering (AA-ZZ), the maximum value was ZL rather than ZZ.

Solution

- The superficial rack size limits that apply when using **Linear (1-D)** numbering have been removed.
- The full range of positions can now be assigned when using **Alpha** numbering (A-ZZ or AA-ZZ).

Show Date range for carriers, isolations and specimens in the Rack browsers (GLIMS_SERO-00180)

The **Date range** column in the Racks by code ([Start > Archive > Racks](#)) and of rack type ([Start > Archive > Configuration > Rack types](#) > contextual option [Show all > Racks](#)) browsers showed the date range for specimens only.

From now on, these browsers will show the date range for Specimens, Isolations and Carriers the **Archiving status** of which in the Item storage is set to **Stored**.

Archive	Archive part	Type	Seq	Code	Usage	Date range	Expired
mvd-spmn-arc	mvd-refr1	mvd-rack-typ	1	001	?	26/03/13 - 14/10/13	
serotheek	Maandag	50		112345	EDTA	04/12/12 - 07/05/14	X
mega	?	mp		1012312313131313	?	? - ?	
V-SPIJL	V-KK	V-REK-Spijl	1	test-01	?	15/05/09 - 15/05/09	
?	?	mp	2	R:001	?	? - ?	
IsolArch	IsolRefrig1	SMI_Rack1		212346	?	? - ?	
H717	A	H717		512345678901234567	?	? - ?	
H717	?	H717		6987649	?	? - ?	
cent	?	Arch		991201028808120	?	11/09/09 - 11/09/09	X

Rack browser does not show expired racks if "Expired only" query option is enabled (Oracle databases only) (MATE-05793)

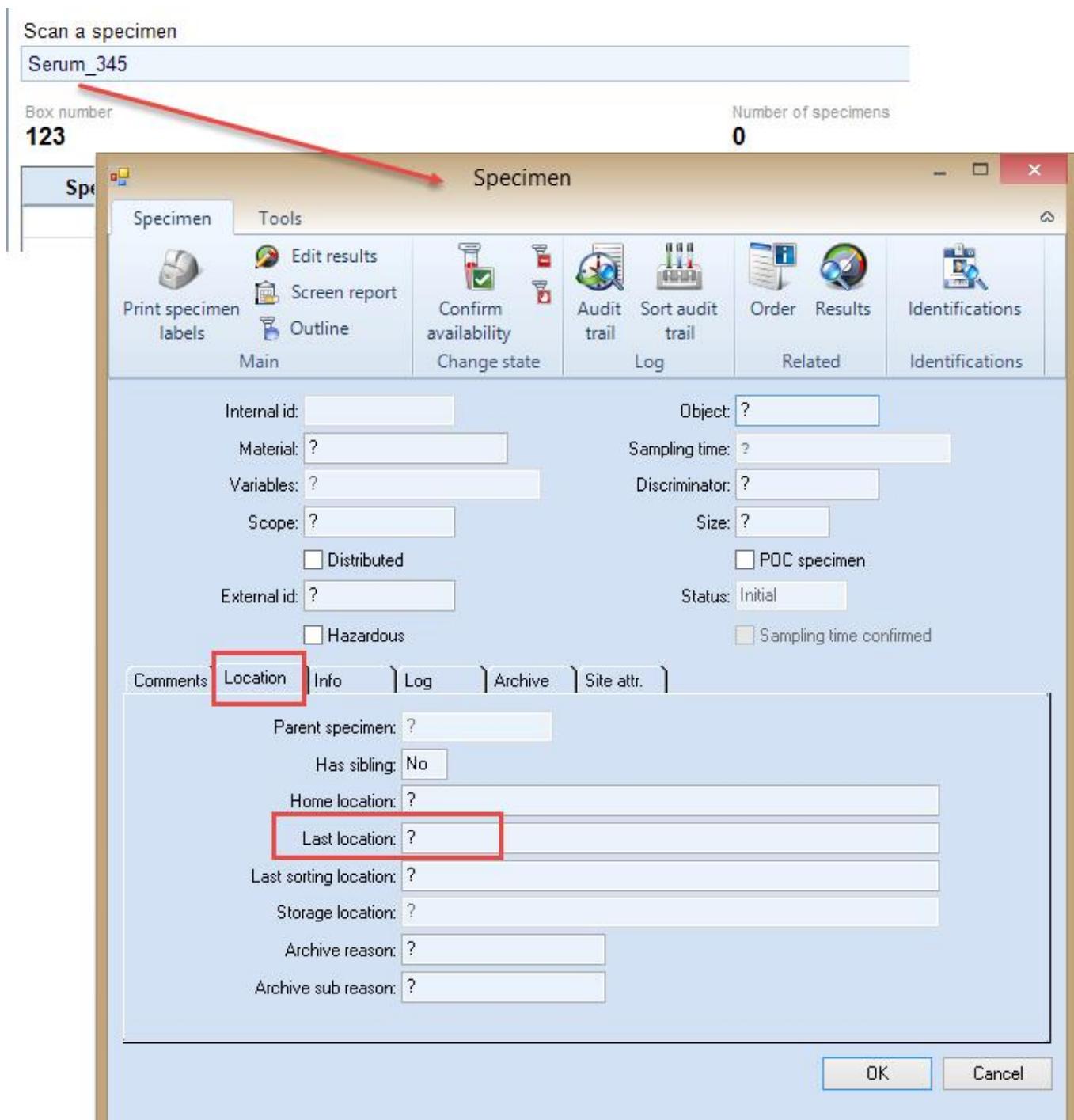
When using GLIMS in combination with an Oracle database, the Rack browser did no longer show the expired racks if the **Expired only** query option was enabled.

This has been corrected.

Logistics Manager

The (un)packing location is indicated in the specimen editor (GLIMS_LM-00031)

When a specimen is scanned in the Prepare package and Unpack package screen of the Logistics Manager, the location in which this scan takes place is indicated together with the box number in the **Last location** field of the specimen editor:



The **Last location** field is also filled in when a specimen is added to a package from a route.

If a specimen is deleted after having been added to a package, the location and box number remain displayed in the **Last location** field.

If a specimen is marked as lost in the [Unpack package](#) screen, the **Last location** field of this specimen remains filled with the value set during package preparation.

Correction of errors occurring when adding specimens to a box (GLIMS_LM-00037)

On Oracle databases, when a specimen was added to a box in the Logistics manager, errors occurred or GLIMS had to be restarted.

This issue has been fixed.

The addition of specimens to boxes via routes takes "Available" specimens into account (GLIMS_LM-00040)

Context

In the Logistics manager, if Routes are configured, the specimens of the procedures linked to these routes can be added to a box automatically.

Issue and solution

When clicking on [Add specimens from route](#), only the specimens with a status lower than **Available** were added to the box being prepared. This has been corrected : the specimens added to the box are now those whose status is inferior or equal to **Available**.

The last location of an unpacked specimen is the location where it was unpacked (GLIMS_LM-00042)

When a package had been unpacked at a location that was different from the configured Destination location, the specimen's Last location field wrongly contained the Destination location instead of the location where the package had been unpacked.

This has been corrected.

Logistics manager lost connection to AppServer (GLIMS_LM-00045)

An issue was reported where connection timeout-related errors occurred when using the Logistics manager while the AppServer was active. This issue, which occurred since GLIMS 9.6.0, has been corrected.

Session crash error fixed in the Logistics Manager module (GLIMS_LM-00048)

An issue was reported where GLIMS would crash the session when the user:

1. Logged on in GLIMS and opened the Logistics Manager module.
2. Logged off and then back on in GLIMS.
3. Opened the Logistics manager again.
4. Attempted to open either the Prepare box or Unpack box screen.

This issue has been corrected.

Additional MISPL functions for Genetics (GLIMS_GENX_LAB-00024)

This modification adds the following MISPL functions for Genetics:

- Specimen.CollectionInfo
- Specimen.Result
- Specimen.DirectParent
- Result.WorkSpecimen
- GeneticExam.RootSpecimen
- GeneticExam.Result

No error anymore during evaluation of calculated result MISPL (GLIMS-10689)

When the **Value** field of a Procedure output of type Property contained a .Cancel function with "Discontinue" as action parameter, the evaluation of this function led to an error message.

This has been corrected: no error message appears and the result is discontinued.

Specimen.Attribute("StationCodeList") should not include stations of actions with discontinued outputs (GLIMS-11187)

Issue

The following MISPL functions behaved differently:

- Specimen.Attribute("StationCodeList")
- Order.Attribute("StationCodeList")

Both return a comma-separated list of codes of stations where actions have been scheduled. However, the Specimen.Attribute("StationCodeList") MISPL function incorrectly included stations of actions with discontinued outputs.

Solution

The MISPL function Specimen.Attribute("StationCodeList") has been adapted to only include stations of actions that do not have discontinued outputs.

Other corrections

The following corrections have been implemented as well.

Specimen.Attribute("StationCodeList") returns distributor station

Since GLIMS 9.8.3, when

- the first action of an order was the distribution of a primary tube to an aliquot tube, and
- the function Specimen.Attribute("StationCodeList") was executed on the root specimen,

the code of the distributor station for the root specimen did not appear in the list.

This issue has been corrected.

Usage of Specimen.Attribute("StationCodeList") in general option "Specimen internal id on input"

An issue was reported where using the MISPL function Specimen.Attribute("StationCodeList") in the MISPL expression specified in the **Specimen internal id on input** field of the GLIMS general settings returned a question mark ("?"). This happened because the MISPL expression was evaluated before the creation of action outputs. Since the Specimen.Attribute("StationCodeList") MISPL function did not include stations of actions without outputs, it returned "?".

This has been corrected: the MISPL function will now include stations of actions without outputs as well.

Improved performance of PropertyList MISPL function (GLIMS-11337)

The performance of the PropertyList MISPL function has been improved.

Incorrect origin of requests added via .AddRequests when used in MISPL (GLIMS-11384)

Using the .AddRequests function in a MISPL expression to add requests to an order would incorrectly set the origin of the requests to **Manually entered**. This has been corrected: the **Origin** of such requests will now be set to **Added by MISPL**.

Order.Attribute("NewOrderEntryRequests") should return reused specimens (GLIMS-11564)

The MISPL function Order.Attribute("NewOrderEntryRequests") did not return reused specimens. This issue, which occurred since GLIMS 9.8, has been corrected.

Order.Attribute("NewOrderEntryRequests") should support duplicate requests (GLIMS-11881)

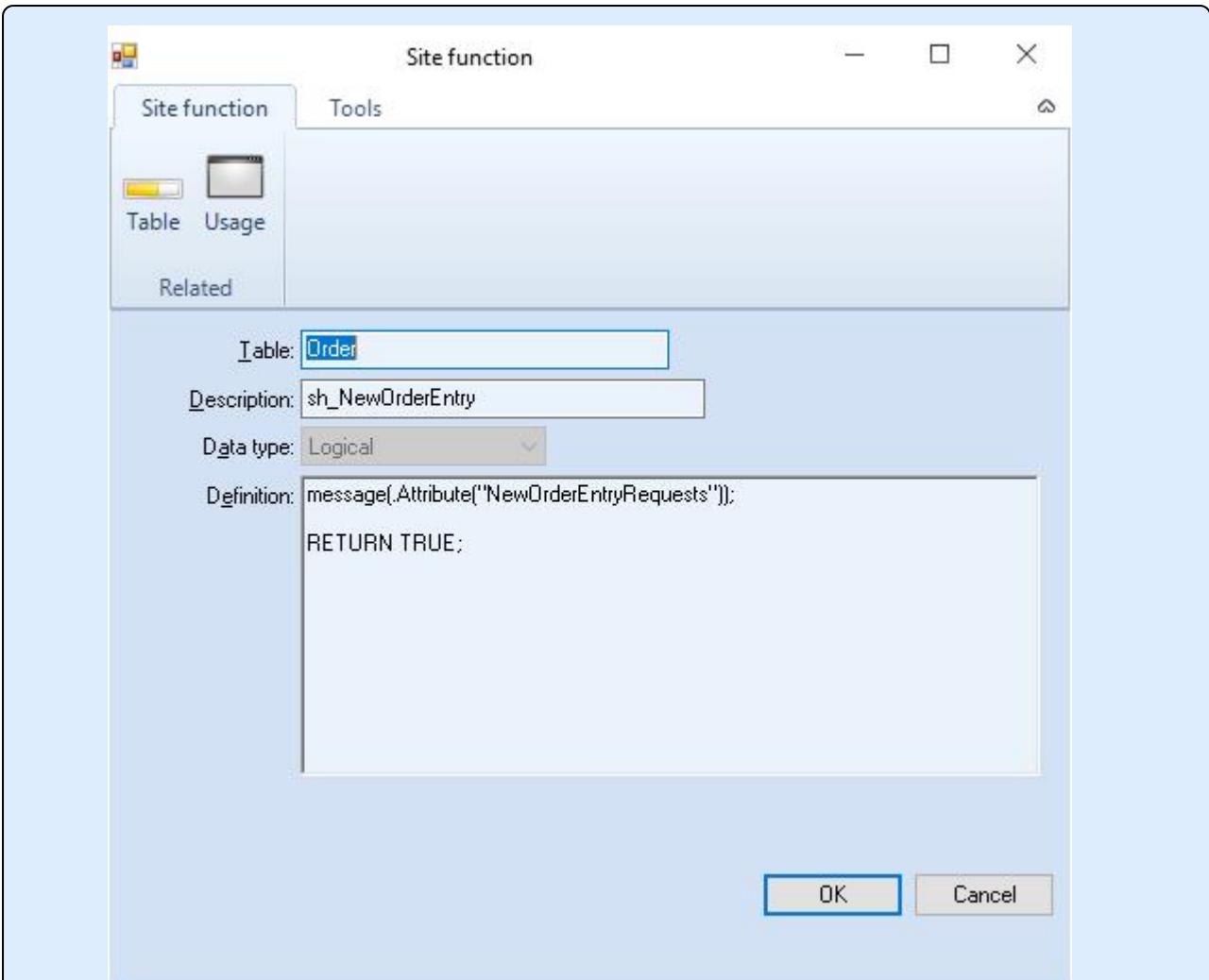
An issue was reported where the MISPL function Order.Attribute("NewOrderEntryRequests") did not return the requests entered during the update of an existing order if the order already contained the same requests (entered upon creation of the order).

Moreover, if the same request was entered twice during order creation or update, it only appeared once in the list retrieved by the MISPL function.

Example

Configuration

The MISPL function Order.Attribute("NewOrderEntryRequests") is used in the Before creation or update trigger.



Scenario 1

1. Open order entry and request Serum.
2. Click OK to create the order => a message appears containing "Serum".
3. Reopen the order.
4. Request Serum again.
5. Click OK => the pop-up message contains "Serum" whereas in previous versions the list was empty.

Scenario 2

1. Open order entry and request Serum twice.
2. Click OK to create the order => a message appears containing "Serum,Serum" whereas in previous versions the list contained "Serum" only once.

This has been corrected.

Improved performance of the Order.Attribute("StationCodeList") MISPL function (GLIMS-11969)

The MISPL function Order.Attribute("StationCodeList") was slow if the order had a lot of results and/or actions. The performance of this MISPL function has been improved.

SetStudyEpisode MISPL did not update the Order field Study episode (GLIMS-11989)

When running the Order.SetStudyEpisode MISPL function for an order, the corresponding order record did not receive an update due to a modification in GLIMS 9.0.

This issue has been solved.

Note

To check if the update applied, the user needs to manually refresh the order browser/editor after running the Order-.SetStudyEpisode MISPL function.

Improved performance of 'HLAAntibodyByNumber' MISPL (Oracle only) (GLIMS_HLA-00056)

Issue

In an Oracle environment, the Person.HLAAntibodyByNumber MISPL performed slowly when it detected many (100 -/+) 'PersonAntibody' records.

Solution

The performance of the HLAAntibodyByNumber MISPL on Oracle has been improved.

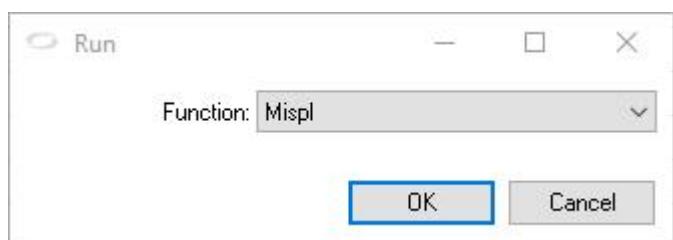
Support for configurable menu or ribbon item that executes a site function (MATE-06309)

It is now possible to add a menu or ribbon item that executes a site function on one or more selected records. This functionality is available for all tables supporting the **RunProcedure** function.

Tool configuration

The tool that is executed when choosing this menu or ribbon item can be configured as follows.

1. Choose **Start > System management > Scheme > Tables** and select the table of your choice (e.g. Station).
2. In the contextual menu, choose **Show all... > Tools**.
3. Press Insert to add a new **Tool**:
 1. Specify a **Mnemonic** and a **Label**.
 2. Specify the chosen table (e.g. Station) in the **Function table** field.
 3. Select **RunProcedure** as **Function mnemonic**.
 4. Double click in the **Function parameter set** field and press Insert to add a function parameter set.
 5. Fill in a **Short description** and click **OK**.
 6. In the contextual menu / ribbon, choose **Setup**.
 7. Choose **MISPL** and click **OK**.



8. Choose the **Site function** of your choice. Preferably a site function that returns a string. For instance: `RETURN "Processing " + .Name;` to identify the record being processed.



9. Double click on the newly created parameter set to select it.
10. Enable or disable the **Skip setup** option to skip or display the **Configure site function** window upon activation of the menu or ribbon item that uses this tool.
11. Click **OK** to complete the tool configuration.

Menu / ribbon item configuration

The configured tool can be used in a contextual menu item or ribbon item.

Microbiology

Improved performance of microbiology action query / browser (Oracle only) (GLIMS-08271)

The performance of the microbiology action query / browser in an Oracle environment has been improved.

Conclusion result in microbiology order should not have separate requested code (GLIMS-11086)

A difference was found in the way a conclusion (property) result in a microbiology order was treated :

1. For orders created in GLIMS 8 and converted to the requested code model during the upgrade to GLIMS 9, the conclusion result referred to the requested code of the microbiology action.
2. For new orders created in GLIMS 9, a separate requested code was created for the conclusion result.

A separate requested code for conclusion results is not desirable as it causes confusion in electronic reporting. This has been corrected.

Note

This problem occurred since GLIMS 9.3.

GLIMS no longer stops working when opening the antibiotic conversion rules browser (Oracle db only) (GLIMS-11174)

When using GLIMS in combination with an Oracle database, opening the **Conversion rules** browser for an **Antibiotic** could cause GLIMS to stop working.

This has been corrected.

Display of E-test and Agar values on variable text reports (GLIMS-11369)

Context

RIS, MIC, E-test and Agar values can be specified in the antibiogram screen. RIS and MIC values can also be added on variable text reports using a MISPL expression.

Issue and solution

Some customers who use a MISPL expression in order to display RIS and MIC values on variable texts reports also want E-test and Agar values to be displayed. As illustrated below, this is now the case : the .Value element in their MISPL expression now not only retrieves the RIS and MIC values but also the E-test and Agar values. The customers need not change anything to the MISPL expression they currently use.

```

A1\20180710-00005\\
A2\20180710-00005\\00000000\\
A3\20180710-00005\\
A4\20180710-00005\\10072018\1423\C\\ L1\20180710-00005\T0640\Microbiology\\\1\0\
L1\20180710-00005\_UrGraft\ Urine grafting\\\Done\1\0\
L1\20180710-00005\_AER\ Aerobe culture\\\Alcaligenes faecalis (1) \1\0\
L1\20180710-00005\_AER\ Aerobe culture\\\Enterobacter aerogenes (2) \1\0\
w_result=\RIS=S,-\MIC=10.0,-\ETEST=-,-\AGDIF=5.0,-

L1\20180710-00005\_ANTIB\ Antibiogramme\\\C\-----\1\0\
L1\20180710-00005\_ANTIB\ Antibiogramme\\\C\Antibiotiques (1) (2) (3) (4) (5)\1\0\
L1\20180710-00005\_ANTIB\ Antibiogramme\\\C\-----\1\0\
L1\20180710-00005\_ANTIB\ Antibiogramme\\\C\pipéra_tazo : S - \1\0\
w_result=\RIS=R,-\MIC=-,-\ETEST=0.25,-\AGDIF=0.5,-

L1\20180710-00005\_ANTIB\ Antibiogramme\\\C\Imipénème : R - \1\0\
w_result=\RIS=I,-\MIC=-,-\ETEST=-,-\AGDIF=2.0,-

L1\20180710-00005\_ANTIB\ Antibiogramme\\\C\Penicillin : I - \1\0\
w_result=\RIS=-,I\MIC=-,60.0\ETEST=-,75.0\AGDIF=-,-

L1\20180710-00005\_ANTIB\ Antibiogramme\\\C\Norfloxacin : - I \1\0\
w_result=\RIS=-,S\MIC=-,<= 25.0\ETEST=-,-\AGDIF=-,-

L1\20180710-00005\_ANTIB\ Antibiogramme\\\C\Tetracyclin : - S \1\0\
w_result=\RIS=R,-\MIC=75.0,-\ETEST=-,-\AGDIF=10.0,-

L1\20180710-00005\_ANTIB\ Antibiogramme\\\C\Oxacilin : R - \1\0\
w_result=\RIS=S,-\MIC=-,-\ETEST=-,-\AGDIF=0.2,-

L1\20180710-00005\_ANTIB\ Antibiogramme\\\C\Cefotaxime : S - \1\0\

```

WASPLab: downgrade of MB action status when a carrier's growth result changes (GLIMS_ANLZ-01375)

Since GLIMS 9.8.0, every carrier growth update downgraded the status of the corresponding microbiology action to **Rereading**, even when the growth result value had not changed.

The microbiology action status will now no longer be downgraded to **Rereading** when the **Time offset** (for instance: 16h > 20h) or **Growth status (Preliminary or Final)** of a carrier changes. Only a change of the growth result value will now cause the microbiology action's status to be downgraded.

Microbiology work screen: hide non-reportable isolations (GLIMS_BAC-01121)

The isolation browser of the microbiology work screen now allows the user:

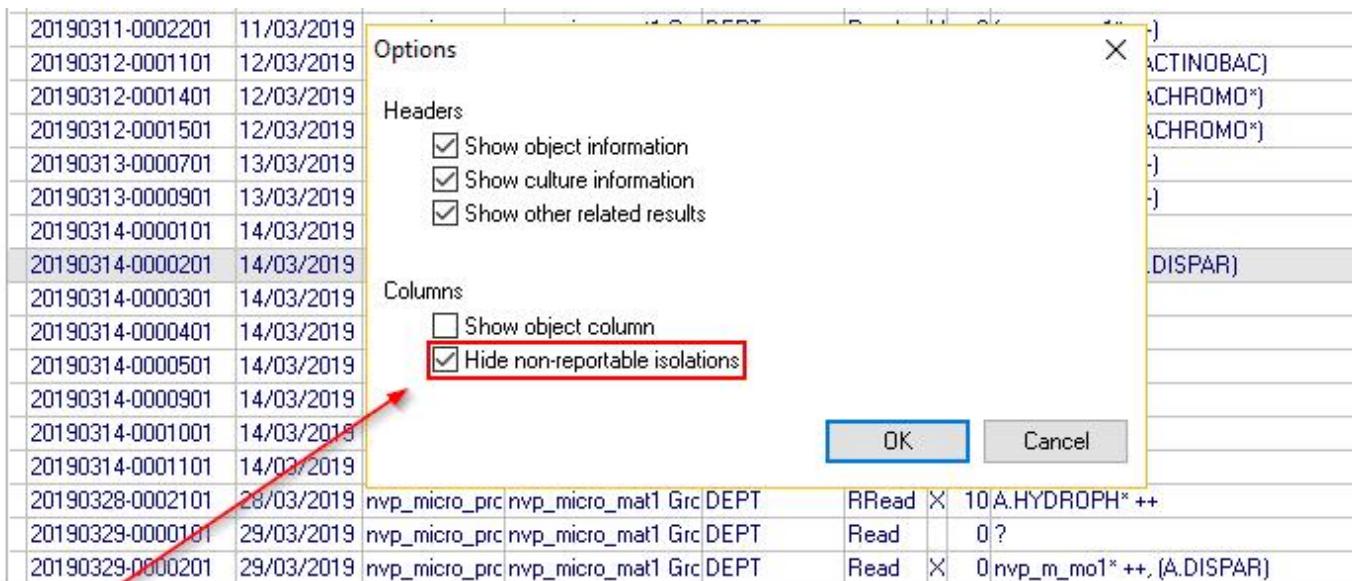
1. to hide / show non-reportable isolations,
2. to sort the isolations by whether they are reportable.

	Cr	Organism	Appl.	Rp	Cf Ab Seq	I.Comm	E.Comm
2	B	ADIS	?		7.7.7 ?		
3					8.8.8 ?		
					6.5.5 ?		

See also [GLIMS_BAC-01122](#).

Microbiology action browser: new option to hide non-reportable isolations (GLIMS_BAC-01122)

A new option **Hide non-reportable isolations** has been added in the customization options of the microbiology action browser. If enabled, the microbiology action browser's **Value** column will only show the reportable isolations.



See also [GLIMS_BAC-01121](#).

Allow reuse of unused (i.e. without a reference to an isolation) isolation sequence numbers (GLIMS_BAC-01216)

Context

When multiple microbiology analyzers are working simultaneously on the same specimen, conflicts could arise in external isolation numbering. GLIMS therefore allows the user to configure isolation sequence types so that isolations are numbered by means of isolation sequences and a single isolation can be identified by different (sequence) numbers.

Deleting an isolation, however, does not delete its corresponding isolation sequence numbers. Instead, the isolation reference of the isolation sequence record is cleared. This implies that the isolation sequence records are still there, but that there is no reference to the isolation anymore.

Issue: isolation sequence numbers without a reference to an isolation could - up until now - not be reused whereas certain microbiology analyzers can reuse isolation numbers.

New functionality

GLIMS will now first consider reusing an existing isolation sequence record before deciding to create a new one: if, for a given isolation and sequence value, GLIMS finds an existing isolation sequence record

1. for the current isolation sequence type,
2. for the specimen of the isolation,

3. for the action of the isolation,
4. with a sequence value that is identical to the one GLIMS is trying to use for the current isolation,
5. with an unknown isolation reference,

then this record will be reused. If no such record is found, a new isolation sequence record is created.

Avoid warning when MISPL replaces antibiotic report value with the same value (GLIMS_BAC-01452)

Context

A trigger **When antibiogram confirmed** is defined for a **Microorganism**. This MISPL trigger, using the **ReplaceRIS** MISPL function, intends to change the **RIS report value** of certain antibiotics (e.g. from "S" into "R") and checks the **RIS raw value** of the antibiotic in order to change its **RIS report value**.

Issue

- In the microbiology work screen, the user enters an antibiotic result ("S") for an isolation linked to the **Microorganism** for which the MISPL trigger is defined. The antibiotic for which the result is entered is included in the MISPL trigger.
- The user confirms the microbiology action (status **ReadConfirmed**).
 - The MISPL is executed and the **RIS report value** of the antibiotic is changed into "R" (the **RIS raw value** remains "S").
- The user continues to update another antibiotic result in the antibiogram.
- As a result, the microbiology action needs to be confirmed again, causing the MISPL trigger to be executed again. As GLIMS detects that the **RIS report value** was changed, but not that it is updated to the exact same value, a warning message ("<Antibiotic> result for <Isolation> has been modified manually. Overwrite last change?") is shown to which the user has to respond.

Note

This issue occurred since GLIMS 9.5.

Solution

This has been corrected. The warning message will now no longer be shown if a MISPL changes an antibiotic result's **RIS report value** into the same value (new value is identical to old value).

Errors when confirming / validating a microbiology action (GLIMS_BAC-01455)

An issue was reported where the following errors occurred when trying to confirm / validate a microbiology action via the microbiology work screen :

- ** No Property record is available. (91)
- Error attempting to push run time parameters onto the stack. (984)

This has been corrected.

Note

This problem occurred since GLIMS 9.6.

Incorrect printing order of isolation test labels (GLIMS_BAC-01456)

When printing isolation test labels using the printer icon in the isolation test browser of the microbiology work screen, the labels were not printed in the same order as the order in which the isolation tests were displayed in the browser.

This has been corrected. The isolation test labels will now be printed in the order in which the isolation tests are displayed in the isolation test browser of the microbiology work screen.

Microbiology work screen title not synchronized upon selection of order without microbiology action (GLIMS_BAC-01472)

Problem description

1. Open the **Orders by receipt time** browser.
2. Select an order with a microbiology action.
3. Click on the contextual ribbon item **Microbiology actions**.
4. From the microbiology action browser, open the microbiology work screen (displaying the information of the microbiology action contained in the selected order).
5. If, subsequently, an order without a microbiology action is selected in the **Orders by receipt time** browser, the title of the microbiology work screen still refers to the microbiology action of the previously selected order.

Solution

This has been corrected. The title of the microbiology work screen will now contain "???" if an order without a microbiology action is selected.

Error when changing an isolation's microorganism (GLIMS_BAC-01476)

An issue has been reported where the error **Cycle in procedure calls detected** occurred when changing the microorganism of an isolation.

This has been corrected.

RIS value overruled via MISPL reverts to its old value when MB action is ReadConfirmed (GLIMS_BAC-01477)

Context

If a value is entered for an isolation test, a MISPL can be executed e.g. to overrule the RIS value of an antibiotic.

Problem description

If this happened and the status of the microbiology action was promoted to **ReadConfirmed**, the RIS report value of the antibiotic was overwritten by its RIS raw value, meaning that the overruled RIS value was put back.

Example

- In the microbiology work screen, an isolation and an antibiogram are added for a microbiology action.
- In the antibiogram, an RIS (raw) value ("S") is entered for an antibiotic.
- An isolation test is added for the isolation. A MISPL expression is used in the **When value entered or changed** field of the **Microorganism test**.
- When a value is entered for the isolation test, the MISPL (SetRIS) is executed, changing the antibiotic's RIS report value to "R".
- However, when promoting the microbiology action's status to **ReadConfirmed**, the RIS report value is overwritten by the RIS raw value, putting back the "old" (before the MISPL was executed) RIS value ("R" => "S").

This has been corrected.

Enhancements for external antibiogram screen (GLIMS_BAC-01483)

A number of issues regarding the external antibiogram screen have been solved. From now on:

- The screen can always be opened even if there is/are no antibiogram/antibiotic results available.
- An "Unhandled exception" error will no longer occur if the screen is open and all isolations with antibiotic results are deleted.
- The position of the screen will be saved.
- When the screen is opened automatically, the focus will now be set correctly, i.e. the external antibiogram screen will be active.

"Maximum number of days" renamed "Incubation period" (GLIMS_BAC-01486)

In the **Negative** tab of the Microbiology procedure editor, the field **Maximum number of days** has been renamed **Incubation period**. That way, the user-interface label of this field is identical to the corresponding label in the reference manual.

Isolation sequences were not retained when upgrading from GLIMS 8 to GLIMS 9 (GLIMS_BAC-01487)

Issue

In GLIMS 8.11, isolation sequences were implemented using site attributes. However, when upgrading to GLIMS 9, the site attributes were converted to database tables/fields and the values were discarded. This could lead to issues in the communication between GLIMS and the analyzers for active orders.

Solution

This has been corrected. When upgrading from GLIMS 8 to GLIMS 9.9, the isolation sequence values will be retained.

Keyboard shortcuts for quick navigation between the embedded browsers in the microbiology work screen (GLIMS_BAC-01491)

From now on, the GLIMS Microbiology module supports some shortcut keyboard actions for fast navigation between the embedded browsers of the Microbiology work screen.

CTRL+1: Carrier browser

CTRL+2: Isolation browser

CTRL+3: Result browser

CTRL+4: Isolation test browser

CTRL+5: Antibiogram browser

CTRL+6: Carrier test browser (where applicable)

Warning

- These shortcuts only work via the number row and not via the number pad of the keyboard.
- The old browser shortcuts (Alt+P, Alt+I, Alt+R, Alt+T, Alt+A) have been disabled, as they could result in potential issues with navigation, such as accidentally triggering a menu option.

Microbiology work screen should not have scroll bars in case of a large number of procedures (GLIMS_BAC-01507)

An issue was reported where a large number of procedures for a specimen resulted in the microbiology work screen being displayed with scroll bars. As a result, the user had to scroll down to access the **Comment** and **Conclusion** boxes and the **Close** button. This has been corrected.

Buttons in microbiology QC browser cannot be accessed (GLIMS_BAC-01508)

An issue was reported where the **Options** and **Close** buttons in the Microbiology QC work list could not be accessed if the screen width was too small (e.g. due to a pinned sidebar). This has been corrected.

Performance issue when validating a microbiology action (GLIMS_BAC-01516)

An issue was reported where validating a microbiology action could be slow when there were a lot of carriers (>100 000) in the GLIMS database.

This has been corrected.

Correction of incorrect title of microbiology action query browser (GLIMS_BAC-01520)

When querying microbiology actions with a status range from **Initial** to **Discontinued**, the title of the resulting browser window showed "status between 'ReadConfirmed' and 'Ready'". The query was, however, executed correctly.

This issue has been corrected.

Add carrier updates the microbiology work screen again (GLIMS_BAC-01527)

When using the contextual menu / ribbon item **Add carrier** in the microbiology work screen, the work screen did not automatically refresh, making it unclear if a carrier was added. This has been corrected.

Microbiology work screen no longer flickers upon validation (GLIMS_BAC-01540)

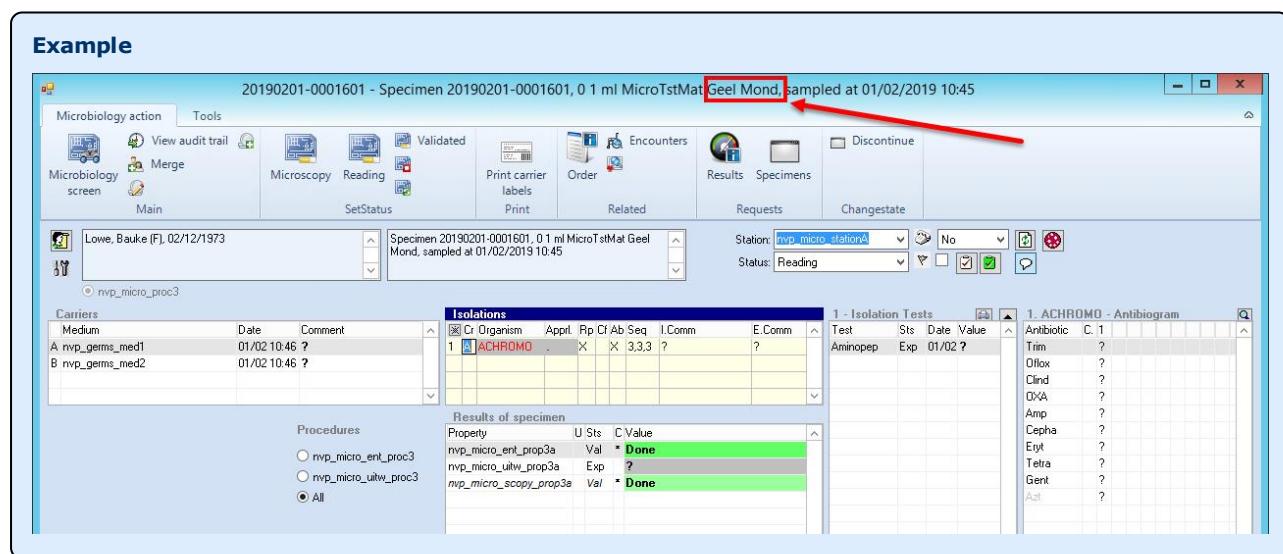
An issue was reported where the validation of a microbiology work screen would be followed by multiple refresh actions, which caused the work screen to flicker before the user could continue.

This issue has been corrected, the **microbiology work screen** appears stable and refreshes only once upon validation.

Specimen variables are again included in the title of a microbiology work screen (GLIMS_BAC-01545)

An issue was reported where the title of a microbiology work screen would not contain the corresponding specimen variables.

This issue has been corrected. From now on, any contained specimen variables are again included in the title of a microbiology work screen.



Status of microbiology action is synchronized again with the status of the report property result (GLIMS_BAC-01547)

An issue was reported where the status of the microbiology action was no longer synchronized with the status of the result of the report property if the latter was validated e.g. via the order review program.

This has been corrected: if the status of the microbiology action is **ReadConfirmed / Ready** and the result of the report property is validated, then the status of the microbiology action will now be promoted again to **ReadValidated / Closed**.

Reopening the MB work screen to edit an isolation no longer produces errors (GLIMS_BAC-01549)

Scenario

1. Add an isolation with an appraisal and an internal comment in the microbiology work screen.
2. Set the status of the microbiology action to **ReadValidated**.
3. Close the microbiology work screen.
4. Reopen the microbiology work screen and change the internal comment or the appraisal of the isolation.

Error messages

The following errors occurred in the above-mentioned scenario:

- No query record is available. (4114)
- No wb_Isolation record is available. (91)

Solution

This has been corrected.

Allow automatic confirmation when applying an antibiotic result default (GLIMS_BAC-01550)

Context

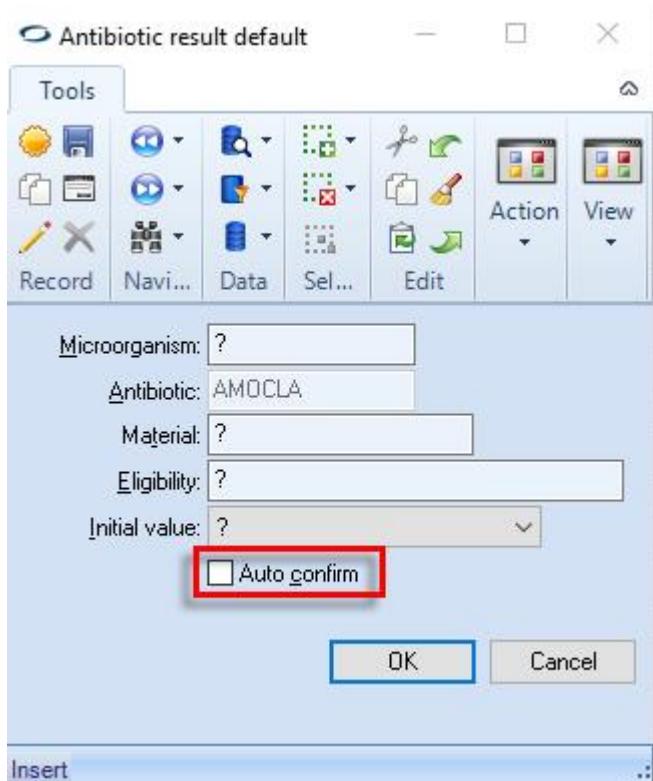
GLIMS allows the user to configure a default result value for a given antibiotic via an antibiotic result default record. The antibiotic result default is used for a newly created antibiotic result record if the defined conditions are met.

Issue

An issue was reported where antibiotic results with standard values (antibiotic result default) were updated by incoming results from analyzers.

Solution

A new option **Auto confirm** is available on an **antibiotic result default** for the automatic confirmation of the resulting antibiotic result values. This option is deactivated by default and is inactive for already existing **antibiotic result default** records.



This new option in combination with the Station option Check antibiotic result status will have GLIMS prevent an incoming ASTM result message from overwriting the default antibiotic result value.

Station

Station	Tools										
Edit procedures Reload configuration Results to confirm Main	Assessment methods Result flags Procedures Log	Stations of distributor Stations of concentrator Related stations	QC	M...	W...	R...	T...	M...			

Mnemonic: ? Name: ?

Type: Analyzer Work place: ? Code: ?

Scheduling availability Group: ?

Associated archive: ? Seq no: ?

Biorad instrument code: ?

Instrument Identification... Work order Result Maintenance... Microbiolo... Transfusion Replacement... Site attr.

Isolation sequence type: ?

Results

Microbiology upload group: ?

Antibiotic panel mode: None

Auto confirm isolations
 Auto confirm isolation tests
 Delete antibiotic results
 Auto confirm antibiotic results
 Check antibiotic result status

Isolation update status limit: Available

Isolation test update status limit: Available

Isolation comments

Isolation comment storage: Code only

Isolation multiple comment lines
 Isolation comment as text ref.
 Overwrite comment
 Clear isolation comments

Store comment as: Internal

Note

The audit trail of an antibiotic result will mention the use of an **Antibiotic result default** and the automatic confirmation.

Additionally, any confirmation triggers for the micro organism (or for the first parent up the hierarchy) will be run.

Discontinued auto-prompt property outputs erroneously displayed in MB work screen (GLIMS_BAC-01554)

Problem description

An issue was reported where auto-prompt property outputs were still visible in the microbiology work screen after having discontinued the related non-auto-prompt property output of the same procedure.

Example

Configuration

- Microbiology procedure with **Material** = SpecA.
- Procedure with SpecA as material input and propA and propB as property outputs.
- The option **Auto prompt** is enabled for propB in the Procedure output editor.

Routine

- Create an order and request the microbiology procedure and propA. The **Auto prompt** property propB is automatically added to the order.
- Discontinue PropA.
- In the microbiology work screen, propB, which is also discontinued, is still visible in the **Results of specimen** browser while **Show results that are discontinued** is disabled in the Options screen.

Solution

This issue, which occurred since GLIMS 9.5, has been corrected.

Discontinued microbiology action could impact other microbiology actions of the same specimen (GLIMS_BAC-01556)

A discontinued microbiology action could have side effects on other microbiology actions of the same specimen. For instance, adding an antibiogram was not possible.

This has been corrected.

Correction of issue in MB work screen if opened via "Process by number" screen (GLIMS_BAC-01558)

When opening the microbiology work screen via the Process by number screen, entering a conclusion or comment text in the **Conclusion** or **Comment** field and confirming or validating the microbiology action, a warning message **Record has been changed by someone else. Please edit the displayed comment.** was shown and the entered text disappeared.

This has been corrected.

Microbiology work screen can be edited again if accessed from the isolation query (GLIMS_BAC-01560)

The microbiology work screen, if opened by double clicking in the isolation browser, could not be edited. This issue, which occurred since GLIMS 9.8, has been corrected.

Microbiology work screen now shows relationships between carriers (GLIMS_BAC-01561)

An issue was reported where there was no way to visually see if carriers were related in the microbiology work screen.

This issue has been corrected. From now on, every subcarrier will be hierarchically indicated by the character ">".

Example

The screenshot shows the GLIMS Microbiology work screen. At the top, there's a toolbar with various icons and buttons like 'Microscopy', 'Reading', 'Validated', 'Discontinued', 'Reopen', 'Print carrier labels', 'Print', and 'Order'. Below the toolbar, a user profile for 'Carlson, Carl (?)' is displayed. The main area is titled 'Isolations' and contains a table with columns: Medium, Date, and Comment. The table has four rows:

Medium	Date	Comment
A nvp_micro_med	18/06 09:15	?
B » Choco	18/06 09:15	this is a comment for testing
C » MAC	18/06 09:15	this is a comment for testing
D » Choco	18/06 09:15	this is a comment for testing

To the right of the isolations table is another table titled 'Results of specimen' with columns: Cr, Organism, Appl., and Rp. It contains four rows:

*	Cr	Organism	Appl.	Rp
1	A	nvp_m_mo1	?	X
2	B	ACTB	?	
3	D	ACTB	?	
4	F	ACTB	?	

Issue with deleting an isolation in the microbiology work screen (GLIMS_BAC-01564)

An issue was reported where GLIMS stopped working when deleting an isolation without an antibiogram in the microbiology work screen.

This issue has been corrected.

Correction of error occurring when entering a result in the MB work screen (GLIMS_BAC-01566)

An issue was reported where entering a result value in the microbiology work screen for a property with an On result entry trigger that adds an isolation to the associated microbiology action caused the error **No wb_Result record is available** to occur.

This has been corrected.

Discriminator included in result object times (GLIMS_BAC-01567)

After the creation of an order containing microbiology requests, the discriminator for the corresponding microbiology results was not taken into account. The result object times remained the same as the order object time.

This has been corrected.

Changing an isolation's microorganism should not change the isolation's reportability if the latter was changed manually (GLIMS_BAC-01572)

Context

A microorganism is configured with the option **Mark as reportable** set to **Yes**. In the microbiology work screen, if an isolation is added for this microorganism, the isolation will be automatically marked as reportable. The isolation's reportability can be changed by clicking in the **Rp** column of the isolations browser.

Issue

If the newly added isolation was marked as non-reportable (manually or via an analyzer connection) after its creation and subsequently the isolation's microorganism was changed (the new microorganism also has **Mark as reportable** set to **Yes**), the isolation was automatically marked as reportable again.

Solution

This has been corrected: an isolation's reportability is no longer overwritten by the default **Mark as reportable** setting of the new micro-organism when the isolation's reportability has been changed manually after its creation.

See also: [GLIMS_BAC-01604](#).

Improved performance of microbiology action query (GLIMS_BAC-01577)

An issue was reported where the microbiology action query was slow if a **Material** had been specified in the query options. The performance has been improved.

No more issues when saving a comment in the microbiology work screen (GLIMS_BAC-01581)

This modification solves two issues concerning the Comment in the microbiology work screen.

Issue 1

When two users independently added a comment in the same microbiology screen, the message "An error occurred" was displayed on the screen of the user who saved their comment last.

This has been corrected: the message displayed now says "The record has been altered by someone else" and the comment saved first is shown in the **Comment** field.

Issue 2

When entering a comment and then clicking on **Validate**, an error message was displayed.

This has been corrected: no error message is displayed anymore, the comment is saved and the action status is set to **Ready**.

Only warn the user of not-reportable isolations if the microbiology action does not have reportable isolations (GLIMS_BAC-01583)

The behaviour introduced via GLIMS_BAC-01217 has been changed. A message warning the user of not-reportable isolations upon confirmation or validation of a microbiology action is now only shown if no reportable isolations are linked to the microbiology action.

MB work screen: more space for Comment column of Carriers browser (GLIMS_BAC-01587)

In the microbiology work screen, the width of the **Medium** column of the **Carriers** browser has been reduced in order to provide more space for the **Comment** column.

Carriers		
Medium	Date	Comment
A BloodAgar	1/12 11:42	?
B Bouillon	1/12 11:42	?

Isolation query: incorrect indication that antibiogram has been modified (GLIMS_BAC-01589)

The isolation browser displays the selected isolations with their antibiogram. In the antibiogram, antibiotic results of which the RIS report value changed after confirmation are underlined. However, an issue was reported where all antibiotic results in the isolations' antibiogram were underlined.

This has been corrected.

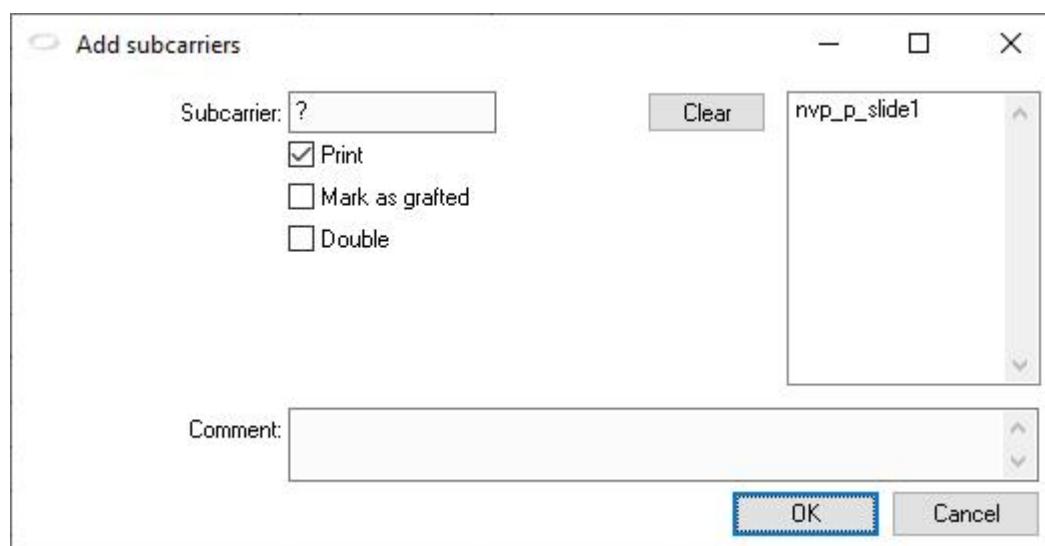
Improved performance of microbiology action browser in GLIMS for Oracle (GLIMS_BAC-01591)

The microbiology action query / browser was sometimes slow in the Oracle version of GLIMS. This issue occurred since GLIMS 9.8.8.

The performance has been improved.

Interactively adding sub carriers to a carrier (GLIMS_BAC-01598)

In addition to adding sub carriers automatically via the MISPL function **Carrier.AddSubCarrier**, sub carriers can now be added interactively as well by choosing the contextual menu / ribbon item **Add sub carrier** from a **Carrier**.



Note

- If you want to use this functionality in a tool with a parameter set, you should use the function **AddSubCarrierRunSiteFunction**.
- If the specified comment does not satisfy the List of allowed values of the **Medium**, then the sub carriers will not be added.

No more error message after entering comment when microbiology screen was opened via Process by number (GLIMS_BAC-01600)

In the following scenario,

- Open the Process by number window. Choose the function **Microbiology -> Germ screen**, enter a specimen barcode and click the **Germ screen** button to open the related microbiology work screen.
- In the microbiology work screen, enter a comment in the **Comment** field.
- Close the screen.
- Reopen it via the **Process by number** window.
- Enter another comment under the first one and attempt to close the screen.

an unnecessary error message was displayed.

This has been corrected: the comment is now saved and the screen closes without error message appearing.

Changing an isolation's microorganism should change the isolation's reportability if the latter was not changed manually (GLIMS_BAC-01604)

Context

Since [GLIMS_BAC-01572](#), an isolation's reportability is no longer overwritten by the default **Mark as reportable** setting of the new micro-organism (replacing the previous) when the isolation's reportability has been changed manually after its creation.

For instance, when replacing an auto-reportable microorganism A (after modifying it manually to not reportable) to another auto-reportable microorganism B, the latter action should result in a not reportable isolation, as previously defined manually.

Additional change

When an isolation's micro-organism is changed from a micro-organism with **Mark as reportable** set to **No** to a micro-organism with **Mark as reportable** set to **Yes**, the action should result in a reportable isolation. However, this was no longer the case since [GLIMS_BAC-01572](#).

From now on, if the previous Isolation.Reportable value equals the previous Isolation.MicroOrganism.AutoReportable value (e.g. both not reportable), the new Isolation.Reportable value will assume the new Isolation.Microorganism.AutoReportable value (e.g. auto-reportable).

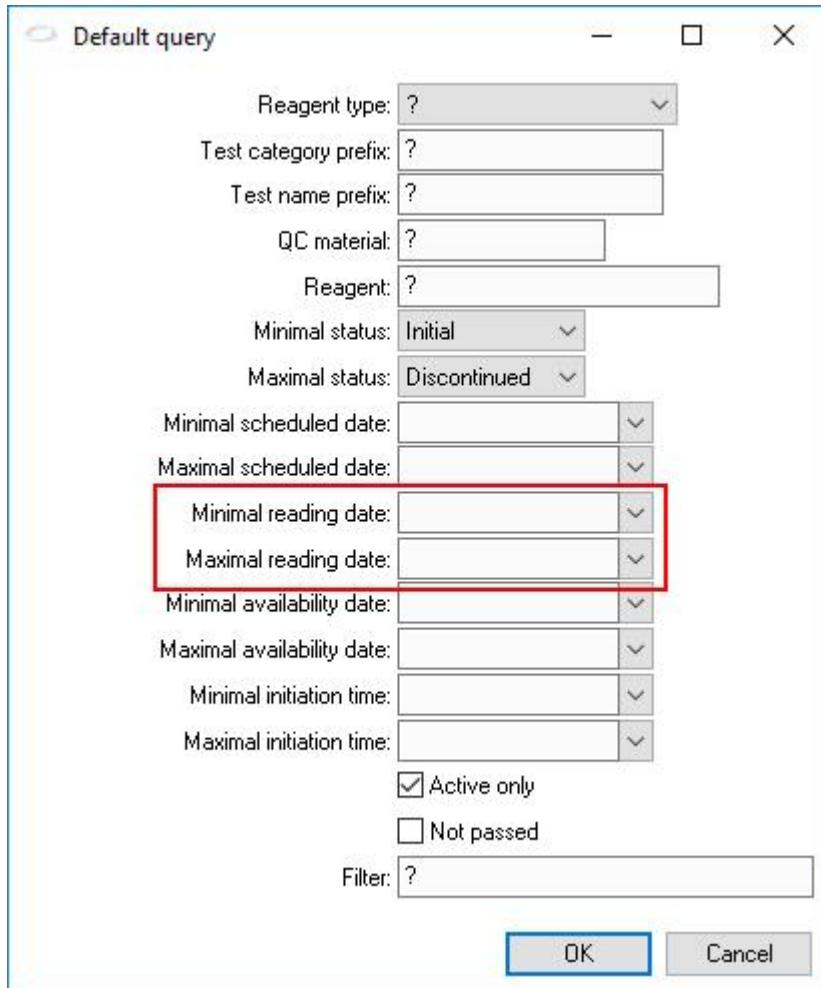
Missing "Back" button in selection screen of Examination statistics (GLIMS_BACS-00015)

An issue was reported where the **Back** button was missing in the second screen (i.e. the selection screen) of the Examination statistics.

This issue, which occurred since GLIMS 9.8, has been corrected.

Additional query options to filter microbiology QC results on Reading date (GLIMS_QCMB-00040)

The microbiology QC results browser and work list now offer additional query options to filter on the **Reading date**.



See also: [GLIMS_QCMB-00047](#).

Ad hoc scheduling available for all MB QC tests (GLIMS_QCMB-00043)

Context

Microbiology QC tests can be scheduled

- at regular intervals, or
- manually on a specific date in the future, using the contextual menu/ribbon item **Schedule ad hoc** on the MB QC test record.

Modification

Initially, ad hoc scheduling was only possible for MB QC tests whose **Frequency** was set to **Ad hoc**.

This has been modified: the contextual menu/ribbon item **Schedule ad hoc** can now be used on all MB QC test records.

MB QC test scheduling only discontinues tests whose schedule end date lies in the past (GLIMS_QCMB-00045)

Context

Microbiology QC tests can be scheduled manually or automatically at regular intervals. During scheduling, GLIMS should discontinue expired results for which no result is available yet.

Issue and solution

GLIMS used to discontinue-repeat tests on the basis of their Scheduled date. As a consequence, when tests with a **Frequency** set to weekly, monthly, quarterly or semi annual were re-scheduled, GLIMS considered them as expired and thus discontinued/repeated them.

This has been corrected: GLIMS now only discontinues-repeats tests if their **Schedule end date** lies in the past.

"Executed" replaced by "Reading" in the context of microbiology QC results (GLIMS_QCMB-00047)

The field label **Executed** in the context of MB QC results has been replaced by **Reading** because the corresponding field contains the expected date on which the result should be read off.

See also: [GLIMS_QCMB-00040](#).

Erroneous selection of inactive microbiology QC lot during automatic scheduling of a microbiology QC test (GLIMS_QCMB-00051)

Problem description

If a microbiology QC material has two microbiology QC lots,

1. for current use: an existing one that does not yet have an end date and that is active,
2. for future use: a new one that does not yet have an end date and that is not yet active,

then the most recent but inactive microbiology QC lot was selected upon scheduling of a microbiology QC test.

Solution

This has been corrected: the **Active** flag is now taken into account. If more than one microbiology QC lot is eligible, then the microbiology QC lot with the most recent start date is selected.

Information window size fixed in the Microbiology work screen (MATE-06246)

An issue has been reported where the HTML externalization filled with the object information on the microbiology work screen appeared to be only half its normal size.

After updating the status from e.g. grafting to microscopy, the HTML externalization refreshed and went blank.

This issue, which occurred since GLIMS version 9.8.8, has been fixed.

20180426-0001101 - MKE_SWAB ARMPIT - KELLER, ALAIN (M), 23/03/1977

Microbiology action Tools

Microbiology screen	View audit trail	Microscopy	Reading	Validated	Discontinued	Print carrier labels	Order	
Add carrier	Edit carrier tests	Main	Set status	Reopen		Print	Related	

Station: mke_MP Status: Ready/validated

Carriers

Medium	Date	Comment
A A_BCP	27/04 09:40 ?	
B RELEASE_M8	27/04 09:40 ?	

Isolations

Cr	Organism	Appl.	Rp	Cf	Ab	Seq	I.Comm	E.Comm
1	A 3.com	0.9UL	X	V		1,1	123	?
2	A CAMP	1.3UL	V			2,2	?	?

Results of specimen

Property	U	Sts	C Value
mke_MP_AERO.graf	Val		XXX
mke_MP_AERO.micro	Val		XXX
mke_MP_AERO.Pro	Exp		?
mke_SWAB_gpc	X	?	?
mke_SWAB_nbc	X	?	?

Procedures

- mk_mp_swab_aero_graf
- mk_mp_swab_aero_micro
- mk_mp_swab_aero_pro
- All

Miscellaneous

Property editor opens without error message (BILX_GKVDT-00361)

When

- a site had no site attribute defined on the Property table, and
- a user opened the Property editor from the Property browser,

an error message appeared.

This has been corrected.

Performance of browsers with large text fields improved (MATE-06062)

The performance of certain browsers with large texts fields, such as the **Wards** browser, was poor. This was due to an inappropriate data retrieval on the appserver : large text fields were retrieved even if they were not displayed in the browser.

This issue has been corrected, the performance is now better.

Support for code page 1256 for the generation of the Person.InternalId (GLIMS-10385)

GLIMS now applies the code page 1256 when generating the Person.InternalId to support Arabic text entry.

Correction of locking issue when deleting old reports (GLIMS-10535)

An issue was reported where deleting old reports that were simultaneously being updated in another session caused a lock on these records resulting in the session being blocked until the other session released the lock. This could last for several minutes.

This issue has been corrected. The locked record will now be skipped.

Issue with synchronization of quick report and data sheet (GLIMS-10669)

Issue

An issue was reported where the **Datasheet** or **Quick report** window was not synchronized if opened from the **Result overview** and if another record was selected in the browser from which the **Result overview** had been opened.

Possible scenarios

1. Open a person or object browser.
 2. Choose the contextual function **Result overview** (via **Object > Show all > Result overview**).
 3. In the result overview, choose the contextual function **Datasheet** (by right clicking in a result cell and selecting **Object > Datasheet**).
 4. When selecting another person or object in the first browser, it could happen that the **Datasheet** was not synchronized.
-
1. Open the **Orders by internal id** browser.
 2. Choose the contextual function **Result overview** (via **Object > Show all > Result overview**).
 3. In the result overview, choose the contextual function **Quick report** (by right clicking in a result cell and selecting **Order > Quick report**).
 4. When selecting another order (e.g. without any results) in the first browser, it could happen that the **Quick report** was not synchronized.

Solution

This has been corrected. The **Datasheet** and **Quick report** are now correctly synchronized or cleared if the **Result overview** is empty.

Sequence number of new code in coding system does not increase (GLIMS-10672)

When adding a new code to a code set of a coding system for a record for which there already exists a code in that coding system, the sequence number of the new code was not increased by 10 when leaving the **Record** field via the Tab key or by clicking in another field.

This has been corrected.

No error anymore when launching the Specific update tool (GLIMS-10971)

After filling in the fields in the Specific update screen (.NET mode) and clicking **OK**, error messages were displayed and GLIMS had to be restarted.

This issue occurred since GLIMS 9.3 and has been corrected.

Default label printer does not change when switching departments (GLIMS-11008)

An issue was reported where switching between departments did not change the default printer used for printing labels for an order. This has been corrected.

Correction for AssessmentMethod.Copy() function (GLIMS-11114)

Issue

When the function `AssessmentMethod.Copy()` was executed using a tool that contained an empty or no parameter set, and for which the **Skip setup** field was disabled, no setup screen was shown.

As a result, the copy action could not be executed when no mandatory target station was specified.

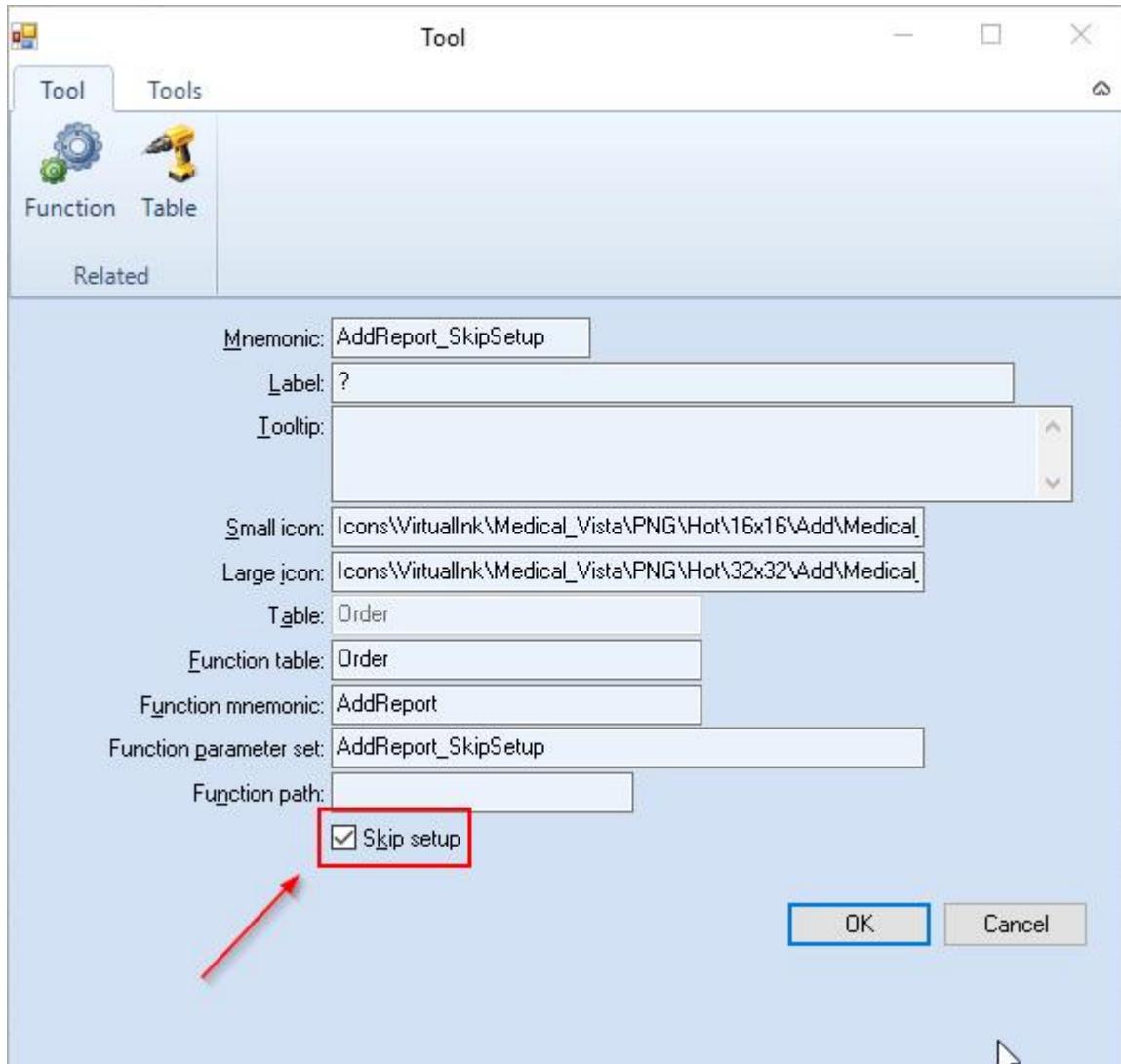
Solution

From now on, if the `AssessmentMethod.Copy()` tool is used without a parameter set or with an empty parameter set, the user will see the setup screen.

If **Skip setup** is deactivated for the `AssessmentMethod.Copy()` tool, but the target station is specified in the parameter set, the setup screen will open, containing the correct pre-filled station.

Order.AddReport() function supports Tool option "Skip setup" (GLIMS-11132)

The Order-based function `AddReport`, when used in a Tool, now supports the **Tool** option **Skip setup**.



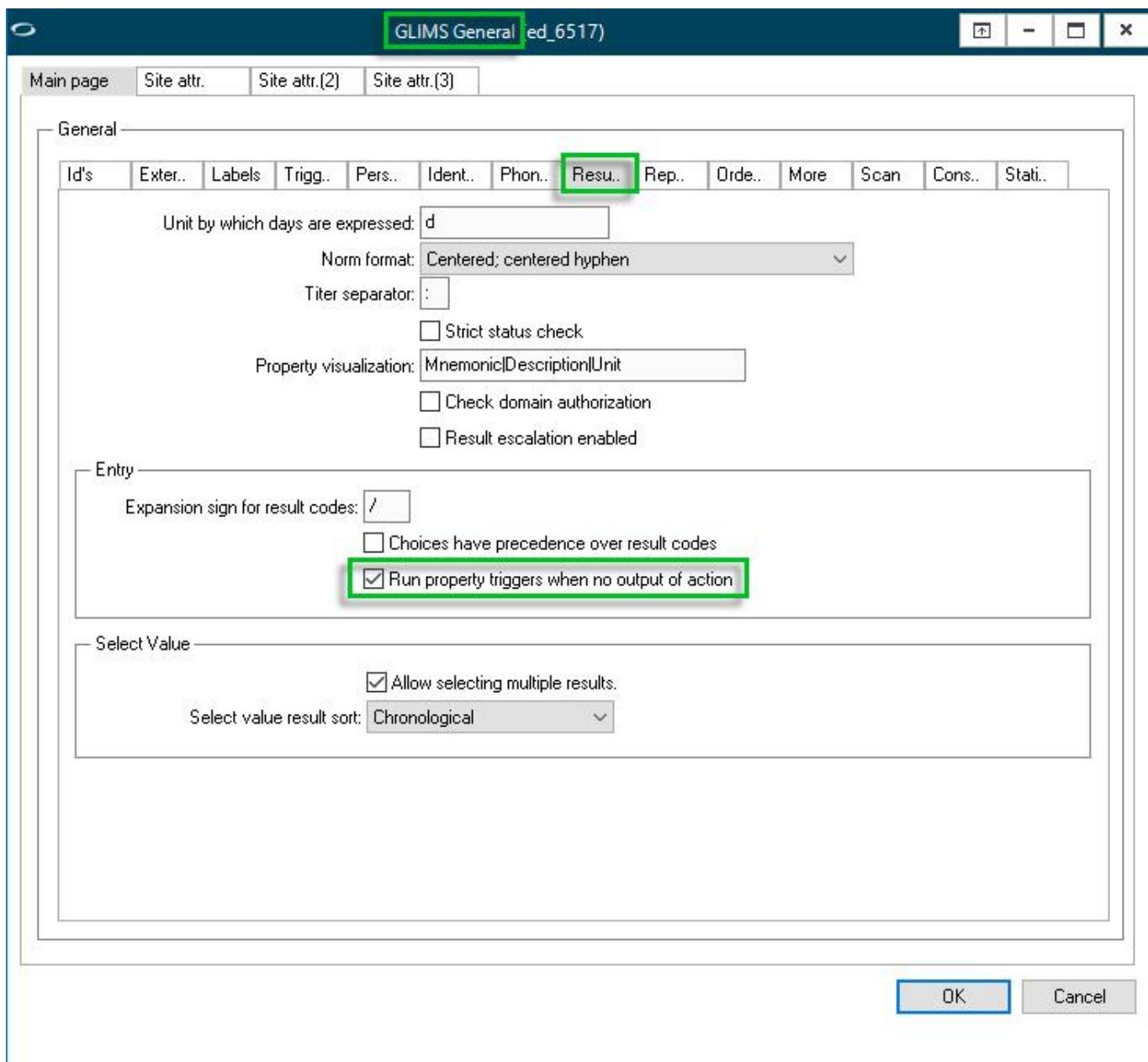
Note

For functions that change data in the database (as opposed to functions that simply open a browser), the Skip setup option will only be visible when a parameter set is defined.

Option "Run property triggers when no output of action" relocated in GLIMS general settings (GLIMS-11137)

The option Run property triggers when no output of action in the GLIMS general settings (SpecificSite) migrated from its initial location (tab **Results** > **Entry**) to a wrong location (tab **Triggers** > **Encounters and stays**).

This issue has been fixed, the setting has returned to its original location in the **Results** tab.



"&" in property short name produces error when undoing the approval of the report (GLIMS-11200)

An issue was reported where orders unexpectedly remained in status **Frozen**. In an effort to locate the cause of the frozen orders, it was detected that undoing the approval of a report containing a property with an "&" character in its short name produced an error. Theoretically, this error might have led to frozen orders.

This modification corrects the error in an attempt to reduce the number of frozen orders.

Note

Frozen orders can be repaired by running a consistency check. Please note that running a consistency check requires all orders to be examined.

Tool to replace {###} with {Seq:999} in symbolic file names in function parameter sets (GLIMS-11258)

Introduction

GLIMS now offers a tool to replace the {###} symbol with the {Seq:999} symbol in symbolic file names in function parameter sets (used to generate a file with a name based on a pattern).

To run the tool :

1. choose **Start > Development > 4GL > Run procedure**,
2. as **File name**, specify **UseSeqInFileNames**.

{Seq:999} = unique file name

The {Seq:999} symbol guarantees that a version number is used that keeps increasing, even if the previous file was already deleted. The {###} symbol, however, does not, which can cause issues in certain situations. It is therefore important to use the correct symbol! For more information, see Creating file names using sequences.

Example

An example of a workflow requiring the generation of a unique file name is sending attachment reports for electronic reports via a command.

Support for the Hijri calendar format (GLIMS-11370)

In Saudi Arabia it is common to use both the Gregorian and the Hijri (Arabic) calendar. When running a GLIMS database with the code page 1256 and the collation table ARABIC9, the **Person** editor displays the birth date based on both the Gregorian and the Hijri calendar for the entry and storage of birth dates.

- When the Gregorian (standard) birth date field is updated, the value is converted based on the Hijri calendar and displayed in the **Birth date-Hijri** field.
- When the **Birth date-Hijri** field is updated and then left, the value is converted based on the Gregorian calendar and displayed in the **Birth date** field.

The screenshot shows the GLIMS Person editor interface. At the top, there's a toolbar with tabs for 'Person' (selected), 'Tools', 'Data sheet', 'Quick report', 'Generate document', 'Merge', 'Result overview', 'Orders', 'Encounters', 'Group memberships', 'Phone log', 'Specimens', 'Person medical record', and 'Trans'. Below the toolbar, there are tabs for 'Main' (selected), 'Extra', 'Foetus', 'Site attr.', 'Site attr.', and 'Site attr.'. The main form contains fields for 'Given name' (MARIA JOSE), 'Father', 'Grandfather', 'Family/last name' (0304FB-0049), 'Middle name', 'Title', 'Sex' (F), 'Lang.', 'Age' (2.4 wk), 'Twin' (checkbox), 'Birth date' (08/01/2019), 'Birth date-Hijri' (02/05/1440), and 'Birth Order'. A blue box highlights the 'Birth date' and 'Birth date-Hijri' fields.

Note

The **Birth date-Hijri** field is currently neither visible in the **Correspondent** editor, nor in the **Order** editor.

It is hidden by default, but is available for display in the following browsers: **Correspondents > Persons > By birth date / By last name, first name / By keyword**

Support for Arabic person names entry (GLIMS-11371)

The **Order (entry)**, **Person** and **Correspondent** editors now support the entry of Arabic text in some newly added fields. These fields can be selected for display in **Person** and **Correspondent** browsers and used on reports.

Order (entry) editor

Order 20181220-00001/20181220-00001/DEPN (2018/12/20 16:25) Issuer: ?
Maclean, Krystyna, Małgorzata (F), 1979/09/27

Enc.: ? Query FSE

Encounter type: ? Substitution: ?

Ward: ? Room: ?

Info: ?

Newly added fields

Given name:

Father:

Grandfather:

Family/last name:

Middle name:

Birth date: 1979/09/27 Age: 39 yr Title: Ms

Sex: F Birth Order: ?

Spouse name: ?

Person editor

Person Maclean, Krystyna, Małgorzata (F), 1979/09/27

Person Tools

Data Quick report Generate document Merge Main Result overview Orders Encounters Related Group memberships Phone log Specimens Person medical record Checkout blood Blood bag select Administer blood Transfusion

Main Extra Foetus Site attr. Site attr. Site attr. Site attr.

Given name:

Father:

Grandfather:

Family/last name:

Middle name:

Birth date: 1979/09/27 Age: 39 yr Title: Ms Twin: Birth Order: ?

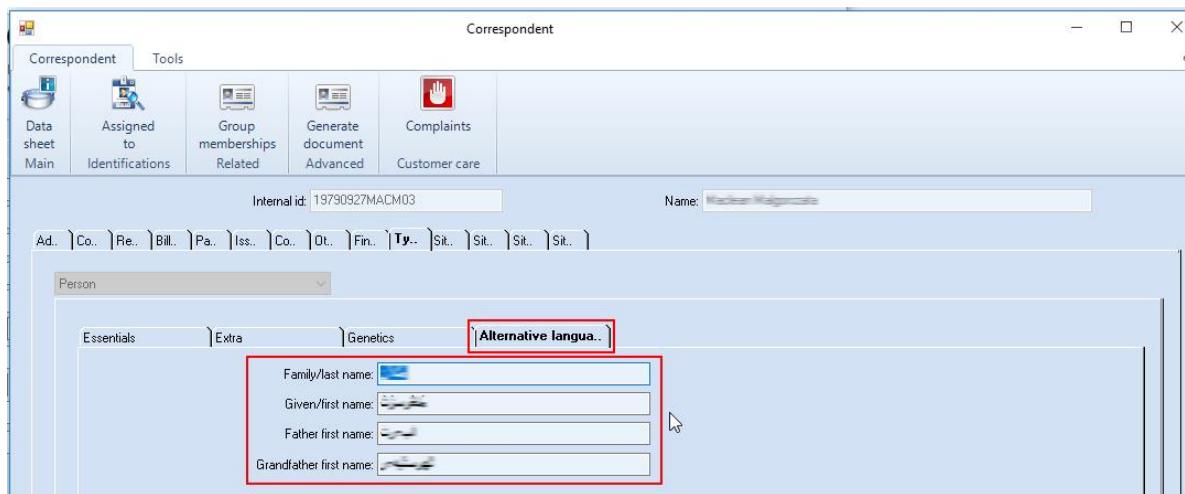
Spouse name: ? Sex: F Lang.: ?

Municipality: D ? ?

Address Line 1: ?

These fields support the entry of Arabic text

Correspondent editor



Warnings

1. These fields are only visible when using GLIMS and GENRW databases having the code page 1256 and running GLIMS with the collation table ARABIC9.
2. The entry of Arabic characters is not supported in any other field than these newly added name fields!

Correction of logging of record change or deletion (GLIMS-11410)

When a user (or a GLIMS program) changes or deletes a record, a log type **Audit <tablename>** keeps track of the changes made to or the deletion of the record. This is the case for the tables for which this functionality is available. However, for some tables, this kind of logging was not active yet (e.g. InvoiceSummary).

This issue has been corrected.

Correction of issue which could lead to memory leaks (GLIMS-11426)

An issue was detected which could lead to memory leaks e.g. during report generation via a task scheduler.

This issue, which occurred since GLIMS 9.8.0, has been corrected.

Less caching of Responsibility data (GLIMS-11654)

Since, GLIMS 9.8, too much Responsibility related data was cached, using much memory on the appserver client.

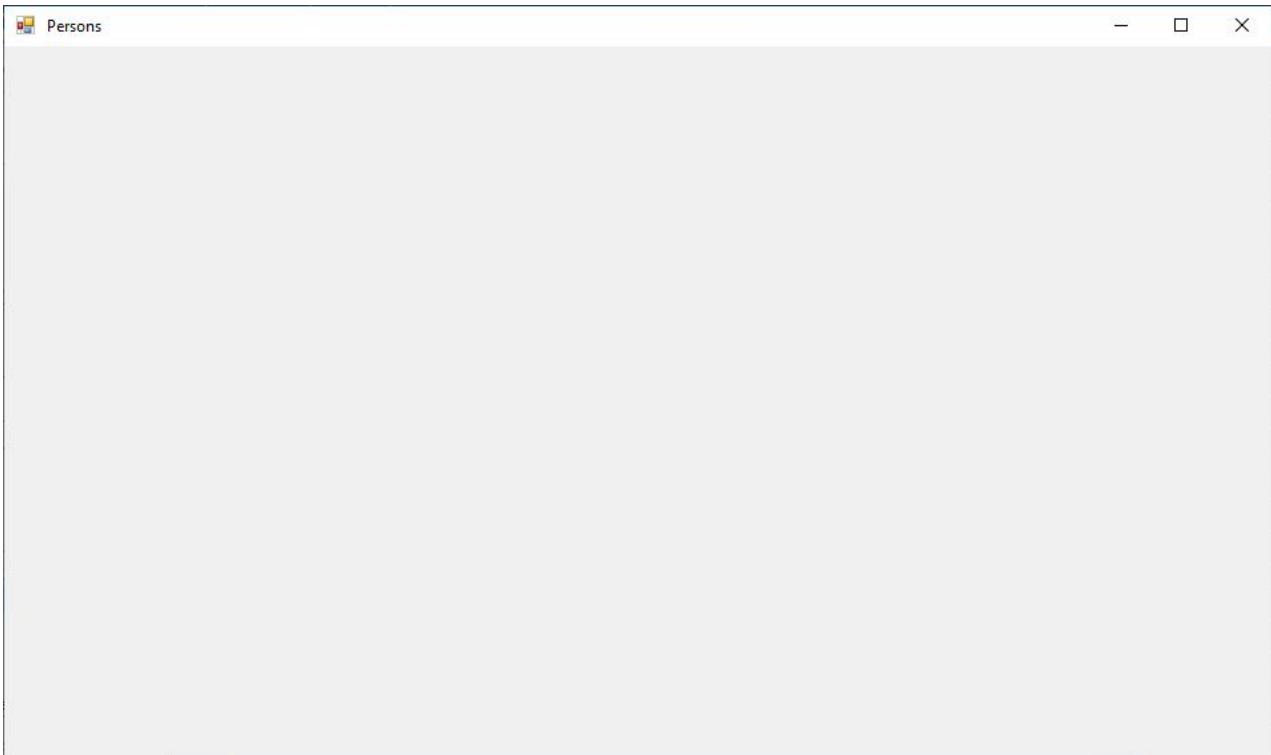
The amount of cached, Responsibility related data has been reduced when using the appserver.

Empty Persons screen appears when switching tabs (GLIMS-11807)

The following issue has been corrected:

1. Open a browser in the .NET format (e.g. the **Materials** browser).
2. Open the order entry screen and select and enter a Person / Correspondent via the search screen.
3. Go to the **Materials** browser without closing the order entry screen.
4. Go back to the order entry screen.

=> an empty **Persons** screen appears which cannot be closed.



Correction of locking issue during report generation (GLIMS-11813)

A locking issue occurred when GLIMS tried to update the Result.Norm and Result.AlternateUnitNorm fields during report generation. This has been corrected.

Correction of error occurring when duplicating a Person record (GLIMS-11851)

An issue was reported where an error occurred when trying to duplicate a **Person** record via the contextual Tools ribbon item **Duplicate**. This issue has been corrected.

Correction of deadlock situations (GLIMS-11863)

Deadlocks, related to setting the action start time and changing the order object time, could occur when two services were processing result messages of the same order at the same time.

This issue, which occurred since GLIMS 9.5, has been corrected.

Support for Office 2016 (GLIMS-11949)

Office 2016 has been tested and is supported by the Office Interface in GLIMS 9.9.

Unexpected username and password prompt (MADE-00576)

In previous releases, it could happen that - when doing a lookup using a browser - the application would unexpectedly prompt for a username and password, as if a time-out had occurred.

This has been corrected.

Correction for empty menu editor (MATE-04354)

An issue was reported where an empty Menu editor was shown when choosing **Start > System management > Menu > Edit** or when using the **Menu > Edit** context function from the Table browser (**Start > System management > Scheme > Tables**). This only happened in specific circumstances when using GLIMS in combination with a Progress database.

This has been corrected.

Correction of server / client version mismatch message (MATE-04612)

When logging in to GLIMS, a warning message is displayed if the GLIMS version on the client PC differs from the GLIMS version on the AppServer. However, an issue was reported where this message displayed the name of the client instead of the name of the server. This has been corrected.

Allow '#' in file name specifications (MATE-05718)

The character '#' is no longer considered illegal in file name specifications in order to prevent errors during report generation (e.g. when the report's file name contains '#' in case of a discontinued order).

F6 in multilingual text editor opens large text editor again (MATE-05771)

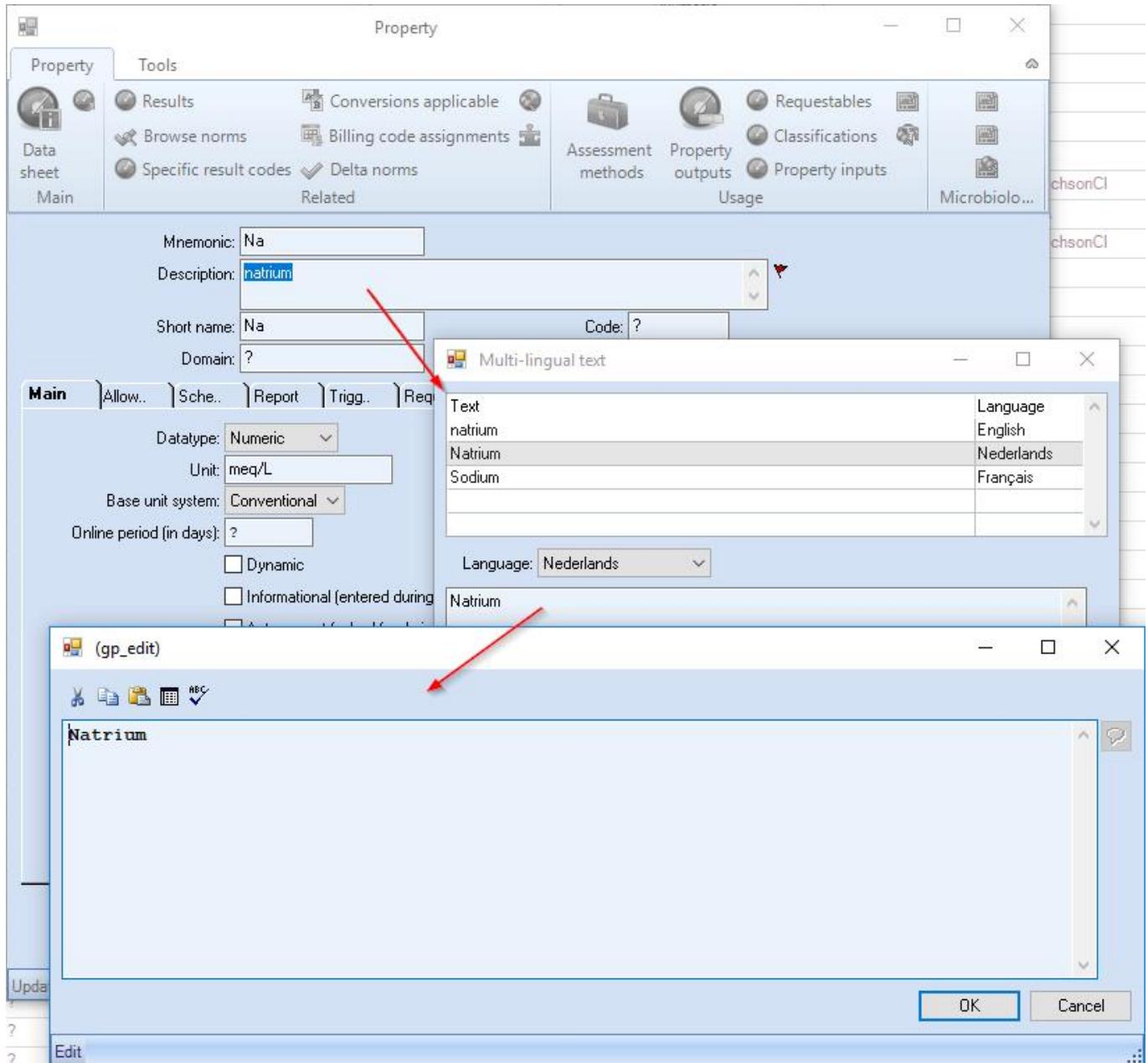
Issue

Using the F6 key in a multilingual text editor to open a large text editor did not always work.

Solution

This has been corrected.

- Open the Property editor.
- Double click in the **Description** field.
- The multilingual text editor opens.
- Use F6 in the multilingual text editor.
- A large text editor opens.



Windows system tray no longer shows OpenEdge icon (MATE-05775)

The OpenEdge icon shown in the system tray when a connection is made to the AppServer was not cleaned up properly by Windows. Therefore, the icon will now no longer be shown.

Improvement for Find in browsers (MATE-05779)

When searching for a record in a browser via the **Find** function (CTRL-F) and no matching records are found, a message will now be shown to inform the user and he or she is invited to try again.

Using ENTER in browser search field works again as expected (MATE-05784)

Context

Some browsers, e.g. the **Site functions** browser, have a search field in the lower left corner to filter the records in the browser based on the words entered in the search field. Filtering will start when using the ENTER key or when clicking on the filter button next to the search field.

Issue

When such a browser was opened in "look up" mode (i.e. opened by double clicking in a field to look up a record), using the ENTER key in the search field selected the currently active record and closed the browser window instead of applying the filter.

Solution

This has been corrected.

Correction of error with MISPL syntax editor after using the Search function (MATE-06056)

In the following scenario,

- Open the editor of a site function,
- Press F6 to open the MISPL syntax editor,
- Press CTRL-F to open the **Find** window,
- Close the **MISPL syntax editor** without first closing the **Find** window.

an error occurred and GLIMS had to be restarted.

This has been corrected.

Correction of memory leak when opening a browser (MATE-06114)

A memory leak leading to performance issues of the AppServer agents was detected when opening a browser with custom columns, large text fields or filters. This has been corrected.

Fixed initial sort indicator in browsers (MATE-06146)

An issue was reported where the initial sort indicator in a browser was displayed in a column header other than that of the actual sorting column. This happened for instance in the order consultation browser if it was sorted on **Object time** or **Receipt time** (in which case the sort indicator was erroneously displayed in the **Internal ID** column).

Incorrect error message logged during CSV import (MATE-06180)

An issue was identified where an incorrect error message was logged during CSV import. This was caused by an (unrelated) error that had occurred before the import and that had not been handled correctly.

This issue has been corrected.

GLIMS stops working when closing "Specimen review" (MATE-06217)

An issue was reported where GLIMS stopped working when closing the specimen review screen. This issue has been corrected.

Show Tool.Mnemonic for a contextual menu item without label (MATE-06218)

An issue was identified where contextual menus could display an empty line when neither Option.Label nor Tool.Label were specified. The expected behaviour is to display Tool.Mnemonic instead, but this did not happen for 'classic' screens.

This has been corrected.

Dates in read-only browser columns can no longer be modified (MATE-06222)

An issue was detected where the value of a read-only date column in a browser (for instance, the embedded **Billing** browser of the product check-in screen) could still be modified using the calendar utility (accessible via CTRL-F or by double-clicking in the browser field).

This has been corrected: the calendar utility will still be displayed but the date in the read-only column can now no longer be modified.

User.CopyPropertiesFrom shall copy "Large preferences" (MATE-06229)

An issue was reported where the **User** function Copy properties from did not copy the data stored in **Large preferences**, which are e.g. used to store .NET browser preferences.

This has been corrected.

GLIMS should remain accessible after opening a URL (MATE-06250)

Context

If dynamic URL processing is configured in GLIMS, the tool to open the URL can be used as a menu, ribbon or sidebar item.

Issue

An issue was reported where it was not possible to continue working in GLIMS once the URL had been opened and as long as the screen displaying the web page was not closed.

Solution

This issue, which occurred since GLIMS 9.6.0, has been corrected: it is now possible to continue working in GLIMS while the screen displaying the web page is open.

Error when adding a diagnosis in the Diagnosis outline (MATE-06256)

An issue was reported where the error message "Unhandled exception has occurred in your application" was shown in the following scenario:

1. From an **Order**, choose **Diagnoses > Outline** in the contextual menu.
2. Use the Insert key to add a **Diagnosis**.
3. Close the **Diagnosis** editor.

This issue has been corrected.

Prevent a .NET browser's options screen from opening more than once (MATE-06277)

The following issue has been corrected:

1. Open a redesigned browser with a query options screen (for instance: orders by internal ID, extended result query, norms).
2. Click the Options button to open the query options screen.
3. Don't close the query options screen and click the Options button again.
4. The query options screen opens a second time.

A modification has been made to prevent that the query options screen opens more than once.

Correction for purging events (MATE-06300)

An issue was identified where the **Purge** function on an **Event handler** used an illogical calculation of the 'cut-off' timestamp, as it only applied the day but not the time portion - effectively cutting off at midnight rather than based on 24 hour cycles.

This has been corrected.

Performance issue when sorting in Results of property browser (MATE-06312)

This modification fixes slow performance when sorting data in a child browser (for instance: the **Results of property** browser) when a lot of records (results) were shown and the user chose to sort on a column different from the default sorting column. In that case, a slow performing query was executed (for instance: sorting on **Object time** in the **Results of property** browser).

This has been corrected.

Extended Tasks browser and editor (MATE_COMHL-00462)

The Tasks browser and editor now show extra information.

Tasks browser

Extra column that displays TaskStatus.ScheduleStatus.

Tasks editor

Extra field that displays TaskStatus.ScheduleStatus.

Correction of errors occurring when exporting browser content to Excel (MATE_MSOF-00042)

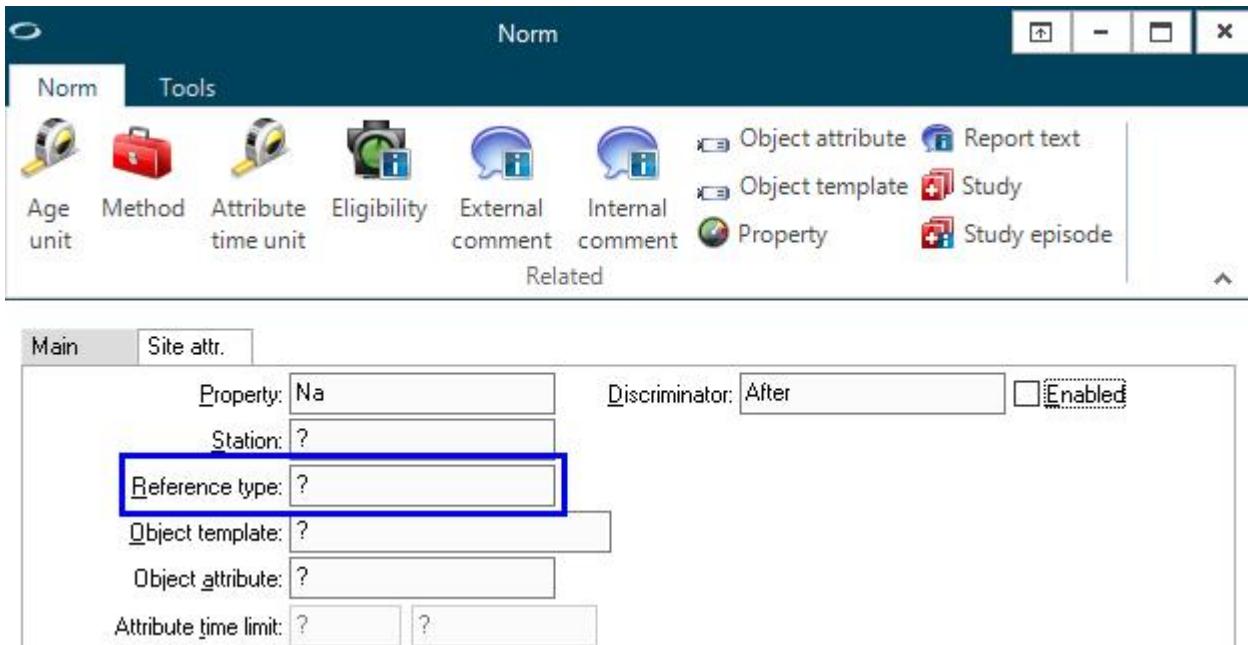
An issue was reported where exporting the content of a Classic browser to Excel resulted in error messages if Excel was already open.

This has been corrected.

Norms

New 'Reference type' option for reporting norms (GLIMS-08350)

The norm editor allows to specify a new option **Reference type** which indicates the reference type for reports (such as "Diagnostic", "Legal", "Normal"). If it is left empty, then everything will work as before.



It is possible to define a new norm reference type by double-clicking the **Reference type** field and using the insert key on the browser.

Currently, this option is only used for norms with the option **For reporting** enabled. The **Description** of a reference type is a multilingual field.

If, for a property, several reporting norms are defined with different reference types, the reference values of each reference type are displayed for the result of this property:

- In the result editor in the fields **Norm / Alt. norm**, the presentation format is Low limit / High limit/ Mnemonic of the reference type.
- In result browsers and on reports.

For the selected norm format, the reference type **Description** is displayed in brackets. If the **Description** is not indicated, the **Code** is displayed. If the **Code** is also not indicated, the **Mnemonic** is displayed.

If several reporting norms are defined with the same **Reference type**, the best matching norm (age, gender, ...) for each reference type is displayed.

See also: [GLIMS-11621](#).

No more error when inserting a norm in the Norm browser (GLIMS-10665)

Since GLIMS 9.6, an error occurred when inserting a new norm in the Norm browser.

This issue has been corrected.

Correction of error when opening the norms of assessment method browser (GLIMS-11123)

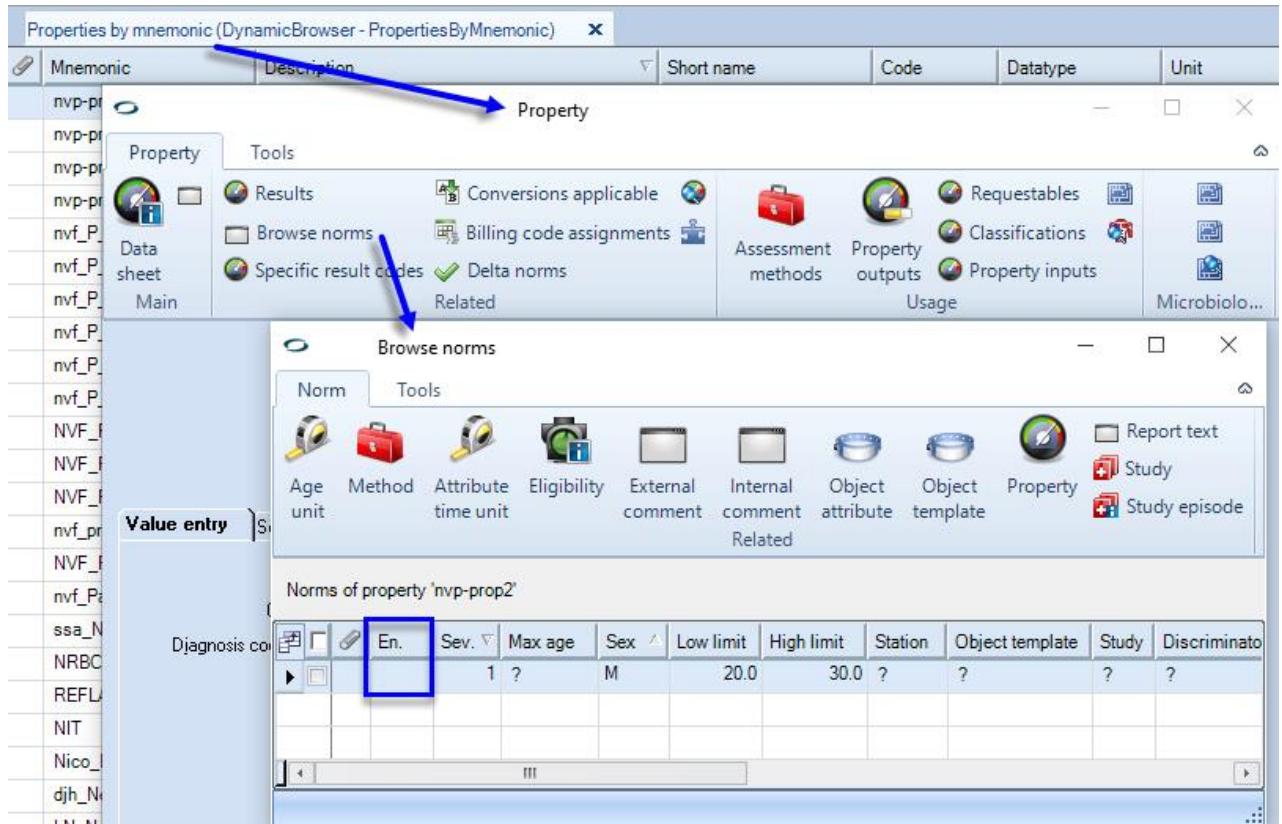
An issue was reported where an error occurred when opening the Norms browser from an **Assessment method**.

This issue, which occurred since GLIMS 9.8, has been corrected.

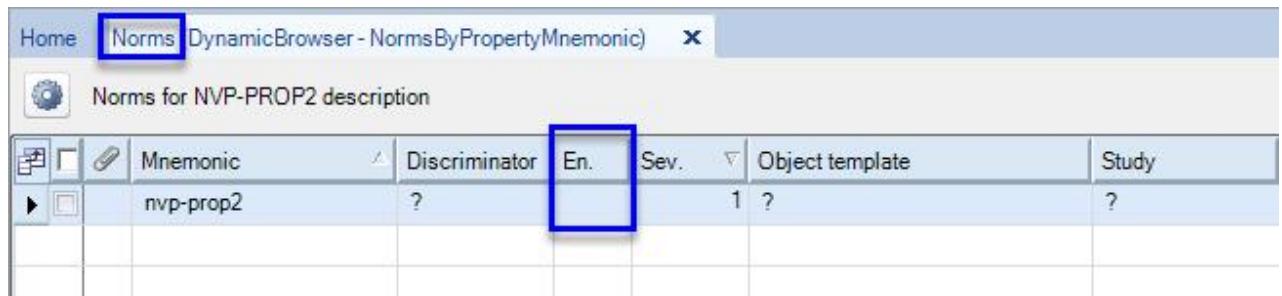
Disabled norms are visible by default again in the Properties.Norms browser (GLIMS-11879)

An issue was reported where disabled norms were by default not shown in the following .NET browsers:

1. Contextual menu / ribbon item **Browse norms** on a property



2. Norm query for all properties (Start > Configuration > Properties > Norms)



This issue has been fixed: from now on, disabled norms will be shown in the corresponding browsers by default.

Order entry

Creation of two actions in case of paired specimens (GLIMS-10633)

In a nutshell

Upon creation of a new order using the specimen of a previous order, no new action was created. This issue has been solved.

Issue and solution

Consider the following scenario:

1. Specimen S has a property.
2. An order is created with specimen S. An action is automatically created.
3. Later on, a new order is created: a request is added using F9 in order to select specimen S of the previous order (i.e to create a paired specimen).
4. On the reused specimen S, a property is requested.

In this scenario, the action of the previous order was reused. This was not the intended result and has been corrected: now, a new action is created for the second order. There is thus a separate action for each order.

Order verification: visualization of "+" and "-" signs (GLIMS-10639)

An issue was reported where the visualization of the "+" and "-" signs in the order verification program was not correct.

The order verification program now works again as documented: request definitions marked with a "+" have been requested in the order, but were not entered during verification. Request definitions marked with a "-" were entered during verification, but are not requested in the order.

Correction for missing flag on requests of type Property (GLIMS-10641)

In order entry, when a flag was added to a request, this flag was stored in the request record, but not in the requested code record. Given that requests of type **Property** are displayed using the requested code, the flag was missing. This could for instance lead to a wrong tariff selection during the tariffication.

This issue occurred since GLIMS 9.3 and has been corrected.

Scheduling issue for a newly added request of order containing more than one specimen (GLIMS-10644)

In a nutshell

A scheduling issue was reported when adding a request to an order containing more than one specimen. The availability of one of the specimens had been confirmed.

Possible scenario

- The option **Reschedule when specimen becomes available** is enabled in **Start > System management > Customize > GLIMS General**.
- Create an order containing a number of properties. More than one specimen is required.
- Confirm the availability of one of the specimens (e.g. via the contextual function **Change state > Confirm availability on Specimen**).
- Add another property to the order (e.g. via the contextual function **Requests > Add requests on Order**).
- Issue: the newly added property is not scheduled correctly (i.e. the property is scheduled without an action or a specimen).

Solution

This has been corrected.

Correction of issue with "Confirm specimens" in the Order series program (GLIMS-10656)

When a series of orders was created and the option **Confirm specimen** was activated, the specimens were not automatically registered. Their status remained **Initial** instead of turning to **Available**.

This problem occurred since GLIMS 9.5. It has been corrected.

New electronic request scheduled on correct material of previously requested panel (GLIMS-10675)

When a request R was added electronically on a material that was already part of a requested panel P, GLIMS scheduled request R on another material of panel P.

This issue has been corrected: the electronic request is now scheduled on the correct material.

New panel request scheduled on correct material (GLIMS-10676)

When a panel request P was added on a material that was already part of a requested panel R, GLIMS scheduled panel request P on another material of panel R.

This issue has been corrected.

Encounter browser only displays the current patient's encounters (GLIMS-10682)

When the order entry **Encounter** field was filled in, double clicking in it would open a browser displaying the encounters of all the patients.

This issue, which occurred since GLIMS 9.5, has been corrected: the **Encounter** browser only displays the encounters of the patient of the open order.

No action rescheduling if sample set as "Available" by automatic sample login (GLIMS-10692)

Context

The automatic sample login option makes it possible to automatically set root specimens as **Available**.

The option Reschedule when specimen becomes available makes it possible to reschedule the actions planned on a specimen when this specimen becomes **Available**.

Issue and solution

When these two options were active and when a specimen was set to **Available** by automatic sample login, errors occurred.

In order to remedy this issue, action rescheduling is not performed anymore when a specimen is set to **Available** during automatic sample login.

'Lead attributes' error when adding request to existing order (GLIMS-10717)

An issue was reported where the error **Lead attributes in a chained-attribute expression must be type HANDLE or a user-defined type and valid (not UNKNOWN). (10068)** occurred when adding a property request to an existing order while the general option **Reschedule when specimen becomes available** (in **Start > System management > Customize > GLIMS General**) was enabled.

This has been corrected.

Note

This issue occurred since GLIMS 9.6.

Day unit of discriminator can be language dependent again (GLIMS-10741)

Background

During order entry, tests can be requested with a discriminator. E.g. "GLUC +08:00+7d". The day unit "d" can be used to indicate that <x> days should be added.

This day unit can be language dependent, meaning that "j" can be used when using GLIMS in French or "t" when using GLIMS in German.

Issue + solution

When using GLIMS 9.8 in French or in German, it was no longer possible to use the day discriminator "+xj" (in French) or "+xt" (in German). Only "+xd" could be used.

This has been corrected.

Panel members with non-temporal discriminators are now all requested (GLIMS-10755)

Background

GLIMS offers the possibility to request panels that contain several times the same member. In order to distinguish the members from one another, one can assign them a discriminator, such "R1", "R2",....

Issue and solution

When

- a confirmable panel was requested,
- this panel contained more than one instances of the same member,
- each instance was distinguished from the others using a non-temporal discriminator,

then, only one property was scheduled.

This issue has been corrected.

Message displayed when a request code has no request definition (GLIMS-10785)

Background

The Order entry field **Request** allows selecting request codes that should be added to the order. When a request code is only linked to request definitions whose **End dates** lie in the past, it is however not added to the order.

Issue and solution

In such a situation, users could not know why the request code they selected was not added to the order. Therefore, an error message is now displayed, mentioning the unavailable request definitions.

No change of sampling time when specimen planned in the future is confirmed (GLIMS-10787)

When a specimen planned in the future was confirmed, its sampling time was reset to the current time.

This has been corrected.

Correction for request of paired specimen appearing in order of another patient (GLIMS-10799)

Background

Pressing the F9 key when being positioned in the order entry **Request** field allows selecting a paired specimen, i.e. an existing specimen from a former order, to request that a new test be done on it.

Issue

In the following order entry scenario,

1. Patient P1 is indicated as Object.
2. F9 is used in the **Request** field and a paired specimen is chosen.
3. A test is requested on this paired specimen.
4. F8 is used in the **Request** field and a new test is requested.
5. A new patient P2 is indicated as Object.
6. The order is saved.

the paired specimen requested for patient P1 appeared in the order for patient P2.

Solution

This problem occurred since GLIMS 8. It has been solved: the paired specimen is removed from the order when a new object is indicated. The order for patient P2 is now created with a new scheduled specimen.

Closed encounter is kept when Encounter selection is set to None (GLIMS-10828)

Context

Some customers want to create orders for closed encounters, even if open encounters are available for the patient. In other words, they want certain closed encounters to be the encounters of the new orders. However, in such cases, GLIMS usually re-evaluates the encounter for the new order and (proposes to) replace(s) the closed encounter by the open encounter in the new order. So that this re-evaluation does not take place, the customers set the GLIMS general setting **Encounter selection to None**.

Problem and solution

Since GLIMS 9.5.9, even when **Encounter selection** was set to **None**, the closed encounter was replaced by the open encounter in the new order.

This has been corrected: the encounter of the new order remains the closed encounter.

Correction for errors displayed when request code entered without request definition (GLIMS-10835)

Background

In order entry, requests are added to an order using request codes. These request codes are then replaced by their corresponding request definitions, taking in consideration the issuer and/or time of the order.

Issue 1

Some users intentionally create request codes that are not linked to any request definition. GLIMS should support them, but it did not: in order entry, inserting a request code which was not linked to (valid) request definitions led to an error.

Issue 2

An error also occurred when the issuer specified in order entry did not correspond to the issuer of the request definition linked to the entered request code.

Solution

These issues, which occurred during both manual and electronic order entry, have been fixed:

- if a request code with no (valid) request definition is entered during order entry,
- if the issuer specified during order entry is different from that of the request definition,

GLIMS indicates in the order log that the request definition is not available and does not add the request to the order. The order is however created normally.

Incorrect scheduling when adding a property on one of multiple specimens in a panel (GLIMS-10852)

Issue

A scheduling issue occurred in the following (or a similar) scenario:

1. A panel exists containing two materials.
2. A property exists which can be scheduled on both materials in the panel.
3. The panel is requested during order entry.
4. The second material is selected using F8 in the **Specimen** field of the order entry screen and the property is requested on this material.
5. The order is saved and scheduled.
6. Open the order outline: the property is scheduled on the first material even though it had been explicitly requested on the second material.

Note

This issue occurred since GLIMS 9.3

Solution

This has been corrected.

Order verification: deleting a panel request code (GLIMS-10949)

An issue was detected in the order verification program where trying to delete an incorrectly entered request code for a request definition of type **Panel** by entering "-<requestcode>" did not work. The panel members had to be deleted individually.

This has been corrected.

Notes

- This does not work for panels with the option **Confirm** enabled in their **Request definition**.
- This issue occurred since GLIMS 9.5.

Order verification: prevent a request code from being entered twice (GLIMS-10950)

An issue was reported where it was possible to enter the same request code more than once in the order verification program.

This has been corrected.

Patients sorted by sequence number in screen for order series creation (GLIMS-10960)

Background

GLIMS offers the possibility to create series of orders for a patient or a group of patients.

Issue

When creating an order series and adding a correspondent group to it (using the **Add group** field of the **Patients** tab page), the correspondent group was added but the correspondent group members were sorted by creation time instead of sequence number.

Solution

This issue has been solved: in the **Patient** browser of the **Create order series** screen, the members of the added correspondent group are sorted by sequence number (though this number is not visible).

All the outputs of deleted actions are now rescheduled (GLIMS-10983)

Context

When

- an order contains several specimens,
- the options **Reschedule when specimen becomes available** and **Schedule actions preferably on available specimens** are activated,
- the availability of a specimen is confirmed (e.g. via the specimen reception scan),

GLIMS checks if procedure outputs planned on specimens that are not available yet can be rescheduled onto the available specimen.

If rescheduling can take place, GLIMS deletes the actions that have at least one output that can be rescheduled onto the available specimen. Subsequently, action scheduling is executed again.

Issue

When an action was deleted, the outputs of this action which could not be rescheduled onto the available specimen were not rescheduled at all.

Solution

If a deleted action has outputs which cannot be scheduled on the available specimen, this action is recreated and the outputs in question are rescheduled on this action.

Inactive request codes no longer displayed in order entry (GLIMS-10992)

When browsing through the request codes in the **Request** field of the order entry screen using the arrow keys, request codes of which the option **Enabled** was not set were also shown.

This has been corrected. Only active request codes will now be shown.

Correction for error "Invalid handle. Not initialized or points to a deleted object. (3135)" (GLIMS-10996)

An issue was reported where the error **Invalid handle. Not initialized or points to a deleted object. (3135)** occurred during order creation (when clicking **OK** in the order entry screen).

This has been corrected.

Order verification: support for request definitions with multiple request codes (GLIMS-11045)

Problem description

1. Two **Request definitions** (configured identically) exist for the same property (e.g. Hemoglobin): one with **Request code** HB and the other with **Request code** 1002.
2. An **Order** is created containing a request for HB.
3. When using the contextual menu / ribbon item Verify entry on the **Order** and entering 1002, the order verification screen displayed 1002 as not requested in the order.

Solution

This problem, which occurred since GLIMS 9.3, has been corrected.

Issuer info supports dynamic text references (GLIMS-11046)

Context

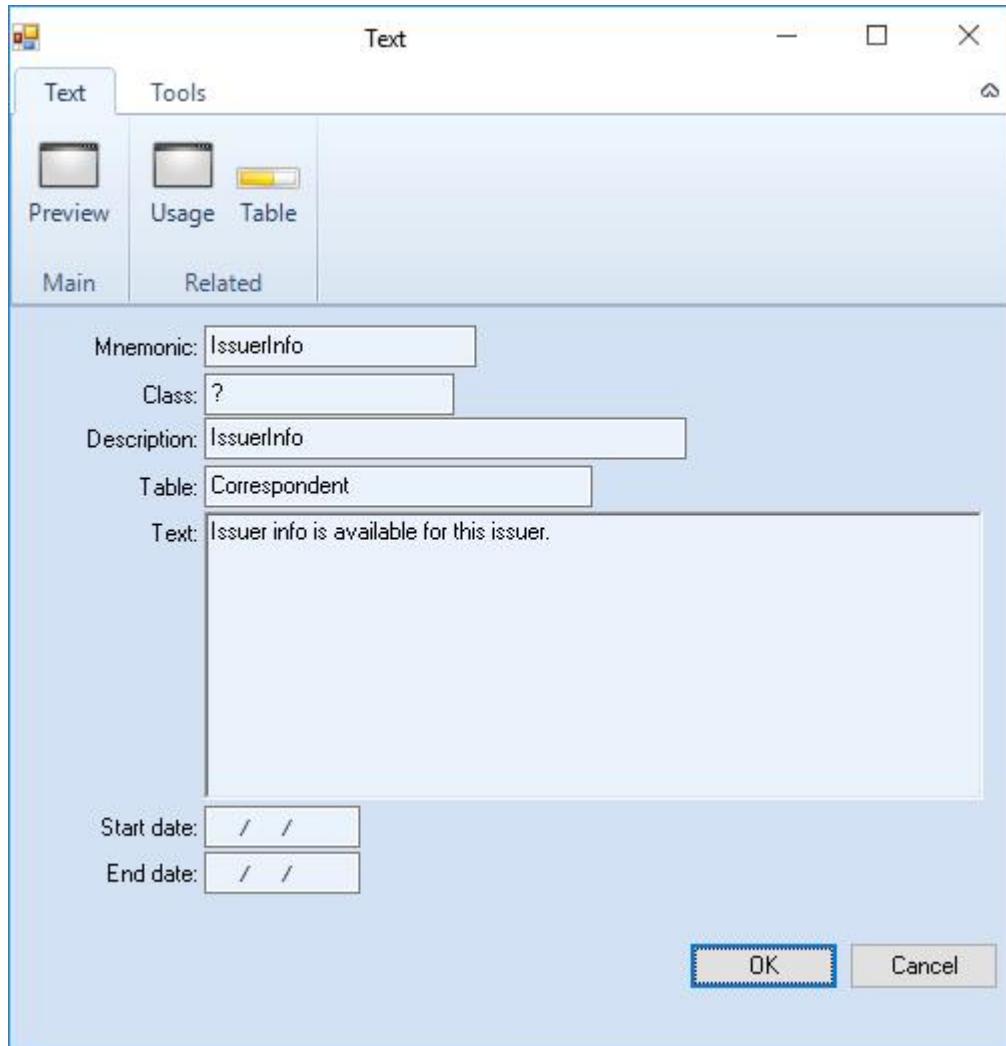
When the **Issuer info** of a Correspondent is filled in, it will be displayed when creating an order where this correspondent is the issuer.

Support for dynamic text references

The **Issuer info** field in the **Correspondent** editor now supports using dynamic text references.

Configuration

1. Create a Correspondent-scoped Text.



2. In the **Issuer info** field of the **Correspondent** (for whom the issuer info needs to be displayed during order entry upon selection of this correspondent as the issuer of the order), include a reference to the newly created text using the

syntax {<TextMnemonic>}.

Main page Site attr. |

Mnemonic: TDB Last name: De Backer

First name: Tom Title: Ir.

Code: TDB Initials: TDB

Signature: Dr. De Backer T. Birth date: / /

Sex: ? Practice: ?

Sampling location: ? Distance: ?

User account: ?

Correspondent

Internal id: TDB Name: De Backer Tom

Address Contact Report Billing Payment Issuer Comments Other

Active since: / / until: / /

Issuer info: {<IssuerInfo>}

Billing mark: ? Manual validation

OK Cancel

Routine

During order entry, when this correspondent is selected as the issuer, the contents of the **Issuer info** field will be displayed and the dynamic text will be expanded.

The screenshot shows a search dialog box titled "Name Query" with fields for Name, Birth date, Age, Sex, Spouse name, and Birth Order. Below the search bar is a table with columns Type, Internal id, LANR, BSNR, and Name. The table contains two rows: one for the Issuer (Type: hcpr, Internal id: TDB, Name: De Backer Tom) and one for the Agent (Type: ward). At the bottom of the dialog are fields for Receipt time, Prescription time, Sampling location, and Report info. A separate window titled "Issuer info (Press HELP to view stack trace)" displays a message: "Issuer info is available for this issuer." with an "OK" button.

Note

If the return value of the text is empty, the pop-up dialog will be suppressed.

Object time correctly set for third panel (GLIMS-11084)

In the following scenario,

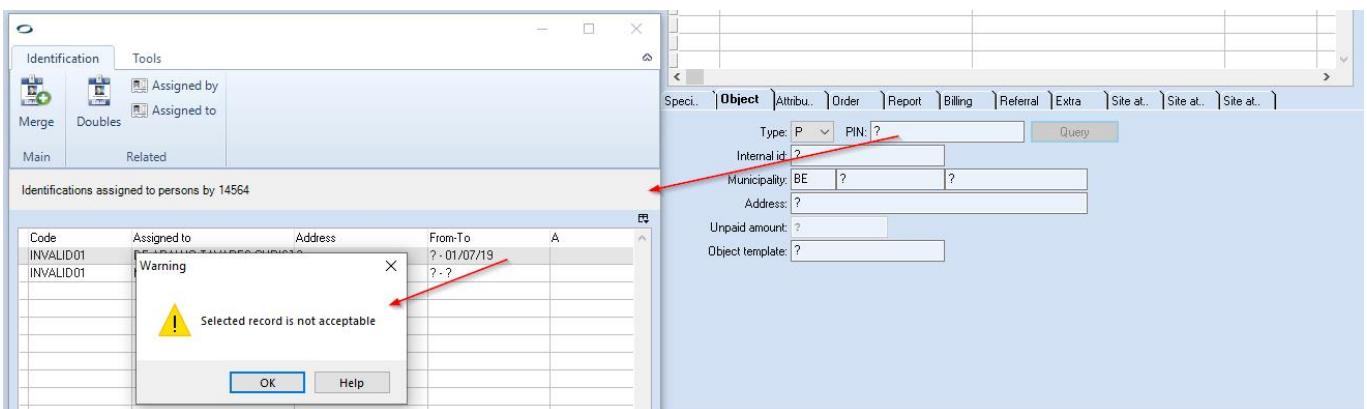
- addition of a first panel in the Order entry screen with object time A (Lowest object time),
- addition of two other, comma-separated panels with object time B,

the second panel was correctly scheduled for object time B but the third panel was scheduled for object time A.

This issue has been solved.

Prevent selection of non-unique expired PIN during order entry (GLIMS-11111)

During order entry, GLIMS will now only allow the user to select an expired PIN if the PIN is unique. When selecting an expired PIN that is not unique, a warning message will now be shown informing the user that the selected record is not accepted.



Order verification: support for electronically entered requests (GLIMS-11125)

It was not possible to use the order verification program for electronically entered requests. This has been corrected.

Note

The order verification program cannot be used for requests added via MISPL.

Order verification: correction of various issues (GLIMS-11133)

When using the order verification program for orders for which during order entry:

- a panel was discontinued and requested again,
- panels were requested containing the same request code,
- a panel was requested containing a panel member of which the request code is set to inactive,
- a request, which is also a panel member, was added via MISPL,

then these cases were not dealt with correctly during order verification since GLIMS 9.3.

These issues have been corrected.

Correction of scheduling issue with specimen scoped procedures (GLIMS-11178)

When multiple requests were added for

- the same material input, but
- with different specimen scopes and different property outputs,

different input order of request codes could lead to different scheduling.

This issue has been corrected.

Order.Attribute("RequestList") only returns one request if a coding system is incorrectly configured (GLIMS-11183)

This modification fixes an issue where the Order.Attribute("RequestList") MISPL function would only return the first request during electronic order entry if a coding system was incorrectly configured. This has been corrected.

Billing mark of issuer not applied correctly to the requests of an electronically created order (GLIMS-11201)

Context

During electronic order entry, the incoming order message can contain billing mark information to be used for the order. However, if the message does not contain this kind of information, GLIMS should use the billing mark of the issuer (in GLIMS) of the order and use it for the order and each request within the order.

Issue

When the billing mark of the issuer was used, it was only applied correctly to the order but not to the requests of the order.

Note

This issue occurred since GLIMS 9.5.

Solution

This has been corrected.

Confirmable request definitions of type Panel remain selected in request forms (GLIMS-11204)

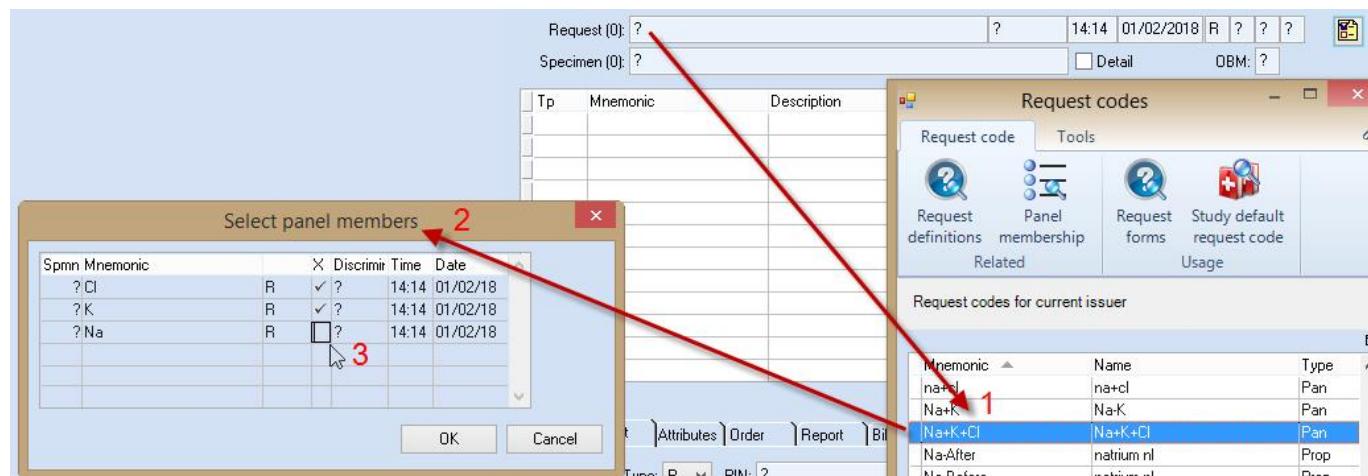
Background

Panel request definitions

Request definitions of type Panel (henceforth "panel request definitions") allow to group a number of request definitions. When a panel request definition is requested during order entry, all the request definitions it contains are requested by default. It is

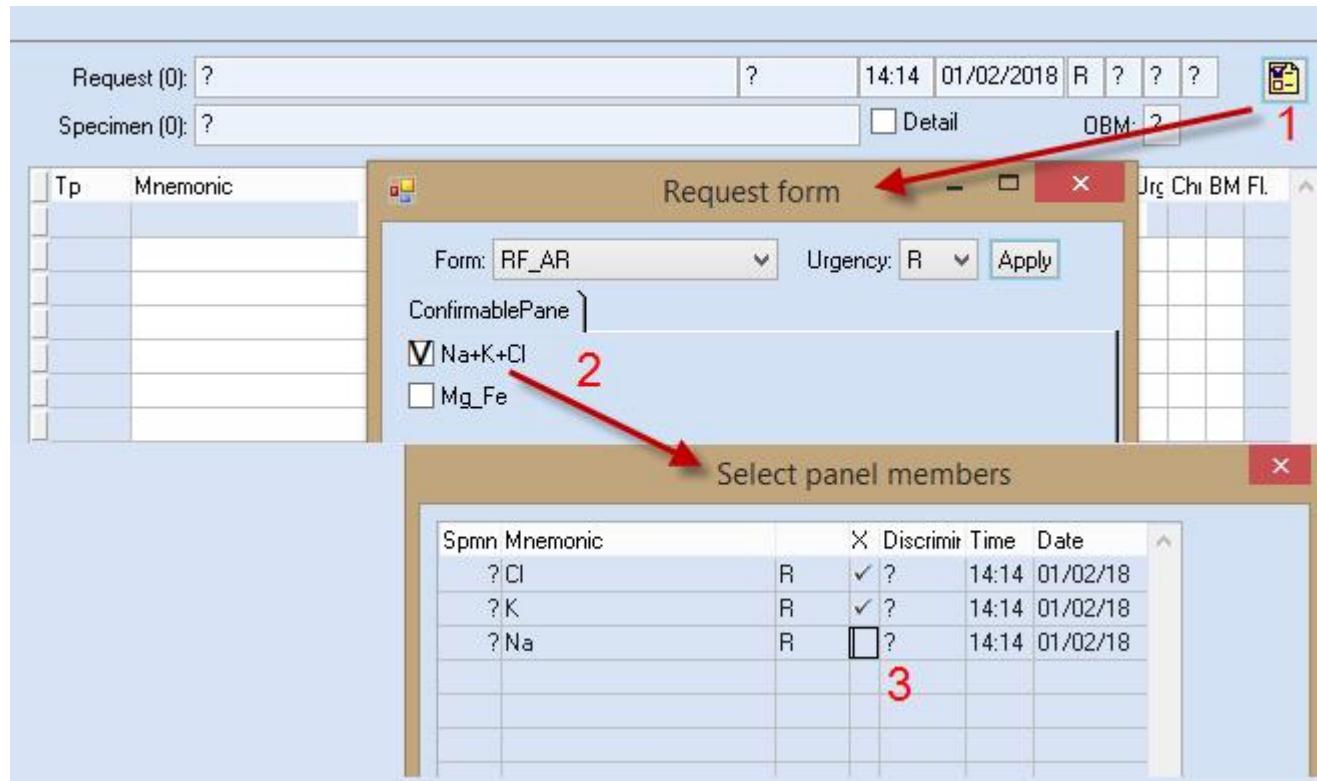
however possible to allow users to request only some of the panel members instead of all. To this aim, the option Confirm in the editor of the panel request definition must be enabled.

When users request a "confirmable" panel request definition in order entry (1), GLIMS displays a confirmation screen with all the members of that panel (2). Users can then deselect the members that should not be requested (3).



Request forms

Request forms can be created to group several (panel) request definitions. The grouped request definitions can then be added during order entry using the Request form button (1). As above, if a confirmable panel request definition is selected (2), it is possible to deselect some of its members (3).



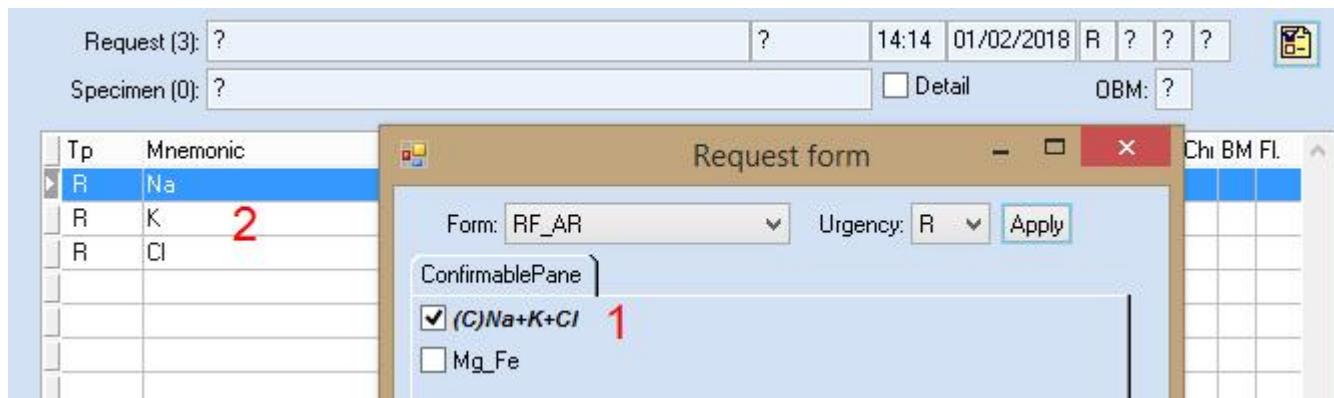
Issue

Once a confirmable panel request definition had been selected in a request form, the corresponding checkbox in the request form was not ticked. Users could therefore not see if this panel request definition had already been selected or not. This obviously lead them to think that the confirmable panel request definition had not been selected yet and thus to request it a second time.

Solution

The behaviour of confirmable panel request definitions in request forms has been improved:

- When a confirmable panel request definition is selected in a request form, the corresponding checkbox remains ticked.
- Once a confirmable panel request definition is selected in a request form, it is displayed in italics and cannot be deselected (1).
- The only way to undo the selection of this request definition is to delete all its members in the request list of the order entry screen (2).



Additional correction

In the following scenario,

- open the Order verification tool,
- from the **Order verification** screen, open the **Request form** screen,
- add requests,

an error message was displayed.

The error has been corrected.

Multiple requests of panels with blood selections are now possible (GLIMS-11233)

Background

A mechanism allows you to prevent the addition of a request to an order if this request is already part of the order.

Issue and solution

This mechanism also blocked double requests of panels containing a blood selection.

This was not desirable and has been corrected: panels containing blood selections can be requested more than once for the same order.

Improved performance for the creation of orders with many requests (GLIMS-11250)

Since GLIMS 9.3, the creation of orders containing more than 100 requests lasted too long. Moreover an increase of the number of requests slowed down the creation process more than linearly.

This issue has been solved: the performance has improved and the time needed for order creation increases linearly with the number of requests.

No automatic expansion of dynamic texts in Order entry screen (GLIMS-11257)

Background

The Order entry screen contains four fields in which dynamic texts can be inserted and expanded:

- Report info**,
- Object comment**,

- **Description** (**Order** tab),
- **Question** (**Extra** tab).

Issue

When saving an order, the dynamic texts inserted in the **Report info**, **Description** and **Question** fields were automatically expanded. Subsequently, when the order was reopened, the texts were still expanded and could not be minimized.

Solution

When saving an order, the dynamic texts are not automatically expanded anymore. When the order is reopened, these texts appear in their simple forms and can be expanded (using the speech bubble icon on the right-hand side of the fields in which they are displayed).

Note

- If an order is saved with expanded dynamic texts, when the order is reopened, the dynamic texts are displayed in their expanded form and cannot be minimized.
- When dynamic texts are saved for an order, situations may exist, such as Reports or Results, where field values must be expanded. In this case, the Expand command can be used.

Order internal ID not stored correctly if OrderInternalIdOnMainPage=yes is set (GLIMS-11260)

Context

By setting the environment variable OrderInternalIdOnMainPage=yes (in the .glimsrc file on Unix or the progress.ini on MS Windows), the user will be forced to manually enter the order internal ID before they can create a new order.

For more information on environment variables, see **System management > Parameter tuning > Environment variables**.

Issue

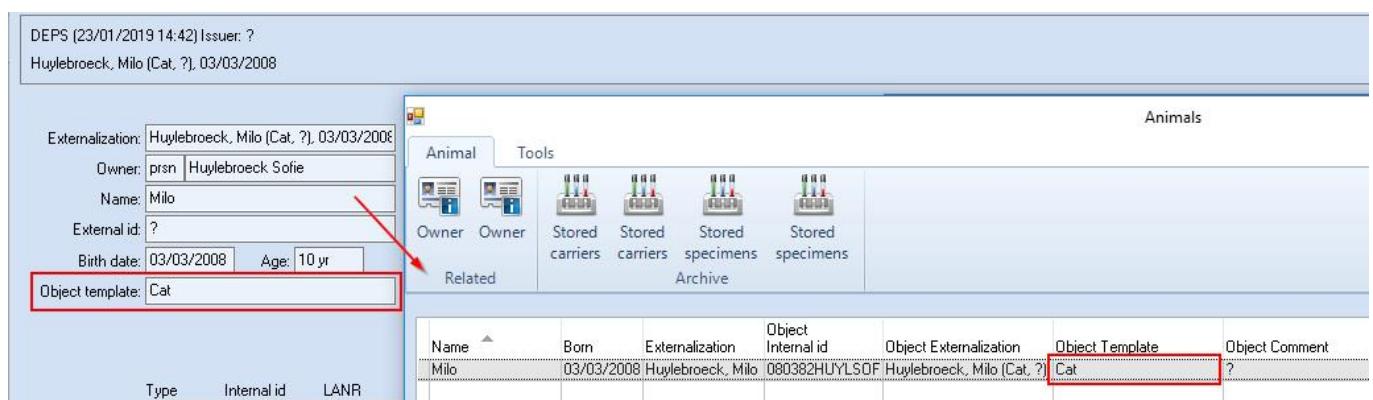
If the environment variable was set, the order internal ID given by the user was not stored. Instead, the generated internal ID (= "__<RecId>") was stored.

Solution

This issue, which occurred since GLIMS 9, has been corrected.

Animal browser should filter on object template during order entry (GLIMS-11294)

The object template specified during order entry was not taken into account by the lookup browser that can be opened from the order entry screen to select an animal. Consequently, all animals were displayed and not only those with the specified object template.



This issue has been corrected.

Discriminator no longer remains filled in when entered in Request field (GLIMS-11312)

Issue

When having entered a request of type **Material** followed by the discriminator in the **Request** field of the order entry screen (without using the separate discriminator field), the discriminator was saved in the separate discriminator field and remained filled in for the next request. Risk: if the user did not notice this, this discriminator was used for the next request.

Example

The screenshot shows two rows of the GLIMS order entry interface. Both rows have 'Request' fields containing 'OBlood +01:00'. The second row's 'Request' field has '+01:00' highlighted with a red box. Both rows have 'Discr.' fields containing '+01:00', which are also highlighted with red boxes. The 'Specimen' fields show the full entry 'OBlood 16:23 23/10/2018 +01:00'. The 'Discr.' columns show '+01:00'. The 'Time' and 'Date' columns show '16:23' and '23/10/2018' respectively. The 'Urg' column shows a checkmark. The 'Chi' column shows a question mark. The 'BM' and 'Fl.' columns are empty. The 'Detail' and 'OBM' buttons are visible at the top right of each row.

Solution

This issue, which occurred since GLIMS 9.6.0, has been corrected.

Correction of error occurring when changing the urgency of a request (GLIMS-11314)

When changing the urgency of a property request which was linked to an action without a specimen input, an "unhandled exception" (**FIND FIRST/LAST failed for table b_SpecimenInput. (565)) occurred and GLIMS stopped working.

This has been corrected. Moreover, the performance of setting the urgency has been improved as well.

Issue with object time in case of electronic order entry / update (GLIMS-11317)

Context

When orders are created via electronic order entry (in CyberLab for instance), they are sent via the homl driver to the GLIMS internal service.

Issue

When, in CyberLab, a specimen is marked as sampled, and this information is sent to the GLIMS internal service with the option Order:SynchronizeLowestObjectTime=OnPostCommit,Cascade, the lowest object time of the order (including all its requests) should be changed. However, only the sampling time / object time of the specimen and its directly related result was changed. Results without a specimen or cascading results (when a result is calculated based upon another result) were not updated.

Solution

This has been corrected. The object time of results without a specimen and of cascading results is now also updated.

Improved performance of order creation (GLIMS-11323)

The performance of order creation (activating requests and action scheduling) has been improved for large orders, especially in an Oracle environment.

Correction of issues in Specimen browser of Order entry screen (GLIMS-11331)

This modification solves several issues occurring in the specimen browser of the Order entry screen.

Discriminator not saved

Specimen discriminators added via the specimen browser were not saved after saving the order a first time. For a discriminator to be saved, it had to be entered again and the order had to be saved a second time.

Discriminator not editable

When a specimen had subspecimens and the order had already been saved, it was not possible to change the specimen's discriminator via the specimen browser.

Discriminator not transmitted to subspecimens

When adding a discriminator via the specimen browser to an existing specimen request with automatically scheduled subspecimens, the discriminator was not transmitted to the subspecimens.

Specimen with scope

When requesting a specimen with a specific scope, saving and then reopening the order, the name given to the root specimen was "mnemonic/scope/scope" instead of "mnemonic/scope".

Adding or changing a material variable

When the variable of a requested material was added or changed via the specimen browser, this (new) variable was not saved.

Incorrect material variable

When replacing a material variable by an incorrect value, a question mark was displayed in the Variable field. Now, an error message is displayed and the former, valid value remains in the field.

Explicitly requestable option only applies to manually entered request codes (GLIMS-11336)

This modification reverts changes made in certain corrective versions of GLIMS 9.5 and 9.8. The Explicitly requestable option thus works again as it previously used to:

- if this option is deactivated, the request code cannot be added individually during manual order entry. It can only be added to an order manually as part of a panel.
- this option is only taken into account when orders are entered manually. This means that non-explicitly requestable request codes can be requested individually via MISPL and electronic order entry.

Note

When users tamper with a requested panel (i.e. delete one or more members, for instance), the individual panel members are requested but the panel itself is not. In that case, non-explicitly requestable request codes that are members of the tampered panel are nevertheless added to the order.

Remember last entered justification during successive request discontinuation (GLIMS-11347)

Scenario:

1. Create an order containing several request codes.
2. Reopen the order.
3. Delete / Discontinue one of the request codes.
4. Enter a **Justification**.
5. Delete / Discontinue another request code.
6. The user is again asked to enter a **Justification**. However, since GLIMS 9.3, the previously entered **Justification** was no longer displayed in the **Discontinue requests** screen.

This has been corrected: the **Discontinue requests** screen will now contain the previously entered **Justification** when deleting request codes, one after the other, without closing the **Order** screen.

No error anymore when activating the Phone results option on an already created order (GLIMS-11415)

Since GLIMS 9.8.0, an error message was displayed in the following scenario:

- An order is created for a property. On this order, the Phone results option is not activated. The option On phone list on the property is not activated either.
- The order is saved and then reopened.
- The **Phone results** option is activated and the order is saved again.

This issue has been corrected.

Values entered for auto prompt properties are not saved when shielding is active (GLIMS-11575)

An issue was reported where the result value of an auto prompt or informational property had been entered, but was no longer visible after closing and reopening the order entry screen.

This issue, which could occur if shielding was active, has been corrected.

Severity of result code is not applied to result of auto prompt property (GLIMS-11596)

If a result code was entered as the result value of an auto prompt property request during order entry, the **Severity** of the result code was not applied to the result.

This issue, which occurred since 9.4, has been corrected.

Continue order processing if unknown property code is received during electronic order entry (GLIMS-11671)

If, during electronic order entry, GLIMS receives a code for a (property) request and this code cannot be found in the code set of the coding system, GLIMS will now indicate in the service log that the code could not be found, ignore the request and continue creating the order.

In previous GLIMS versions, and since 9.5, an error occurred and the processing of the order stopped.

External comment of a request can be updated again (GLIMS-11675)

When changing the internal or external comment of an existing request in the order entry screen, the updated comment was not always saved correctly. This has been corrected.

Check on object comment change during order entry (GLIMS-11725)

Problem description

1. A user is creating an order for a patient.
2. In the meantime, the same patient's object comment is updated by another user (for instance via the Person editor).
3. Issue: when the first user saves the order, the object comment added by the second user disappears from the database.

Solution

This has been corrected. Upon saving the order, GLIMS will now check if the object comment in the database has been updated:

- If it has been updated but no object comment is specified in the order entry screen, the order entry screen will take over the object comment from the database.
- If it has been updated and a different object comment is specified in the order entry screen, a message will be shown informing the user about the object comment having been changed by another user and asking the user whether or not they want to reload (thus overwriting the current object comment). If the answer is:
 - **Yes**: the current object comment will be replaced with the comment from the database.
 - **No**: the user is taken back to the order, unable to process the order until the comments are synchronized.

Allow to request panels twice during manual order entry (GLIMS-11815)

It is now possible to request a panel (containing no materials) twice during order entry in the following scenario:

1. Create an order in which a panel with more than one member is requested.
2. Discontinue some of the members (because they are not required).
3. Request the initially requested panel again (because the discontinued members are required after all).

This functionality was no longer available since GLIMS 9.3 and has now been restored.

Order entry options: update Sequence tab to avoid error when opening order entry (GLIMS-11882)

The Sequence tab of the **Order entry options** screen,

1. contained the following fields which were not included in the order entry screen. Consequently, if any of these fields had the **Emph Ins** or **Emph Upd** column selected, the error **wb_Widget record not on file. (138)** occurred the next time the order entry screen was opened.

Solution: these fields have been removed from the **Sequence** list.

- Identification2SourceInternalId
- Identification3SourceInternalId
- Identification4SourceInternalId
- Identification5SourceInternalId
- BillingMark

- Fse
- FsePieceJustificative
- FseNatureDAssurance
- FseDate
- FseNumeroAT
- FsePrescriptionOrigin
- FseExonerationCodeEnum
- FsePreAgreementCodeEnum
- FsePreagreementDate
- FseIsIncomplete
- FseIncompletenessReason
- IdentificationButton
- ImposedSpecimen
- OriginalIssuer
- IndicatorO3
- ReportLanguage
- RequestBrowse
- RootRequestBrowse

2. did not contain the following fields which were included in the order entry screen.

Solution: these fields have been added to the **Sequence** list.

- TreeRequestBrowse
- ObjectPersonBirthOrder
- RequestDiscriminator
- FseInvoicing
- RequestBillingMark
- ImposedSpecimenInternalId
- ObjectAttributeBrowse
- Automatic
- ReportLanguageCode
- StudyEpisodeMnemonic
- ExpectedDate

Specimen status visible in the order entry specimen browser (GLIMS-11899)

Issue

An issue has been reported where the specimen status was not shown in the Order entry specimen browser.

Solution

This issue has been fixed: a new column **Status** displays the current status of a specimen.

Note

If the specimen status is changed via the context menu on the order entry screen, the status indicated in the specimen browser is not automatically updated. This requires refreshing the order entry screen.

Incorrect result value assignment for auto prompt properties requested in a panel (GLIMS-12004)

An issue was reported where requesting a panel containing more than one auto prompt property during order entry resulted in the results entered for the auto prompt properties being overwritten by an additional result that was erroneously asked for when saving the order.

This has been corrected.

Improved loading time for the Order entry request form selection (GLIMS-12030)

If the user was working with a high amount of request forms (e.g. 250+), opening the drop down list in the Order entry via the request form button could take a relatively long time.

This issue has been fixed.

Number of family relations not displayed anymore in Object tab (GLIMS_GENX_LAB-00019)

When an Object selected in Order entry has relations, the number of relations is indicated in the **Object** tab of the **Order entry** screen. If some of these relations are family relations, the number of family relations was also displayed.

Type: P PIN: ? Query

Internal id: 00000000BOED04

Municipality: BEL ? ?

Address: Fox River

Unpaid amount: 0.0

Object template: ?

2 relations [2 family]

Twain scan Options

In order to avoid confusion with the different concept "Family" in the new Genetics module, the number of family relations is not displayed anymore.

Support for official issuer data (GLIMS_OI-00784)

In Germany, order messages can contain information regarding official issuers: their code, ASV, LANR and BSNR. This information is now stored in the Referral table in GLIMS.

The Referral tab page of the order entry screen also features **Official issuer** fields for the **BSNR**, **ASV-Team** and **LANR**. Upon reception of an order message, the official issuer data will be displayed in these fields.

Available

Referral sub group: Referral

Referral type: Curative

Ausnahmeindikation: ?

BSNR	ASV-Team	LANR
Original issuer: ?	?	?
Official issuer: ?	?	?

Referral to: ?

Billing domain: Default

Patient domain: ?

Follow-up physician: ?

Valid from: Valid to:

Additional entry: ?

Store the external placer code of a request that is updated via electronic order entry (GLIMS_OI-00814)

If an update was received via electronic order entry for a request of an existing order, the external placer code contained in the message was not stored. However, the external placer code of a new request was stored correctly. Please note that once the external placer code is stored, it is not updated anymore.

This issue, which occurred since GLIMS 9.3, has been corrected.

Handling of URL message with a Request element containing a Template element with the result of another property (GLIMS_OI-00817)

Upon reception of an order import message (URL) containing a (non-panel) **Request** element with a **Template** element indicating the result for a property of which the request definition is different from the request definition of the property in the **Request** element, it could happen that GLIMS updated the wrong **Result** record.

Example

Configuration

The following properties are configured:

- na
- na_info

Routine

The following URL message is received:

```
Source=homl&Target=Glims.Prescription&Class=Order&Version=1.1.0&Method=(Mnemonic=Create&ParameterList=(External-  
alId=24280612&ObjectTime=201902180253&SpecimenList=(Specimen=(SeqNo=1&SamplingTime=201902181333))&RequestList=(Request=  
(SeqNo=1&Mnemonic=na&Urgency=(Level=1)&Template=(Type=Result&Mnemonic=na_  
info)&SpecimenList=(Specimen=(List=(Entry=1)))&Result=(DataType=String&Value=4500))))
```

Issue

The order is created but the result value is assigned to the **Result** record of property "na". Moreover, there is no trace of property "na_info" in the order.

Expected result

The order is created and it has a **Result** record for property "na_info" with the given value.

This has been corrected.

Order import: correctly import result norm data for unsolicited result (GLIMS_OI-00825)

If the environment variable OrderImportResultNorms is set to **Yes** (which is the default value), the result norm data in the order import message will be imported during electronic order entry. However, an issue was reported where the result norm data was not imported if GLIMS received an order import message containing an "unsolicited" result (i.e. a new request with a result value) and its reference values.

This has been corrected.

ASV, LANR and BSNR of German official issuers exported in LDT context (GLIMS_OX-00134)

Since [GLIMS_OI-00784](#), GLIMS supports the German ASV, LANR and BSNR for official issuers. This data is stored in the Referral table and displayed in the Referral tab page in the Order entry screen.

While this data could be imported from electronic order messages, it was missing when orders were exported in the LDT context.

This issue has been fixed: the ASV, LANR and BSNR are now available under the form of an identification list in the export URL-message produced by GLIMS.

"Find order" screen automatically displayed after saving an order (MATE-06032)

This modification is relevant to users of the Order update functionality.

After saving an order in Order entry, the **Find order** screen did not automatically open to allow the user to scan another order and update it.

This issue has been corrected.

Order review

Improved performance of order review query (GLIMS-10642)

Since GLIMS 9.6.0, the order review query was slow when a considerable number of orders satisfied the specified query criteria.

The performance has been improved.

Order review should display all results of orders with escalated results (GLIMS-10718)

Context

GLIMS allows to escalate a result in order to have it validated by someone else. In order to consult or validate escalated results, the order review screen has a query option to include, exclude or select orders with escalated results.

Issue

If **Escalated** was set to **Select** in the query options of the order review screen in order to only select orders with escalated results, the order review browser only showed the escalated results of the selected orders whereas the user expected to see all the results (i.e. also the non escalated results) of the selected orders containing escalated results.

Note

This issue occurred since GLIMS 9.6.

Solution

If the query option **Escalated** in the query options of the order review screen is set to **Select**, only orders with (strictly) escalated results are shown. For these orders, all results (i.e. escalated and non escalated) will now be shown.

Note

Strictly escalated results will be included even if they can't be validated by the current user (the user's **Employee assignment** does not have the option **Allowed to validate strictly escalated results** enabled). However, the strictly escalated results will not be preselected since they can't be validated by the current user (when the order review screen is opened for validation purposes, i.e. in mode **Validate** or **Confirm + Validate**).

Functions applied to user-selected results in Order review screen (GLIMS-10889)

When the order review screen opens, eligible results are preselected. When users selected other results and used a contextual menu function on them, such as **Modify**, the function was not executed on their selection but on the initially preselected results.

This issue has been corrected.

Correction of Executing department filter in Order review (GLIMS-11303)

An issue was detected in order review when using the **Executing department** as a query parameter: orders were selected for display in the order review browser even if none of the order's results met all criteria.

Example

If an order contained

- a result matching the specified **Executing department** but not other query criteria such as the property domain or property classification and

- a result matching the specified property domain or property classification but not the specified **Executing department**,

then the order was still selected by the order review query whereas no result met both the **Executing department** and property domain or property classification.

This issue has been corrected.

Improved loading time of the Order review query options (GLIMS-11740)

An issue was reported where the order review query options would load very slowly if there was a large number of property domains.

This issue has been fixed, the time needed to open the **order review query options** has been reduced. The number of existing **property domains** should not impact the loading time of the query.

Validation of the conclusion result in the order review program (GLIMS-11743)

The Order review program allows you to indicate a **Conclusion property** in the query options. If a **Conclusion property** is specified, an extra window will be integrated in the validation screen which allows to enter a conclusion text. A conclusion result will automatically be created for the order.

An issue was reported with the conclusion result which was not validated after using the button **Validate** in the **Results of order** browser of the Order review program, although the user expects the order to be complete when clicking on **Validate** to validate all results.

This issue has been fixed: from now on, the conclusion result is validated as well.

Improved loading time of the Order review query (GLIMS-11926)

Specifying a property classification and an executing department group in the order review query options would slow down the execution of the query.

This has been corrected: the duration of the order review query has been improved.

No error message when order review query returns an empty list (MATE-05748)

When an order review query returned an empty record list, an error message was displayed. This issue has been fixed.

Order review: Better synchronization of order externalization displayed in the info box (MATE-06214)

When using the Order review function and sequentially processing orders while the Data sheet and the Result overview were also displayed, it happened – under certain circumstances – that the info box in the **Results of order** browser of the **Order review** screen still displayed the externalization of the previous order during the loading time of the next order's data.

This presented a potential patient risk and thus has been corrected. When skipping to the next record, the HTML headers are temporarily cleared and only show patient data again after all the other data has loaded.

Example

Microbiology Configuration Correspondents System configuration Security System Result Tools

To be phoned through Phone View log Previous results Requests Results Specimens Order Quick report Order QC population QC Show QC graph

Home &Review x

Results of order 20190128-00001. Selected domains: All

Alban Carolina 13/05/1991 (F)

DE BOER 01000003 (02)

Root Specimen (Internal id)	Work Specimen (Internal id)	Property	Value	Flags
> 20190128-00001 01 20190128-00001 01	vs_propA	21 mL		N P
> 20190128-00001 01 20190128-00001 01	vs_propB	22 mL		
> 20190128-00001 01 20190128-00001 01	vs_propC	23 mL		

Result **Tools**

Confirm Validate Discontinue Repeat To be phoned through Phone View log Previous results Requests Specimens

Main

Result overview of Alban, Carolina (F), 13/05/1991 - Page 1/2

***** Default Object Externalisation Text MISPL, executed on Alban, Carolina (F), 13/05/1991 *****

Property	Unit	Norm	20190128-00006	20190128-00001	20190128-00001 01	20190128-00001 01
K	mEq/l	<15	25.0	28/01/19 10:16	28/01/19 09:57	18
Na	mL					77
WRF	12	Twijfelsachline znn				

Data sheet - Alban, Carolina (F), 13/05/1991

Datasheet for patient Alban Carolina Birthdate: 13/05/91 Sex:F

General

- Name: Alban Carolina
- Birthdate: 13/05/91
- Sex: F
- Ward: ?
- Room: ?
- Since: ?

Blood group

- Definite blood group: A pos
- First determination: 01/12/14
- Second determination: 04/05/15

Available autologous or directed units that are not selected yet

Status	Received on	Product	Unit number	Donation type
Verification	03/09/15	E5258V00	=B03108160615300_EC	Directed
Verification	03/09/15	E5258V00	2015090301_EC	Autologous
Verification	27/11/15	E5258V00	201511127011_FC	Autologous

Print Close

Orders

Performance improvement for Order purge function (GLIMS-10686)

Since GLIMS 9.6, deleting orders using the Order purge function was very slow.

The performance has been improved.

Tool to recalculate order internal ID starting with '__' (GLIMS-10749)

Issue

If an order is created and the MISPL calculating the order's internal ID returns an error (e.g. because the internal ID already exists), the order will be created with an internal ID starting with '__'.

Solution

New tool

A tool is now available to recalculate the internal ID of the orders of which the internal ID starts with '__' on the basis of the configured MISPL expression for order internal ID calculation.

Using the tool

The procedure can be started via **Start > Development > 4GL > Run procedure** by a user with a role with **User type** set to **Developer**. Specify "ord_RecalculateInternalIds" as **File name**.

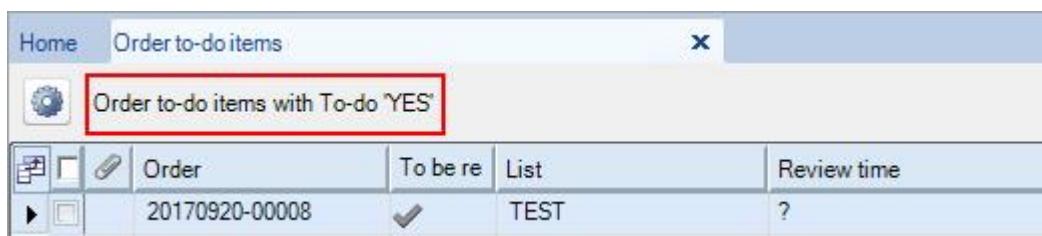
Error when trying to delete a discontinued order (GLIMS-10824)

An issue was reported where the error **Cannot delete Requested code while Requested code XXXXXXXX refers it** occurred when trying to delete a discontinued order.

This has been corrected.

OrderTodoItems browser: update subtitle to reflect the setting of the To-do query option (GLIMS-10868)

When **To-do** is selected in the query options of the OrderTodoItems browser, the subtitle of the browser is now updated to indicate that the filter has been applied. In previous GLIMS versions, the subtitle was only updated when **To-do** was not selected.



Possibility to exclude discontinued requests when using Order.Attribute ("RequestList") (GLIMS-10890)

Introduction

The MISPL function **Order.Attribute** allows returning a list of all the requested codes / request codes / property descriptions of an order by specifying one of the following attribute names:

- RequestList
- RequestListName
- RequestListDescription

The list obtained contains all the elements, also the discontinued ones.

Problem and solution

Some customers would like to filter out the discontinued elements. In order to do so, they can now add the modifier "ExcludeDiscontinued":

```
Order.Attribute("RequestList:ExcludeDiscontinued")
Order.Attribute("RequestListName:ExcludeDiscontinued")
Order.Attribute("RequestListDescription:ExcludeDiscontinued")
```

Notes

Notes

- If you use Order.Attribute("RequestList:ExcludeDiscontinued") after having used Order.Attribute ("RequestList") without modifier, the returned list might still contain the discontinued elements. This is due to caching, so restart GLIMS and the ExcludeDiscontinued modifier will be taken into account.
- The issue occurred since 9.5.18.

Unpaid amount not displayed for first order selected in order browser (GLIMS-10975)

When opening the order entry screen from an **Order** browser, the **Unpaid amount** in the **Object** tab was not shown. The **Unpaid amount** was only shown after navigating to another order in the browser while the order entry screen was still open. This has been corrected.

"To-do" query criterion taken into account in Order administration review (GLIMS-11036)

This modification corrects a filtering issue in the Order administration review:

When the **To-do** column of the **Order to-do items** browser was hidden, the **To-do** query criterion was not taken into account during the query. As a consequence, order to-do items were displayed in the **Order to-do items** browser regardless of whether they had already been reviewed or not.

Change object function incorrectly detects specimen re-use (GLIMS-11070)

Issue

An issue was reported where creating an order for the wrong patient and attempting to re-assign it to the correct patient (**Replace by another object**) resulted in an error incorrectly stating that the specimen in the order was re-used from another order and therefore altering the order's object was not allowed.

Solution

A modification has been made which should improve the Order-based **Change object** function.

Order query screen can be skipped again (GLIMS-11113)

Since GLIMS 9.8.0, in the editor of the OrderQueryBrowser tool, the **Skip setup** option was not visible anymore. As a consequence, it was not possible to look for specific orders without first setting some query parameters in the order query screen.

This issue has been solved.

Better performance of orders by receipt time browser (GLIMS-11124)

A performance issue was detected where sorting the orders in the **Orders by receipt time** browser (e.g. by **Internal ID** descending) was very slow, both in a Progress and an Oracle environment.

This has been corrected.

Faster processing of orders in Process by identifier screen (GLIMS-11358)

Issue

In the Process by identifier screen, in order to launch the tool indicated in the **Select tool** field, users had to click **Launch** each time after typing or scanning an order id.

Solution

To allow a faster processing of multiple orders, the necessity to click the **Launch** button has been removed. To open the screen of the selected tool and launch this tool, it suffices to

- scan an order id, or
- type an order id in the **Id** field and press Enter.

Once the selected tool has been launched for an order, the focus automatically returns in the **Id** field, allowing to type or scan another order id.

Allow purging of orders with order to-do items (GLIMS-11417)

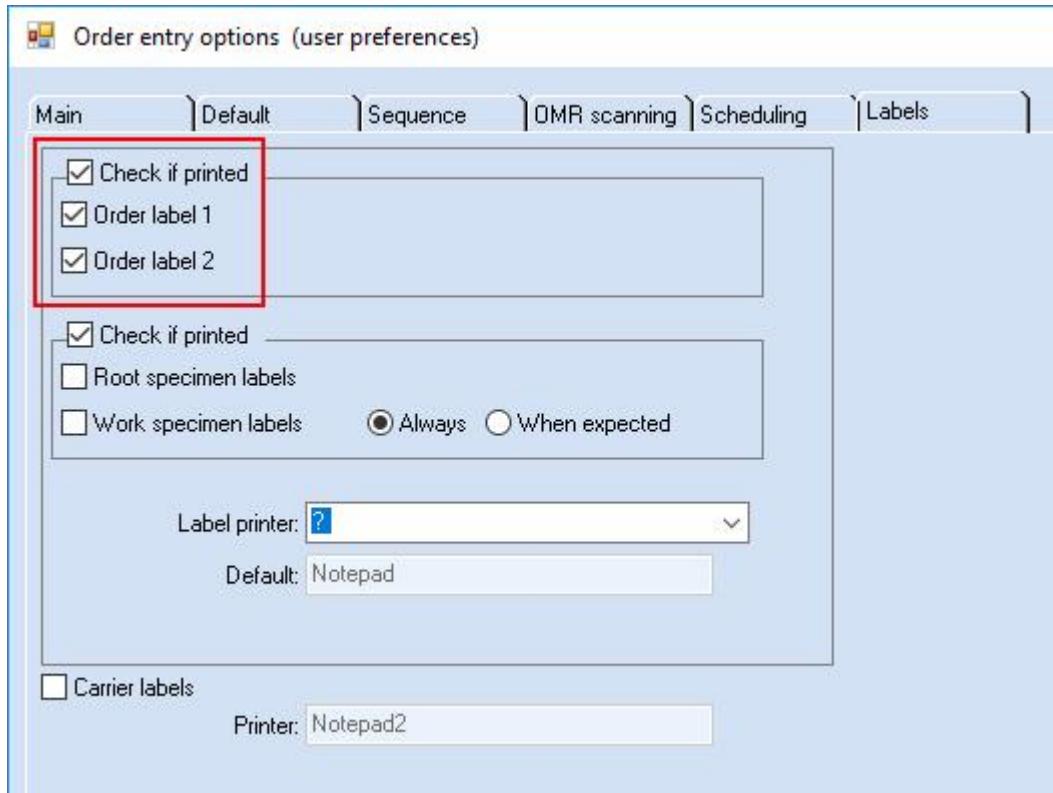
An issue was reported where the error **Cannot delete Order while Order to-do item refers it** occurred when trying to purge an Order with order to-do items linked to it.

This has been corrected: the contextual menu / ribbon item **Purge** will now automatically delete the linked order-to-do-items of the orders to be deleted. In addition, the Purge routine data function now also deletes orders with order to-do items.

Correction of "Check if printed" order entry option (GLIMS-11593)

Context

If the order entry option **Check if printed** is enabled, GLIMS will first check whether the order labels have already been printed before. If already printed before, GLIMS will never print the order labels again.



Issue

When modifying an order while the order entry option **Check if printed** was enabled, GLIMS did not correctly check if the order labels had been printed before. As a result, order labels were reprinted when not needed: GLIMS checked if the order labels had been printed during the previous order update. If not, the order labels were reprinted.

Solution

This has been corrected. The order entry option **Check if printed** now works again as documented.

No error in Order consultation browser when Order shielding is active (GLIMS-11601)

When order shielding was active, errors occurred in the Order consultation browser.

This issue has been corrected.

Order log does not always mention the user (GLIMS-11614)

1. An issue was reported where GLIMS did not properly log the user in the order log for order creation / update. This issue, which occurred since GLIMS 9.6, has been corrected.
2. An issue was reported where an error occurred when opening the result detail screen (by clicking on the Detail button in the Result editor) of a result having a predecessor value (a predecessor value is the previous result of the same test that has been discontinued and repeated). This issue, which occurred since GLIMS 9.8.6, has been corrected.

Issue with Order.Attribute("RequestList") in case of electronically created pending orders (GLIMS-11641)

Context

The Order.Attribute("RequestList") MISPL function returns a comma-separated list of the mnemonics of the request definitions of all requested codes in the order.

Issue

For pending orders created via electronic order entry, the requested code does not have a reference to the request definition. As a result, the Order.Attribute("RequestList") MISPL function did not return anything.

Solution

For pending orders created via electronic order entry, the Order.Attribute("RequestList") MISPL function will now return all requested codes (RequestedCode.Code) in the order.

Issue with "Add requests" on a recently activated order (GLIMS-11685)

When using the contextual menu / ribbon item Add requests immediately after the activation of the order, action scheduling did not take place.

This has been corrected.

Correction of error in case of recursion in procedure definition (GLIMS-11712)

In the presence of a recursion in the defined procedures (e.g. A is both input of procedure P and output of procedure Q and B is both input of procedure Q and output of procedure P), the action scheduling process was running round in circles and the order could not be activated.

This issue has been solved.

Urgency monitor query returns correct records when Skip setup is activated (GLIMS-11748)

This modification corrects an issue occurring since GLIMS 9.8 with the tool defined for the Urgency monitor. When

- the **Skip setup** parameter was activated for this tool,
- the executing department was set as function parameter,

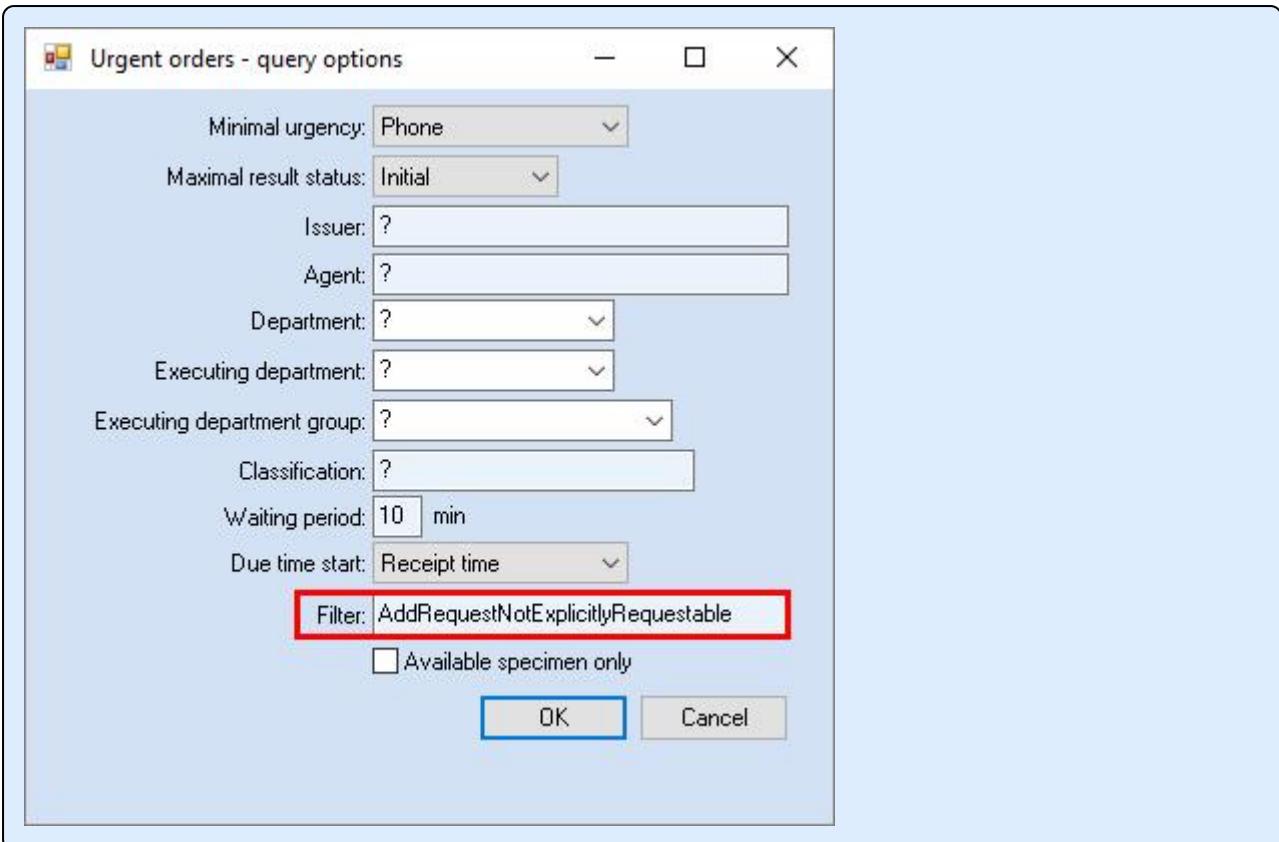
the orders returned by the Urgency monitor query were not only those of the executing department.

Field 'Filter' fixed in the Urgency monitor query options (GLIMS-11766)

An issue was reported where the field **Filter** in the Query options of the Urgency monitor only recognized a maximum of 8 characters of the selected MISPL filter description, which resulted in a warning message and an empty browser upon query launch.

This issue has been fixed, the field **Filter** will from now on accept the entire MISPL filter description.

Example



Correction of error "b_ReportColumn.Object time is mandatory" (GLIMS-11784)

An issue was detected where the error "*** b_ReportColumn.Object time is mandatory, but has unknown (?) value. (110)" occurred if during order processing GLIMS had to carry out lowest object time synchronization.

Example

1. Create an order.
2. Confirm the availability of the specimen contained in the created order.
3. Create a second order with the same object and issuer as the ones used for the order created in step 1:
 1. Select the specimen of the first order via F9.
 2. Request a property.
 3. Request a new material (with a different object time).
4. Reopen the second order:
 1. Select the second specimen.
 2. Request a new property.
 3. Click on the OK button to update the order.

The above-mentioned error occurs.

This issue has been corrected.

Order identifier type "WorkId" added to Sequence tab of the Order entry options (GLIMS-11819)

In the Sequence tab of the Order entry options, the user had no opportunity to select the order identifier type WorkId. This has been corrected. From now on, the option "WorkId" is available in the **Sequence** tab.

Incorrect object time of informational property after changing an order's object time (GLIMS-11823)

An issue was detected where the object time of informational properties was not updated correctly upon changing the order's object time. This issue, which occurred since GLIMS 9.8.6, has been corrected.

Fixed issues with urgency monitor query options (GLIMS-11896)

A number of issues with the Urgency monitor query and browser have been corrected.

- The drop down fields in the query options screen (e.g. **Executing department / Executing department group**) have been expanded to show the unique values and not the restricted 8-character value.
- The subtitle of the browser now indicates filtering on the default classification when the **Classification** query option is not set.

Improved performance of order outline (GLIMS-11913)

An issue was reported where opening the outline for an order containing a lot of actions was very slow. This has been corrected and the performance is now better.

Improved performance of urgency monitor in GLIMS for Oracle (GLIMS-11916)

In the Oracle version of GLIMS, the urgency monitor was slow when an **Executing department group** and a **Classification** were used as query parameters.

This has been corrected and the performance is now better.

Improved performance of standard order query / browser in GLIMS for Oracle (GLIMS-11934)

The performance of the standard order query and browser in the Oracle version of GLIMS has been improved when a **Classification** is used as query criterion.

Reduction of deadlock situations by locking orders when results are updated (GLIMS-11944)

Context

In order to prevent deadlock situations, orders are locked when new or unsolicited results are created.

Issue and solution

When existing solicited results were updated, orders were not locked.

This has been corrected: orders are now also locked before results are updated. This reduces further the number of potential deadlock situations.

Department names displayed entirely in "Executing department" field of Urgency monitor query screen (GLIMS-11981)

In the Urgency monitor query screen, the **Executing department** field could only contain eight characters. Hence longer department names were not displayed entirely.

This has been corrected.

No more error when executing order review queries with Valab status "To be evaluated" (GLIMS-11991)

An error used to occur during the execution of the order review query when the search criterion **Valab status** was set to **To be evaluated**.

This has been corrected.

Classic order query browser no longer contains duplicate entries (GLIMS-11997)

An issue was reported where, in GLIMS for Oracle, the classic order query browser could contain duplicate entries when the query option **Classification** had been specified and the specified property classification contained the same property more than once.

This has been corrected.

Study-related order is created without requests (GLIMS-12006)

An issue was reported where creating an order with a study and request codes of issuer-specific request definitions (where the **Issuer** matches the **Study issuer**) resulted in an order without requests for these request codes.

This has been corrected.

No more error when opening the urgency monitor query options (GLIMS-12012)

An issue was detected where the error "Parentprocedure is not known to WindowManager. Orphans are not allowed" was shown when opening the .NET urgency monitor in debug mode.

This issue has been fixed.

Incorrect scheduling of requests added via MISPL after order verification (GLIMS-12020)

An issue was reported where no actions were scheduled for properties requested via MISPL if these requests had been added to the order after order verification.

This has been corrected.

Order.Purge should return an error if a child record is locked (GLIMS-12034)

When using the Order.Purge function, a blocked GLIMS session could occur if a result of the order happened to be locked by another session. Instead of waiting for the lock to be released, GLIMS will now return an error.

Correction of order scheduling errors when electronic request contains a panel and specimens (GLIMS_OI-00798)

Issue

In various scenarios, the (re)scheduling of an order was not correct when an electronic request for a panel also contained specimens.

Cause

The issue was caused by the following mechanism in GLIMS: when an electronic order contains a request for a single test and a list of specimens, GLIMS imposes the execution of the requested test on the first specimen of the list. This mechanism was also

wrongly applied when the request contained a panel: GLIMS was trying to impose the execution of all the tests of the panel on the first specimen of the list. This lead to incorrect order scheduling.

Solution

The mechanism is not applied anymore in case of panel requests.

No more calculated test duplication when the order object time is synchronized with the sampling time (GLIMS_OI-00823)

Context

When all specimens in an order are confirmed as sampled on a time that is past the original order object time, then GLIMS should set the lowest object time of the order to the minimum of those sampling times. All calculated tests (i.e. tests having an action, but no specimen input) should be set to that new lowest object time.

Issue and solution

Since GLIMS 9.8.6, the calculated tests were duplicated: one would keep the old object time, the other was set to the new object time.

This has been corrected.

New Order field LastObjectChangeTime for exporting order information (GLIMS_RX-00707)

Issue

An issue was reported where editing or changing order objects in GLIMS too many times led to problems with CyberLab, where these results were put into communication quarantine.

New field LastObjectChangeTime

A new database field LastObjectChangeTime was introduced for the Order table. It stores the date and time when an object was added/updated for a particular order. This date and time can be exported when exporting order information (using HOUL for instance, in the Z-segment).

Name	Value
ISSUERNAME	
Label1Printed	no
Label2Printed	no
LastObjectChangeTime	29/08/2019 10:45:00
LowestObjectTime	29/08/2019 10:45:00
ManualValidation	no
Object.InternalId	Unk-47516
OrderSet.Label	?
OrderSet.ReimbursementParty.InternalId	?

Correction of memory leak (MATE-05766)

Due to a memory leak in the translator service, orders could remain in status **Frozen**. This memory leak has been fixed.

Performance improvement for Orders by internal id browser (MATE-05875)

Since GLIMS 9.6.2, with Oracle databases, the opening and filtering of the **Orders by internal id** browser lasted too long. This has been corrected.

Correction of issues in urgency monitor (Oracle only) (MATE-05936)

The following issues, which occurred in the urgency monitor when GLIMS was used in combination with an Oracle database, have been solved:

- Initially, not all orders meeting the criteria were displayed if there were a lot of orders to be displayed. The browser had to be refreshed to show them all.
- An error occurred when scrolling down in the urgency monitor.

Pathology

Validating a pathology examination on a work specimen does not validate all results (GLIMS_Path-00363)

Context

A pathology examination is requested on a work specimen (derived from another specimen).

Issue

In the pathology work screen, when using the button to validate all the results at once, not all results of the pathology examination were validated.

Solution

This has been corrected.

Correction for work status change when adding blocks and/or slides in the Pathology work screen (GLIMS_Path-00369)

Issue

When using the function Add blocks in the Pathology work screen on the specimens of pathology examinations (radio buttons in the top left area) of an order, GLIMS only demoted the work status back to **Embedding** for the pathology examination which at that moment was focused on in the work screen.

The same issue occurred when attempting to Add slides to the specimens of pathology examinations of an order, only the work status of the currently focused pathology examination was demoted back to **Staining**.

In both cases, the remaining examinations retained e.g. the work status **Reading**, which was incorrect. The work status needs to be automatically changed for each examination of an order to which new blocks and/or slides are being added.

Solution

From now on, GLIMS correctly executes the work status change for all pathology examinations to which new blocks and/or slides are being added using the functions **Add blocks** and **Add slides**.

Pathology/genetics

Pathology/genetics work screen can be opened from subspecimens (GLIMS_Gen-00046)

The pathology/genetics work screen could only be opened from parent specimens. It can now be opened from subspecimens.

Phone list

Save contact information in phone log if a result cannot be phoned through (GLIMS-10777)

Problem description

1. From a **Result**, choose **Phone > Phone through** in the contextual menu / ribbon.
2. Fill in the **Contact** field by typing in a name.



3. Click on the button to indicate that the result could not be phoned through.
4. Open the phone log: the **Contact** field is empty since the contact indicated by the user had not been saved.

Solution

This has been corrected. The specified contact information will now be saved in the phone log.

Improved performance of phone log query (GLIMS-11230)

A performance issue was detected when querying phone logs and the database contained a very high number of phone logs. This has been corrected: the performance of the query has been improved.

No error message when using the Phone through function though a property is not on the phone list (GLIMS-11533)

In the following scenario,

- a property is part of an order for which the Phone results option is activated,
- the option On Phone list of this property is not activated (which means that the results of this property are never added to phone lists),
- the user clicks the Phone through button,

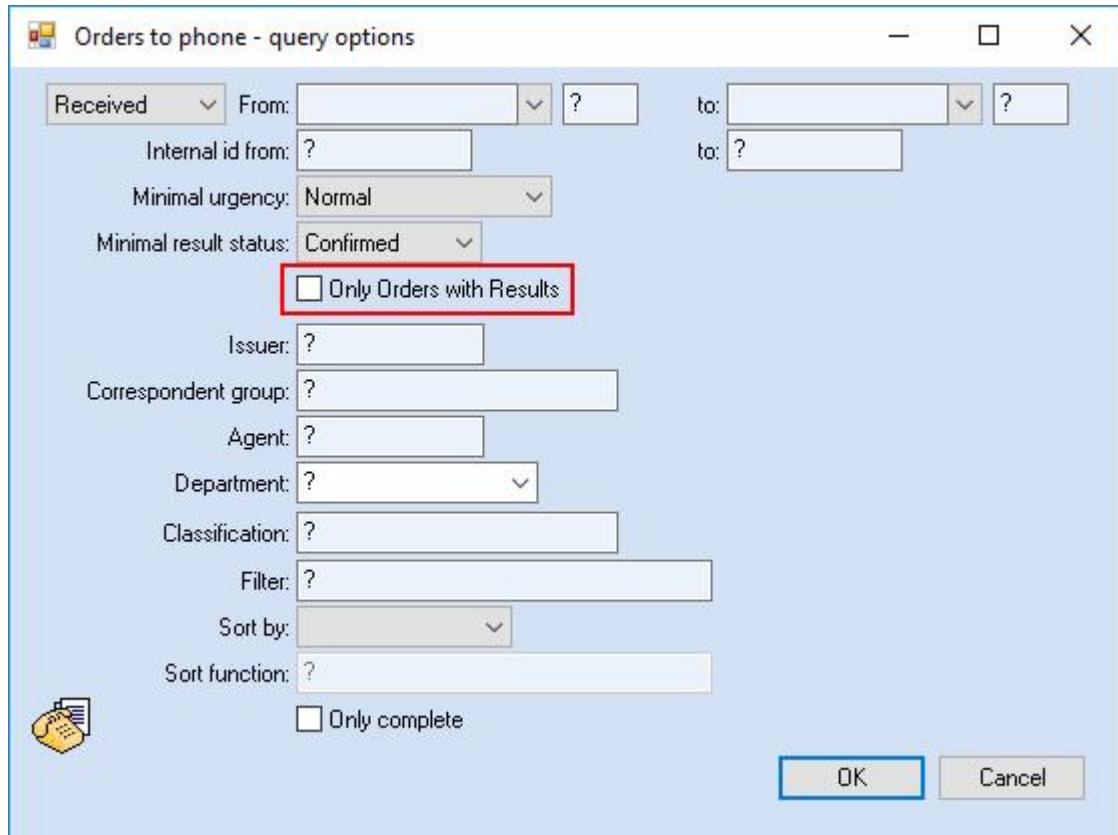
an error message appeared and indicated that the result of the property could not be phoned.

This issue has been corrected: After clicking the **Phone through** button, no error message is displayed anymore. The status of the result is not set to **Phoned**, it remains unchanged.

Option to include/exclude orders without results that have reached the "Minimal result status" (GLIMS-11625)

In the **Orders to phone - query options** screen of the phone list, a new option **Only Orders with Results**, which is only visible in **Outline** mode, is now available.

- If enabled, the phone list only shows orders that have at least one result with a status equal to or higher than the specified **Minimal result status**.
- If disabled, all orders with results marked as **To be phoned** are selected, regardless of the **Minimal result status**.



Note

When you first open the query screen, the window may not be large enough to display all the fields. In that case, you can adjust the screen size to show all the fields and the new size will be saved in the user preferences.

GLIMS stops working when using the phone log query (GLIMS-11657)

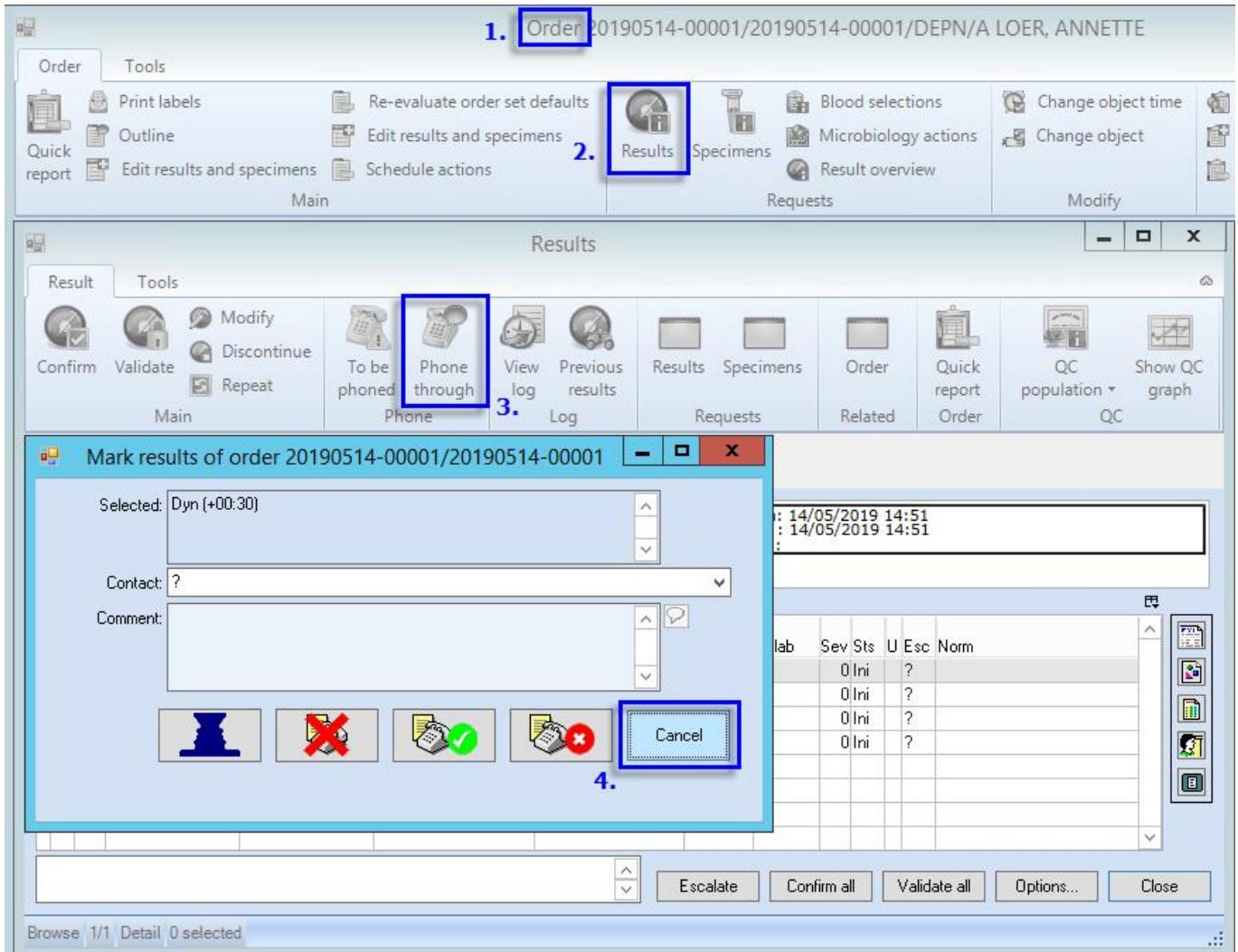
An issue was reported where GLIMS stopped working when using the phone log query. This has been corrected.

Correction of phone log entry creation when canceling the Phone through option (GLIMS-11758)

Issue

A phone log entry was erroneously created in the Phone log browser for a specific order when the user:

1. navigated to an order browser via **Start > Routine > Orders > Orders by ...**
2. opened an order
3. clicked on the contextual menu/ribbon item **Results**
4. clicked on the contextual menu/ribbon item **Phone through** in the **Results** screen; the results either already were or are validated in this step
5. closed the **Mark results of order** screen by clicking on **Cancel**.



Solution

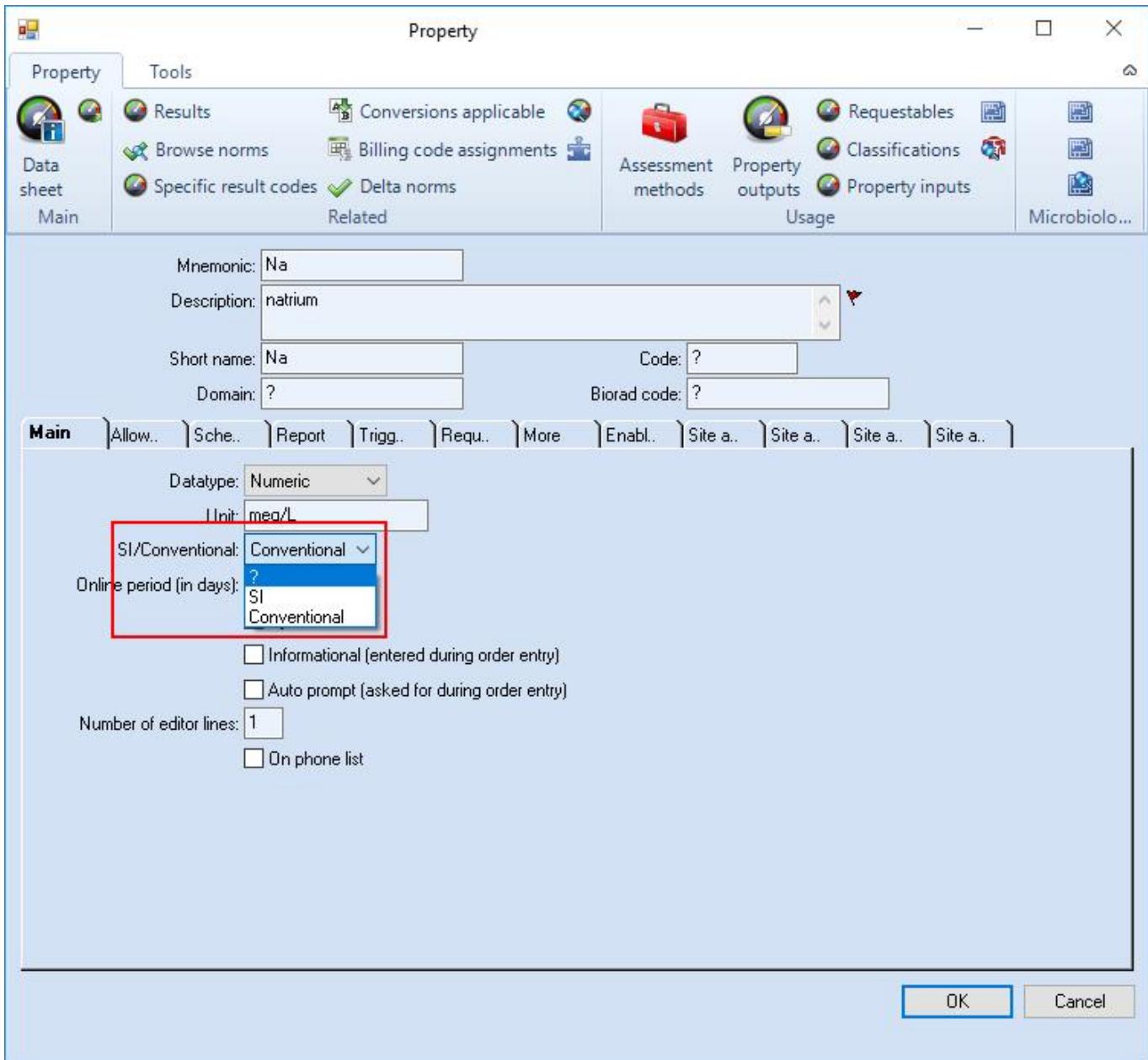
This has been corrected: closing the **Mark results of order** screen by clicking on the **Cancel** button will no longer create a phone log entry for the order in question.

Properties

Allow to indicate whether a property has an SI / Conventional unit (GLIMS-07896)

SI / Conventional - Indicate

GLIMS now allows to indicate per property whether its unit is considered to be an SI unit ("International System of Units") or a conventional unit. A new field **SI/Conventional** has therefore been added in the **Property** editor:



Backward compatibility

To ensure backward compatibility, the default value of the field is the unknown value: "?". To indicate if a property has an SI unit or a conventional unit, the field has to be set manually.

MISPL expression builder

The database field is called "BaseUnitSystem".

SI / Conventional - Export

The **SI/Conventional** information is

- included in electronic reports.

```
<RequestList>
  <Request>
    <SeqNo>1</SeqNo>
    <Type>Panel</Type>
    <Mnemonic>PanelNA+K+CL</Mnemonic>
    <Name>PanelNA+K+CL</Name>
    <ReferenceTime>20180823163400</ReferenceTime>
    <ObjectTime>20180823163400</ObjectTime>
    <Template>
      <Type>Result</Type>
      <Mnemonic>Na</Mnemonic>
      <Description>natrium</Description>
      <Informational>No</Informational>
      <BaseUnitSystem>Conventional</BaseUnitSystem>
    <DefaultRequest>
      <Type>Property</Type>
      <Mnemonic>Na</Mnemonic>
      <Name>Natrium test</Name>
    </DefaultRequest>
    <Classification>
      <Sequencer>2250</Sequencer>
    <List>
```

Note

Please check the applicable driver documentation to see if the driver (J_LDTRXV3 for instance) can process this information. If the driver can process this information, but it also allows to configure - via a driver option - a list of properties assumed to have an SI unit in the LIS, you can consider disabling the driver option and using the field in GLIMS.

- exported in the XML data for GLIMS Report Builder.

Improved caching of user preference "Show property descriptions" (GLIMS-11141)

Context

The Show property descriptions option in the user preferences or order entry user options allows to indicate that a property should be visualized by its multilingual description (instead of short name / mnemonic) in any GLIMS screen.

Issue

If the **Show property descriptions** setting was changed, the change would only become effective:

- in classic browsers: when GLIMS was restarted,
- in redesigned (.NET) browsers: when the AppServer was restarted.

Solution

This behaviour has been changed. When the **Show property descriptions** setting is changed, GLIMS or the AppServer do not longer need to be restarted for the change to become effective.

No locking error when copying a property classification (GLIMS-11480)

An issue was reported where attempting to use the contextual ribbon item **Copy** in the property classification browser / editor would lead to a lock error.

This issue has been corrected, no further lock errors will occur.

No more locking errors during the editing of property classifications (GLIMS-11734)

Sometimes locking errors occurred when multiple users were simultaneously editing a property classification.

This issue has been solved, no further locking errors will occur.

Quality control

Update of End time in Station run browser (GLIMS-10707)

Since GLIMS 9.8, when ending a Station run, the **End time** was not automatically updated in the **Station runs** browser. This issue has been corrected.

Improvement for reagent cleanup tool (GLIMS-11557)

The tool to clean up the reagent lots, reagent usage and result reagent usage records of the reagents (with prefix "REAG-") that have been created automatically by GLIMS has been improved (the reagent itself is deleted as well).

Improvements

- The number of records deleted in a single transaction has been reduced to avoid issues.
- A date range can now be set that will be taken into account to select the reagents to be deleted.



Accessing the tool

- **Start > Development > 4GL > Run procedure**
- **File name = rgt_Cleanup**

Inactive QC populations without results should not be printed via a command (GLIMS-11673)

If a command and task are used to automate the execution of the QCPrint function for a selection of both inactive and active QC populations, inactive QC populations with an inactive QC lot and without results will now be skipped. This way, the message "Insufficient number of results: 0" will be avoided in the service log for such QC populations.

Avoid that QC population is updated with previously received QC result data (GLIMS_ANLZ-01367)

QC results can be uploaded from the instrument to GLIMS with additional QC population-related data. The QC population in GLIMS is then updated with the target and deviation values of the received QC result. However, if a QC result was received without these target and deviation values, GLIMS reused the most recent received values to update the QC population.

This has been corrected. If a QC result is received without target and deviation values, the target and deviation values of the previously received QC result will no longer be reused to update the QC population.

Fixed header of QC population printout in text format (GLIMS_QC-00662)

An issue was reported where right-aligned columns in the header of the output in **Text** format generated via the QCPopulation.Print function were no longer visible due to incorrect calculation of the required padding.

This has been corrected.

Use the QC population's QC choice list upon manual entry of a qualitative QC result (GLIMS_QC-00694)

Upon manual entry of a qualitative QC result for a QC population with **Configuration** set to **Qualitative**, the **Choice list** defined for the property (referred to by the QC population) was taken into account and not the **QC choice list** defined for the **QC population**.

This has been corrected. The **QC choice list** of the **QC population** will now be taken into account in order to show the configured choices to the user when manually entering a qualitative QC result.

Value entered as QC severity for non-numeric results cannot be higher than 999 (GLIMS_QC-00839)

The value entered as QC severity for non-numeric results can no longer exceed 999.

Correction of error occurring due to the square sum of the QC results becoming too large (GLIMS_QC-00840)

An issue was reported where the error **Value larger than specified precision allows for a column. (1438)** occurred in case of a quantitative QC population with large (> 100.000) target values and containing a lot of QC results. The error was due to the sum of the squared results becoming too large to be stored in the database field.

This has been corrected.

QC results can be entered again on work lists (GLIMS_QC-00843)

Context

Work lists are commonly used to list the work to be done by a particular work unit (person or station) in the laboratory. Work lists are editable. In particular, they offer the possibility to enter patient and QC results.

For QC results to be visible and editable in a work list,

- the option **Include QC** of the Generate work list screen must be activated.
- the QC materials must be added to a QC schedule.
- the QC schedule must refer to the worklist template on which the work list is based.

Issue

Since GLIMS 9.6.0, a mistake occurred during the generation of work lists. As a consequence, QC results were not displayed on editable work lists and no QC result value could thus be entered. This has been corrected.

Biorad code field only visible if user has privilege (GLIMS_QC-00847)

When

- a user had a license for QC Export Biorad,
- the visibility of the **Biorad code** field in the **Property** and **Unit** editors was determined by a privilege,
- the user did not have the privilege,

the **Biorad code** field was displayed in the editors in spite of the absence of privilege.

This issue has been corrected: when a visibility privilege is defined on the **Biorad code** field, this field is now only visible if the logged in user has this privilege.

Notes

Notes

- If no visibility privilege has been defined on the **Biorad code** field, then this field is always visible.
- This issue occurred since GLIMS 9.3.

Correction of synchronization issue in the browser of the Channel quality monitor (GLIMS_QC-00848)

Since GLIMS 9.5, a synchronization issue sometimes arose in the browser of the Channel quality monitor. When users pressed F6 on a row after scrolling down using the scrollbar, the editor that opened was not that of the selected assessment method.

This issue has been corrected.

Export of qualitative QC results in Biorad format (GLIMS_QC-00849)

GLIMS now also exports the QC results of qualitative QC populations in the Biorad format.

Notes

Only results of properties with the datatype **Enumerated** will be exported. The results of properties with the datatype **String** will not be exported.

Allow decimal values in Target value / Target deviation fields of QC population editor (GLIMS_QC-00851)

An issue was reported where entering a decimal value in the **Target mean** and **Target deviation** fields of the QC population editor was no longer possible.

This issue, which occurred since GLIMS 9.8, has been corrected.

RiliBÄK QC: results of evaluation QC populations can set Channel quality to Unreliable (GLIMS_QC-00852)

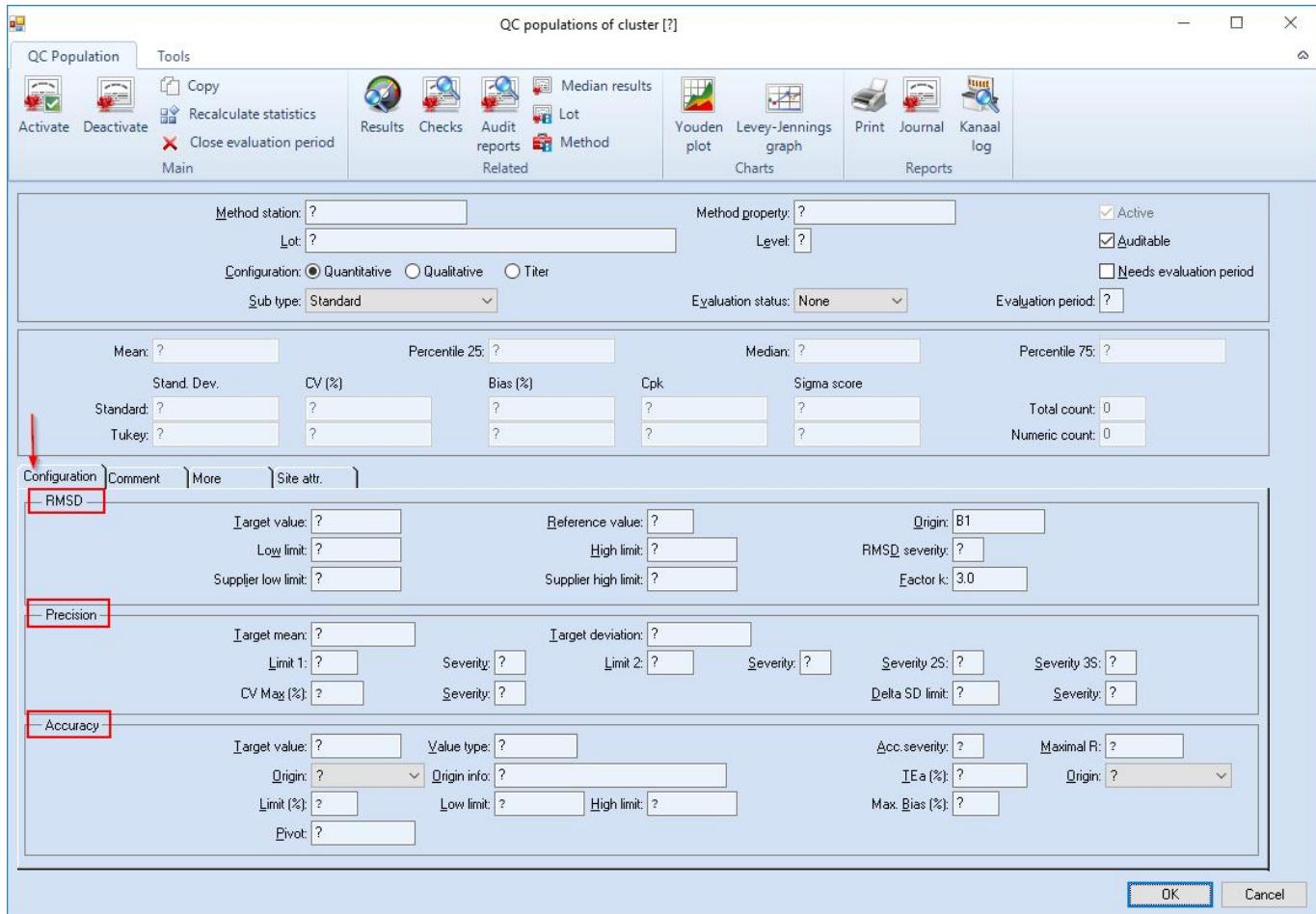
This modification only applies to the German RiliBÄK QC.

The results of QC populations in status **Evaluation** are now also taken in consideration for the definition of the assessment method **Channel quality**: if a result of an evaluation QC population lies outside the supplier low and high limits, the Channel quality of the assessment method is set to Unreliable.

Introduction of "Configuration" tab in QC population editor (GLIMS_QC-00853)

When having created a QC population with **Configuration** set to **Qualitative** or **Titer** and reopening the editor, the fields specific to this type of QC population which have been filled in during the creation of the QC population were no longer shown in the **RiliBÄK** tab page.

This has been corrected. There are now no separate **RiliBÄK**, **Precision** and **Accuracy** tab pages anymore in the QC population editor. The fields belonging to these tab pages are now grouped in the **Configuration** tab.



Incorrect number of significant digits in QC audit if last QC result value is 0 (GLIMS_QC-00856)

If the most recent valid QC result which was used to create a QC audit had a value of zero, than the **Mean** and **Standard deviation** stored in the **Data** tab page of the **QC audit** editor were displayed with an incorrect number of significant digits.

Note

The number of significant digits of the mean and standard deviation values of the QC audit is the maximum number of significant digits of the QC results + 1.

For instance:

For the following result values 12, 12.1, 12.10, 13, 11.8, 11.90, the maximum number of significant digits = 4 (values 12.10 and 11.90).

--> QC audit: the number of significant digits will be 5.

Channel quality monitor should display most recent QC result of QC population (Progress only) (GLIMS_QC-00857)

The channel quality monitor incorrectly displayed the first QC result of each QC population in the integrated **QC populations of assessment method** browser instead of the last (most recent) QC result.

This issue has been corrected.

Correction of error in channel quality monitor (GLIMS_QC-00860)

An error occurred when selecting an assessment method and clicking on the **Current runs** button in the Channel quality monitor.

This issue, which occurred since GLIMS 9.6, has been corrected.

Export of QC results in Biorad format: no length restriction anymore (GLIMS_QC-00862)

When exporting QC results in the Biorad format, the result value was exported as 99999.0 if it contained more than 5 digits. This was done to comply with the technical specifications imposed by Biorad (result values should be lower than or equal to 99999.0).

Since the specifications have changed and the restriction no longer applies, the result value will now be exported as is.

QC validity up to a maximum of 9999 hours (GLIMS_QC-00863)

Background

The **QC validity** of an assessment method is expressed in hours. Each time a QC result enters the system, the time is recorded in the assessment method's **Last QC time** field. Each time a patient result enters the system, the **Last QC time** and **QC Validity** are compared. When the **Last QC time** is longer than <QCValidity> hours ago, the **Quality** field of the assessment method (and the **Channel quality** of the patient result) is set to **Unreliable**.

Issue

Up to now, a **QC validity** of 99 hours (2 digits) was the highest possible value. However, this is too restrictive for QC tests that are only executed once a week or once a month or even less often as it caused the channel quality to be set to unreliable too quickly.

Solution

This has been changed: the highest possible value is now 9999 hours (4 digits).

Performance of Channel quality monitor improved (GLIMS_QC-00867)

The introduction of modification [GLIMS_QC-00848](#) had led to a reduced performance of the Channel quality monitor.

The performance has been improved.

QC result values received in exponential notation are again considered numeric (GLIMS_QC-00871)

Issue

An issue was reported where a numeric QC result sent in exponential notation (e.g. 123.12E+02) by an instrument was incorrectly considered non-numeric and displayed as a string value by GLIMS.

Solution

This issue, which occurred since GLIMS 9.8.0, has been corrected. A QC result received in exponential notation will now be correctly displayed in a non-exponential format (e.g. 123.12E+02 will be displayed as 12312).

Mandatory external comment for failed QC results: QC warning severity taken into account (GLIMS_QC-00874)

Context

When manually confirming QC results with a QC severity higher than 0 and without an external comment, the user is required to enter this comment during the confirmation step.

Current behaviour

The assessment method's **QC warning severity** is now taken into account: if the **QC warning severity** is defined and the QC severity is lower than this QC warning severity, no external comment is required.

A QC lot is no longer created without a reference to an Object record (GLIMS_QC-00877)

An issue was detected where a QC lot was created without an **Object** record linked to it, if the creation of the **Object** record had failed (for instance due to an error in the MISPL expression calculating the **Object internal ID**). Since a **QC lot** must have a reference to an **Object** record, an error occurred.

This issue, which occurred since GLIMS 9.5, has been corrected. If the **Object** record cannot be created, the **QC lot** will not be created either.

Correction of a QC lot activation error (GLIMS_QC-00883)

When attempting to create an active QC lot with the same lot number and within the same date range as another already existing active QC lot, a warning appeared.

Subsequently, GLIMS stopped responding and users were unable to resume their work.

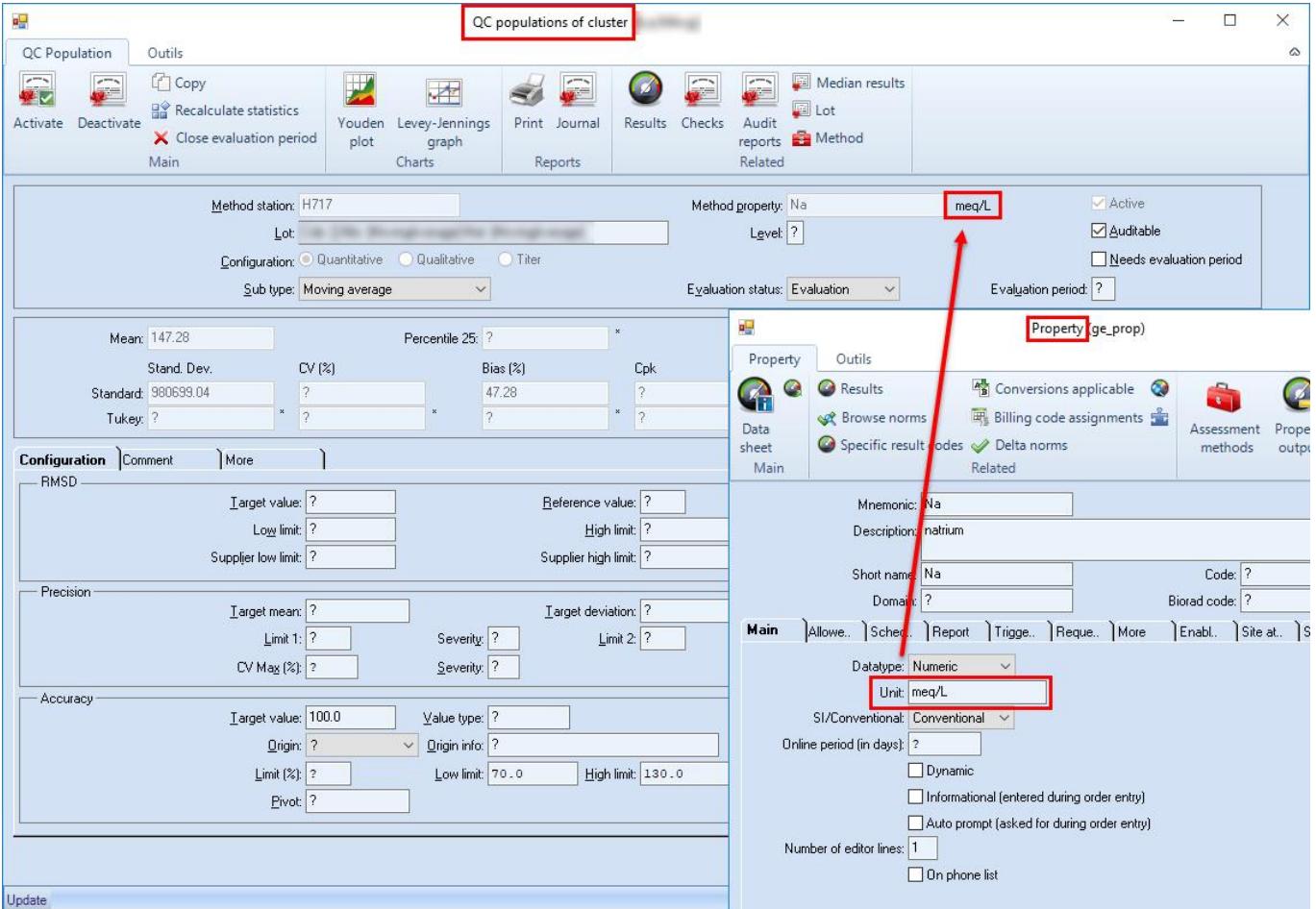
This has been corrected. From now on, a warning will appear and work can continue as usual.

Unit addition to the field "Method property" on "QC population" (GLIMS_QC-00885)

Field expansion on "QC population"

Some of the fields of the QC population editor, such as target value, accuracy limit etc. always have the same unit as the linked property. This information was not directly displayed in the editor, thus the user needed additional navigation to check the unit of a property.

From now on, the Method property field of the QC population editor is expanded with the unit name of a property, if applicable. This unit applies to all corresponding fields of the QC population editor.



QC lot externalization not taken into account during QC lot creation (GLIMS_QC-00887)

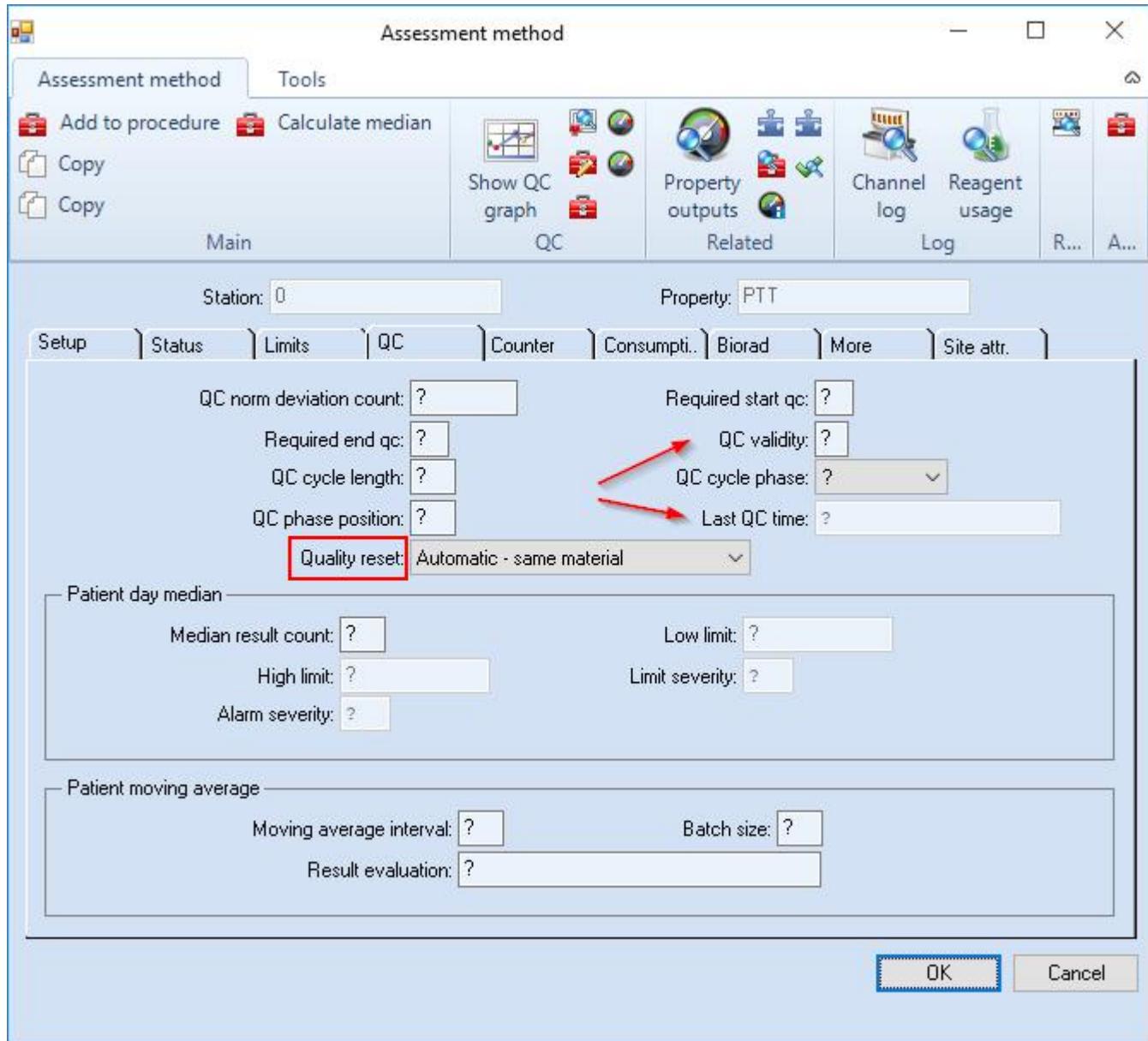
An issue was reported where the **QC lot externalization** specified in the QC setup screen was not taken into account upon creation of a new QC lot.

This has been corrected.

Correction for reset of channel quality (GLIMS_QC-00890)

Context

Each time a QC result enters the system, the time is recorded in the **Last QC time** field of the assessment method. Each time a patient result enters the system, the **Last QC time** and **QC validity** are compared. When the **Last QC time** is more than <QCValidity> hours ago, the **Quality** field of the assessment method (and the **Channel quality** of the patient result) is set to **Unreliable**.



Issue

Suppose that the **Assessment method** is configured as follows:

- **Quality reset** is set to Automatic - same material,
- **QC validity** is set to 24.

If a patient result is entered for this assessment method and the last valid QC result was entered more than 24 hours ago, the **Quality** of the **Assessment method** is set to **Unreliable**. However, upon reception of the first valid QC result, the assessment method remained **Unreliable**.

Solution

This has been corrected. The **Quality** of the **Assessment method** will be reset to **Reliable** upon reception of the first valid QC result for the QC population.

QC graph does not display QC population of type Moving average (GLIMS_QC-00894)

An issue was reported where the QC graph did not display QC populations of type **Moving average** if the **Target value** was not specified in the **QC population** editor.

This has been corrected.

Channel quality monitor in "QC only" mode should not display assessment methods for which no quality control takes place (GLIMS_QC-00900)

GLIMS offers a channel quality monitor. It can be accessed from the main menu via **Start > Quality control > Channel quality**.

If the **Select channels** option of the channel quality monitor is set to **QC only**, only assessment methods for which quality control takes place will be displayed. However, an issue was reported where assessment methods without a valid QC population (i.e. a QC population that is active and that has at least one QC result) were displayed as well.

This issue has been corrected.

Allow access to the "Accuracy" and "Precision" settings of a QC population when using RiliBÄK (GLIMS_QCR8-00051)

If the "GLIMS_QCR8" license (Quality Control RiliBÄK) was active, it was not possible to update an existing QC population's settings for **Precision** and **Accuracy**.

This issue has been corrected.

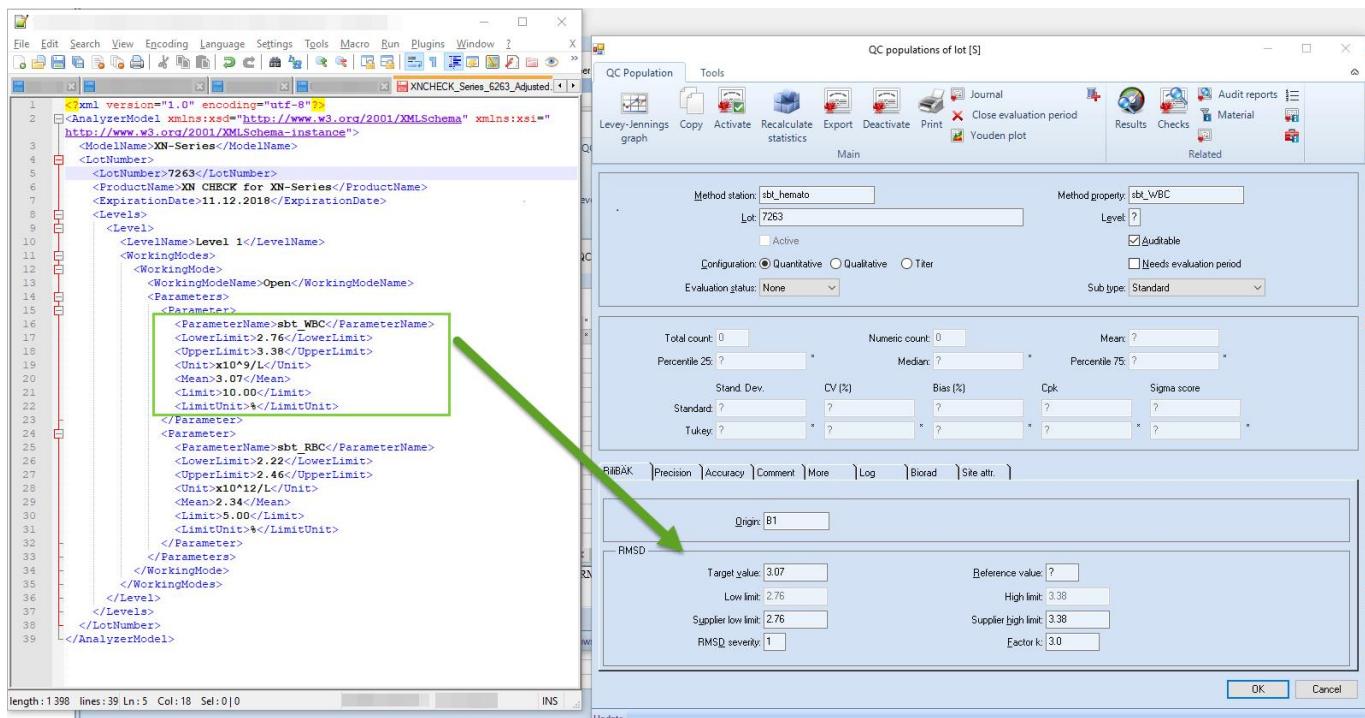
Imported Sysmex values copied in RiliBÄK tab of QC population editors (GLIMS_QCR8-00053)

Context

When importing QC data provided by Sysmex, the Sysmex values are copied in the **Target**, **Supplier low limit** and **Supplier high limit** fields of the **Accuracy** and **Precision** tabs of the **QC population** editor. However, in German laboratories having the RiliBÄK license, these tabs are not displayed in the QC population editor and a **RiliBÄK** tab is shown instead.

Modification

When the RiliBÄK license is activated, the imported Sysmex values are now copied in the corresponding **RiliBÄK** tab fields:



No error message when clicking on "Microbiology QC results" (MATE-04683)

Since GLIMS 9.5, in the following scenario,

- open the overview of Microbiology QC tests ,
- select a test in the browser,
- Click the ribbon item **Microbiology QC results**,

an error message was displayed: "invalid character in substitute".

This issue has been corrected.

Report Builder

Report should not be marked as generated if a generation error occurs (GLIMS-10582)

If an error occurred (e.g. because of an incorrect path to the Jasper template) during the generation of a GLIMS Report Builder report, preventing the report from being generated, and the option **Mark output** was enabled in the report generation screen, then the report's **Last output time**, **Previous output time** and **Print version** were still updated.

This has been corrected. These fields will now not be updated if an error occurs during the generation of the report.

No time indication in <Property><Description> element of XML output (GLIMS-11755)

The XML generated by GLIMS Report Builder also contained a time indication in the <Detail><Property><Description> element if the result object time (which is the result's reference time + discriminator) was different from the order lowest object time. This has been corrected as this time indication should only be present in the <Detail><Description> element.

Display of isolation external comments on result reports (GLIMS_ARep-00273)

Background

With modification GLIMS_ARep-00198, the generation of result reports with Report Builder was made more efficient by limiting the XML output to the fields actually used on the report layout.

Issue and solution

This limitation lead to the following issue: the isolation external comment was not displayed on the report.

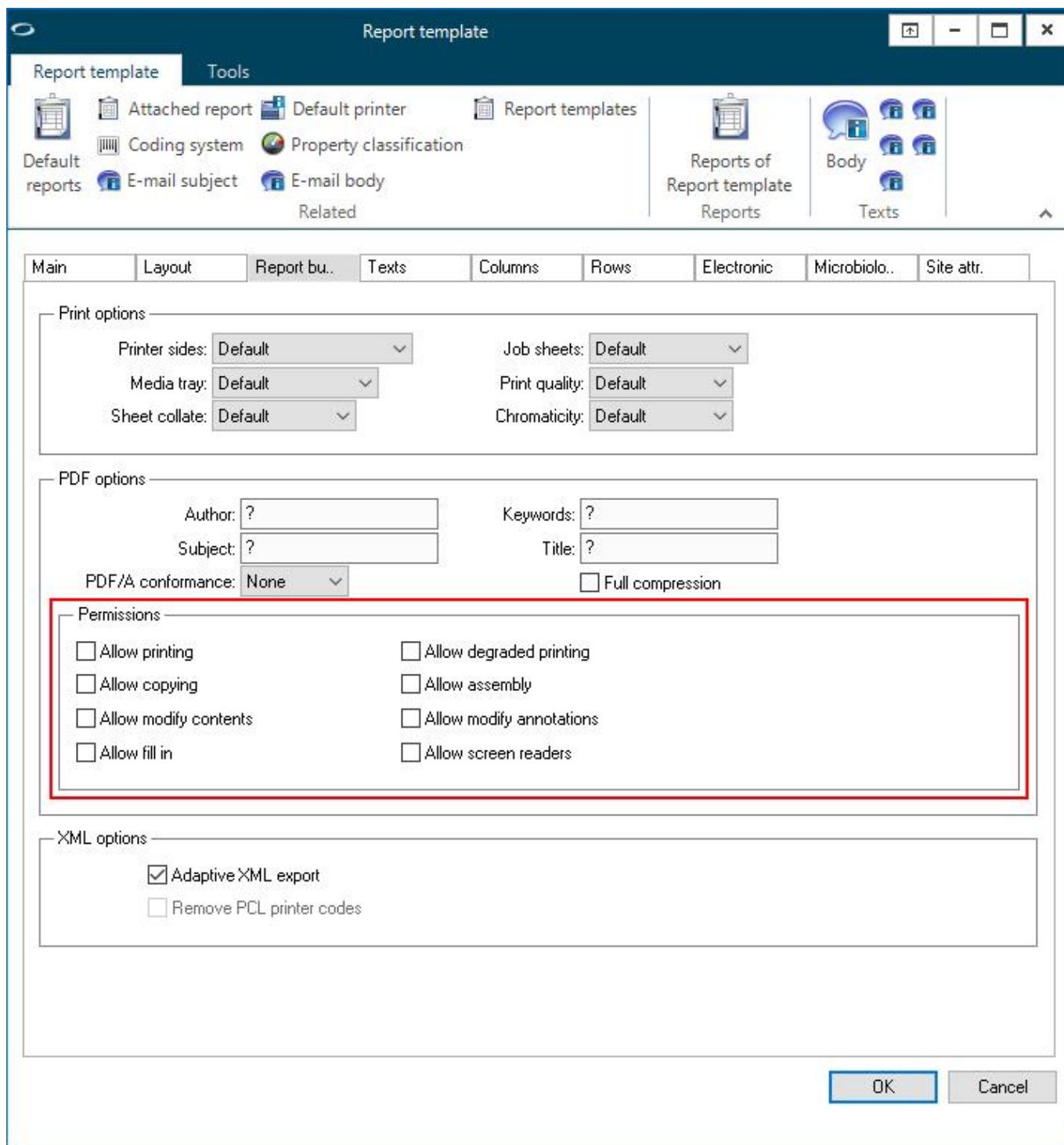
This issue has been corrected: the isolation external comment is now visible on the report.

Display of microorganism name in IsolationAppraisal when microorganism description not available (GLIMS_ARep-00276)

When the Description field in the editor of a microorganism was not filled in, the IsolationAppraisal text on the report did not display the name of the microorganism instead. This error, which occurred since GLIMS 9.6, has been corrected.

Report template sets permissions for PDF documents (GLIMS_ARep-00277)

The report template editor has been extended with settings to control the permissions of PDF documents generated by GLIMS Report Builder.



Translated <Type> element value list in result report XML export (GLIMS_ARep-00278)

In the XML export for result reports, the Detail blocks have an element <Type> which is an enumerated domain with value list **Label,Result,Comment,ObjectMicrobiologyHistory,File**. Unfortunately, the XML export contained the values in English, but not the values in the specific language of the report.

This has been corrected:

```
<Description>ERO_Prop1</Description><UnitName>ml</UnitName><UnitDescription/>
'><Type Enumerated="Result" Value="Résultat" ShortValue="rslt">Résultat</Type>
.que">Numérique</ValueType><Value>2.1</Value><Mark/><NormSeverity>-1</NormSever
```

Note

In the .jasper templates, the designer should always use the untranslated / English variant that is stored in the attribute 'Enumerated'. The translated variant should only be used for display purposes.

Improve adaptive XML output for nested hierarchy of Detail elements in result reports ([GLIMS_ARep-00279](#))

Report Builder has evolved towards 'adaptive export', where Report Builder parses the JasperReports templates and extracts the XPath expressions. This set of XPath expressions is then used to limit the amount of data in the generated XML output.

Modification GLIMS_ARep-00198 for instance, adopted this functionality to greatly improve the speed of result report generation (if ReportTemplate.RemovePclCodes was turned off).

However, there is a special case in GLIMS result reports, as it uses a nested hierarchy of 'Detail' elements. Depending on the configuration of the JasperReports templates, it was possible that the extracted XPath expressions were of the form '/ResultReport/Data/Detail/Detail/<SomeFieldName>' and if there was no XPath expression for the same field of the form '/ResultReport/Data/Detail/<SomeFieldName>' then that field was not exported.

Although this happened only in rare circumstances, and a simple workaround was easily provided, we have now made this workaround unnecessary by adding a hook to allow report generators to modify the extracted XPath expressions.

Report target internal ID missing from archive attachment file name ([GLIMS_ARep-00282](#))

An issue was reported in GLIMS Report Builder where archive attachment file names no longer included the report target internal id.

This has been corrected.

GLIMS Report Builder: Missing DetailColumn data in XML output ([GLIMS_ARep-00285](#))

An issue was reported where the XML output generated via GLIMS Report Builder did not always contain the DetailColumn elements it was expected to.

This has been corrected.

Correction of issue where description of micro-organism is reported twice ([GLIMS_ARep-00287](#))

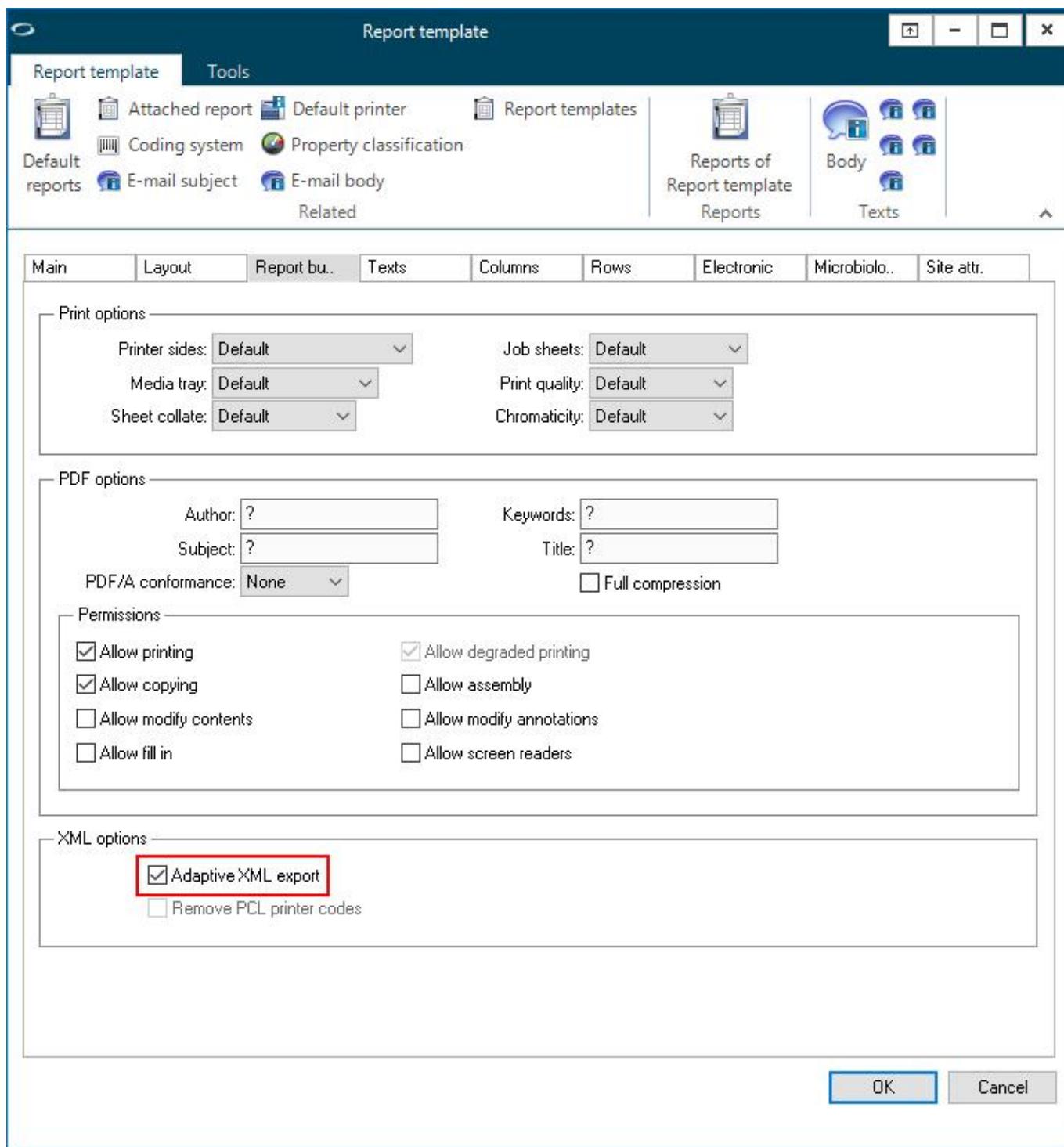
An issue was reported where generating a GLIMS Report Builder report for an order containing a microbiology action with an isolation (for a micro-organism with or without an external comment) caused the description of the micro-organism to appear twice on the report. This happened because the exported XML structure contained the description as the value for the external comment as well. Consequently, the external comment of the micro-organism was never reported.

This issue, which occurred since GLIMS 9.6, has been corrected.

New report template option "Adaptive XML export" ([GLIMS_ARep-00288](#))

GLIMS Report Builder's adaptive XML export mechanism limits the data in the generated XML output to what is used on the JasperReports templates. The new option **Adaptive XML export** is now available in the report template editor to allow the user to turn off the adaptive export mechanism in case of issues.

In previous versions, enabling the **Report template** option **Remove PCL printer codes** silently disabled the adaptive export mechanism. This is now no longer the case thanks to the introduction of the **Adaptive XML export** option.



Notes

- The adaptive XML export does not support removing PCL printer codes. Hence, it is not possible to enable both options.
- When migrating to GLIMS 9.9, the conversion script will
 - enable **Adaptive XML export** if **Remove PCL printer codes** was disabled before the upgrade,
 - disable **Adaptive XML export** if **Remove PCL printer codes** was enabled before the upgrade.

Warning

Please note that using 'Adaptive XML export' will result in a different XML output. Consequently, it cannot be guaranteed that the existing Jasper templates are compatible. It is therefore recommended to configure a new Jasper template.

Correction of error occurring when generating a report containing an electrophoresis graph (MATE_JRBS-00019)

Issue

An issue was reported where the error "Null 'paint' argument" occurred when generating a GLIMS Report Builder report containing an electrophoresis graph for which no background color was set in the .jrxml layout file.

Solution

This has been corrected: if the background color of the plot is not set, the default color (white) is now used.

Enhancements for electrophoresis graphs (MATE_JRBS-00040)

Introduction

GLIMS Report Builder has support for the display of electrophoresis graphs on GLIMS result reports since GLIMS 8.5. In order to address customer demands in France regarding the look of electrophoresis charts in GLIMS Report Builder, we have extended the ElphoChartCustomizer to support the following custom properties.

Custom properties

MIPS supports the following ElphoChartCustomizer custom properties:

Since GLIMS 9.4

```
be.mips.reports.chart.ElphoChartCustomizer.smooth (enumerated: True | False ; default: True)  
be.mips.reports.chart.ElphoChartCustomizer.fractionstotop (enumerated: True | False ; default: True)  
be.mips.reports.chart.ElphoChartCustomizer.peaksasareas (enumerated: True | False ; default: False)
```

Extended in GLIMS 9.9.0

```
be.mips.reports.chart.ElphoChartCustomizer.showlabels (enumerated: True | False | All | Fractions | Peaks |  
None ; default: True)  
be.mips.reports.chart.ElphoChartCustomizer.paint (enumerated: Color | Grayscale | Custom ; default: Color)
```

New in GLIMS 9.9.0

```
be.mips.reports.chart.ElphoChartCustomizer.fractionlabelposition (enumerated: Top | BelowAxis ; default: Top)  
be.mips.reports.chart.ElphoChartCustomizer.firstfractionlabelshift (type: positive_integer ; default: 0)  
be.mips.reports.chart.ElphoChartCustomizer.peaklabelposition (enumerated: Top | AboveArea ; default: Top)  
be.mips.reports.chart.ElphoChartCustomizer.usecategoryaxisfonts (enumerated: True | False ; default: False)  
be.mips.reports.chart.ElphoChartCustomizer.curvecolor (type: hexadecimal_color | rgb_triplet ; only used if  
paint set to Custom)  
be.mips.reports.chart.ElphoChartCustomizer.peakcolor (type: hexadecimal_color | rgb_triplet ; only used if  
paint set to Custom)
```

Notes

- Note that color definitions take one of two forms:
 - #HHHHHH (where each H is a hexadecimal digit)
 - N,N,N (where each N is a positive integer value between 0 and 255)
- The default values were explicitly chosen so that customers upgrading from older versions won't see a different chart in their report output.

In practice

To achieve the specific look desired by our French customers, the report designer would set:

```
be.mips.reports.chart.ElphoChartCustomizer.smooth = True  
be.mips.reports.chart.ElphoChartCustomizer.showlabels = True
```

```
be.mips.reports.chart.ElphoChartCustomizer.paint = Grayscale  
be.mips.reports.chart.ElphoChartCustomizer.fractionstotop = False  
be.mips.reports.chart.ElphoChartCustomizer.peaksasareas = True  
be.mips.reports.chart.ElphoChartCustomizer.fractionlabelposition = BelowAxis  
be.mips.reports.chart.ElphoChartCustomizer.firstfractionlabelshift = 50  
be.mips.reports.chart.ElphoChartCustomizer.peaklabelposition = AboveArea  
be.mips.reports.chart.ElphoChartCustomizer.usecategoryaxisfonts = True  
Category Label Font = SansSerif, 7, Italic  
Category Label Tick Font = SansSerif, 7, Bold
```

Correction of error occurring for history chart generated with Report Builder (MATE_JRBS-00047)

An issue was reported where an error occurred during the generation via GLIMS Report Builder of a report containing a history graph if **Show legend** was set to **False** in the Jasper template file of the graph.

Strip ASCII codes incompatible with XML specification (MATE_RB-00151)

An issue was reported where the XML output, generated for Report Builder, could contain ASCII characters that were not allowed by the XML 1.0 specification. This has been corrected.

GLIMS Report Builder: mipsjvm.dll ignores -Xms/-Xmx configuration (MATE_RB-00159)

An issue was reported when generating reports using Report Builder on Windows without a Report Builder service, where the JavaVM embedded within the OpenEdge process would take up more memory than available, and ignored the -Xms/-Xmx configuration. As a result, Task scheduler services running on a Windows server and using shared memory database access, would fail to load the JavaVM and could not generate the reports.

This has been corrected, and the embedded JavaVM is now started with the correct -Xms/-Xmx configuration.

No error message anymore when creating a report preview (MATE_RB-00161)

When creating a report preview, an error message was sometimes displayed to indicate that a .jar file was missing.

This issue has been solved: as this .jar file is actually not needed anymore, it is not necessary to check that it is available. This check thus does not take place anymore.

Enhancements for GLIMS Report Builder reports (MATE_RB-00174)

Enhancements for adaptive XML output

MATE_JRBS-00031

Report Builder has evolved towards 'adaptive export', where Report Builder parses the JasperReports templates and extracts the XPath expressions. This set of XPath expressions is then used to limit the amount of data in the generated XML output.

However, an issue was detected where the extracted XPath expressions contained slashes or elements in duplicate. As a result, the corresponding fields were not included in the XML output. This has been corrected.

Enhancements for reports containing graphs

Levey-Jennings graph

MATE_JRBS-00027: Missing grid lines

Since the removal of transparent layers (prohibited by PDF/A restrictions), the grid lines of the Levey-Jennings graph no longer appeared as they should.

MATE_JRBS-00029: Incorrect number of decimals

The number of decimals is exported in the data xml document (UnitDecimal property of an axis) of the report. However, this property was not taken into account if set to 0.

Electrophoresis graph

MATE_JRBS-00019: Correction of error occurring when generating a report containing an electrophoresis graph

[For more information, see MATE_JRBS-00019.](#)

MATE_JRBS-00037: Display of black rectangle when printing on paper

An issue was reported where printing a report with an electrophoresis graph displayed a large black rectangle across the graph.

MATE_JRBS-00039: Missing last fraction label

An issue was identified where the label of the last fraction was sometimes not displayed if the option 'be.mips.reports.chart.ElphoChartCustomizer.fractionstotop' was set to 'false'.

MATE_JRBS-00040: Enhancements for electrophoresis graphs

[For more information, see MATE_JRBS-00040.](#)

Reports

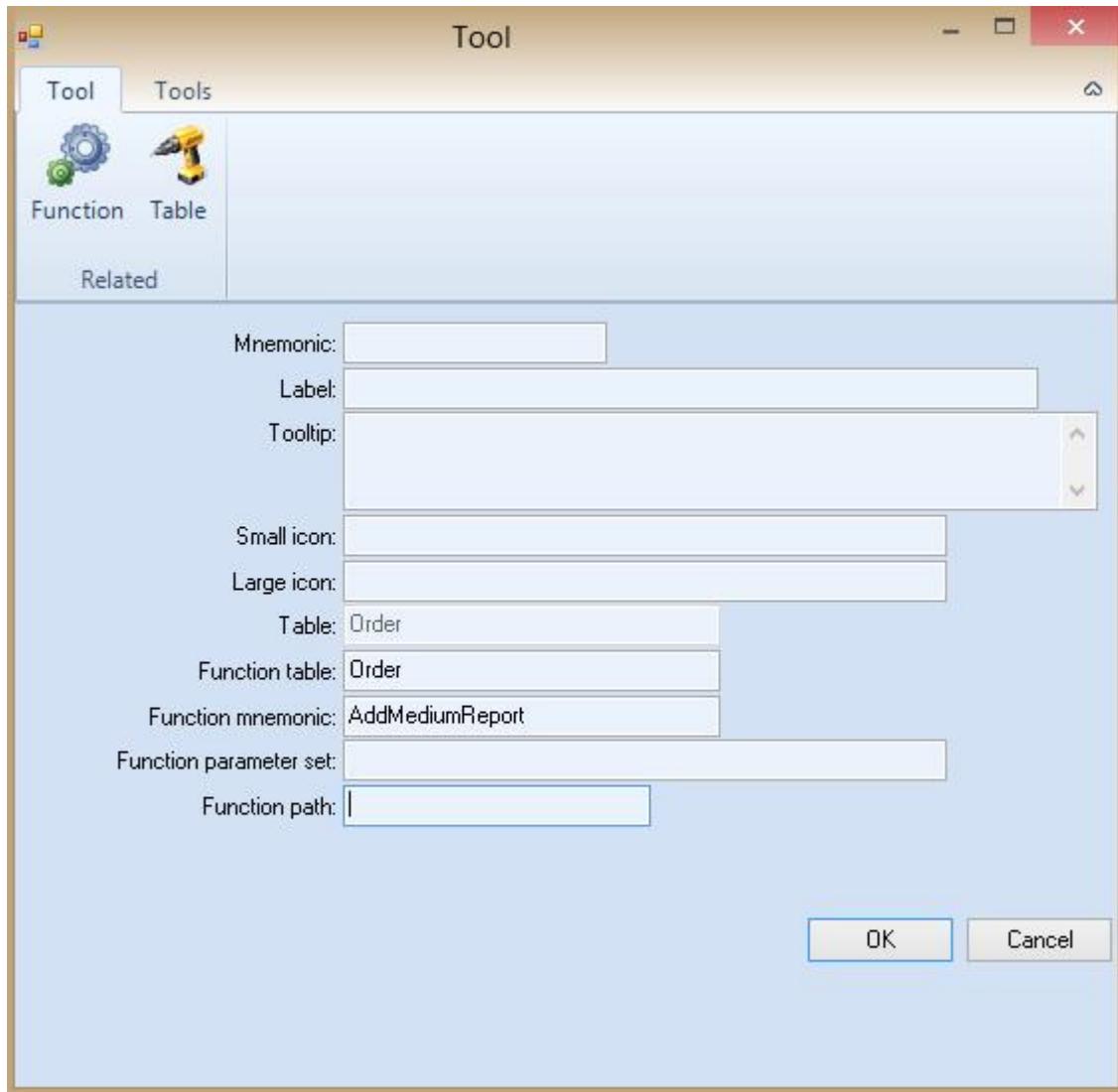
Function parameter set of AddMediumReport is applied again (GLIMS-10693)

Context

GLIMS offers the possibility to add reports manually on existing orders.

With the AddMediumReport function, you can add a report manually on an order, specify a medium (fax, phone, etc) for this report and indicate whether this report should only be generated once.

If the AddMediumReport function should often be used with the same configuration, you can create a tool (on the Order table) referring to this function:



Issue and solution

When using a tool for the AddMediumReport function, the following parameters of the tool's configured function parameter set were not applied: **Generate only once**, **Forced** and **Generate now**. This has been corrected.

Only electronic reports are marked as Needs checking when encounter or object is modified (GLIMS-10708)

Background

The **Needs checking** option of the **Report** editor allows indicating whether a report should be checked for emission.

Issue

Since

- GLIMS 9.5.17 (cf. release note GLIMS-07964)
- GLIMS 9.6.2 (cf. release note GLIMS-07965)
- GLIMS 9.8.0 (cf. release note GLIMS-04530),

all reports were marked as **Needs checking** when the order's encounter or object had changed. As a consequence, numerous old reports were printed.

Solution

This issue has been corrected: only reports whose **Medium** is set to **Communication**, i.e electronic reports, are marked as **Needs checking** when the encounter (external id, type of institution) or object (e.g. Person merge function or address change via Order entry screen) has been changed.

See also [GLIMS_RX-00698](#).

Medigest report now uses property description if no coding system is defined (GLIMS-10726)

Upon Medigest report generation, instead of using the property description, GLIMS used the name of the title node to which the property belongs in the property classification if no coding system had been defined for the report template. The name of the title node will now only be used if no coding system and no property description is defined.

Note

This issue occurred since GLIMS 9.5.

Report completeness time is set when generating a PDF report (GLIMS-10815)

The field Completeness time under the **Status** tab of the **Report** editor stores the date and time at which a report was first generated as a complete report.

However, when a PDF report was generated from an order whose results were all validated, then the field **Completeness time** was not set.

This has been corrected.

Electronic reports with only discontinued results should not be deactivated (GLIMS-10827)

Context

During report scheduling, GLIMS verifies which default reports are applicable for the created order. For each applicable default report, a report will be scheduled.

Reports which have already been sent and of which the results have been discontinued are set to inactive.

Issue

If an electronic report was scheduled for a default report with **Report medium** set to **Communication** and the option **Report discontinued results** enabled, the report's **Active** check box was disabled when all results had been discontinued. As a consequence, no report was sent to inform e.g. the result server about the discontinued results.

Solution

This has been corrected.

Modification of internal logic for the Needs checking flag (GLIMS-10829)

Due to an Oracle database locking issue, the internal logic for setting the **Needs checking** flag on reports has been changed. However, for end users, no change is detectable (the logic exposed to them remains the same).

Error during HPRIM report generation in GLIMS for Oracle (GLIMS-10856)

An issue was detected where the following error occurred when generating a HPRIM report in the Oracle version of GLIMS: ** No B_user record is available. (91).

This issue, which occurred since GLIMS 9.5, has been corrected.

Additional expected result on existing specimen does not trigger report (GLIMS-10979)

When adding a request on an existing specimen of an already completed order, a **Result** record is created in GLIMS with status **Expected**. However, the report's **Needs checking** option was only set if the result reached a status higher than **Expected**. As a consequence, if the order and additional request had been entered electronically (e.g. via CyberLab), no report was scheduled in GLIMS to inform the order placing application (CyberLab) about the additional expected result until a result value was entered (even though the default report's **Trigger status** was set to e.g. **Expected**). This made HC providers consulting CyberLab wonder if the additional test had been requested since there was no indication a new result was to be expected.

This has been corrected.

Note

This issue occurred since GLIMS 9.5.

Attached non-electronic reports saved on order (GLIMS-11023)

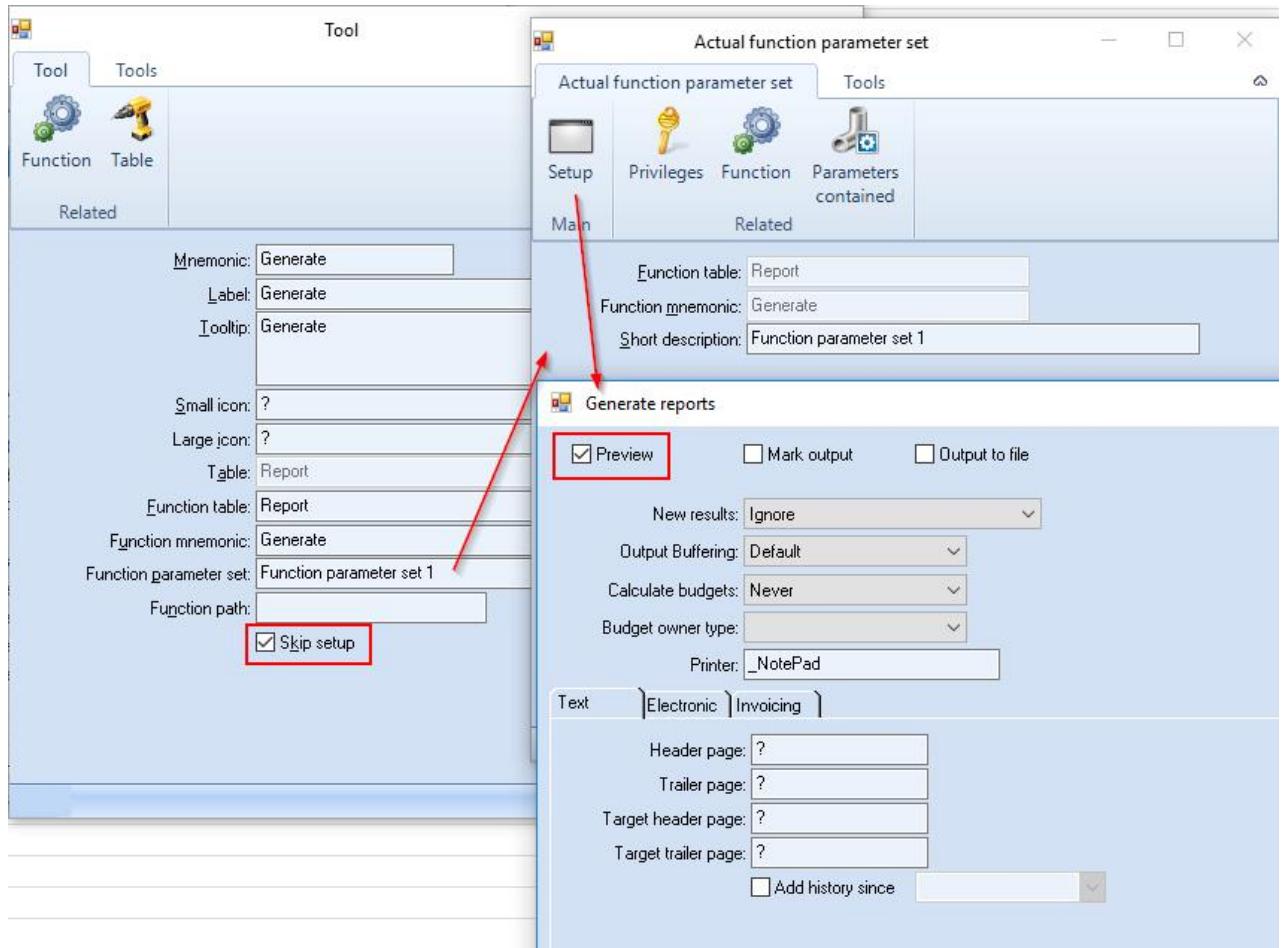
When the Archive mode field of the report template was set to **Archive document**, non-electronic reports attached to electronic reports were not saved on the order.

This issue has been corrected.

Corrections for Report.Generate() and Order.AddReport() functions (GLIMS-11062)

Report.Generate()

The Report-based function Generate, when used in a Tool, now correctly stores the **Preview** parameter (set in the function parameter set) and supports the **Tool** option **Skip setup**.



Note

For functions that change data in the database (as opposed to functions that simply open a browser), the Skip setup option will only be visible when a parameter set is defined.

Order.AddReport()

An error occurred when adding a report to an order via the contextual menu / ribbon item Add report if the option **Generate now** was enabled.

This issue, which occurred since GLIMS 9.8.4, has been corrected.

Attachment reports to electronic reports: indicate report status for duplicate and modified reports (GLIMS-11268)

Context

GLIMS allows to send an additional report as attachment of an electronic report. Currently this is supported for HPRIM and 'variable text' reports. For more information, see Attachment reports for electronic reports.

Issue

For complete reports, the report status is mentioned correctly on the attached GLIMS Report Builder PDF report. However, for duplicate and modified reports, the report status was not mentioned.

Solution

This has been corrected.

Reports are incorrectly generated as duplicate reports (GLIMS-11301)

Issue

1. An order is created containing some requests.
2. All results but one are confirmed and validated.
3. An interim report is printed.
4. The remaining request with the incomplete result is discontinued.
5. The report is printed as a duplicate report while it should have received the status complete.

Solution

This has been corrected.

Correction of MISPL execution error during (quick) report generation (GLIMS-11340)

An issue was reported where the error **MISPL execution error: Missing start buffer** occurred when creating (quick) reports without result values but with norms displayed.

This has been corrected.

The generation of reports for large orders is faster (GLIMS-11389)

Since GLIMS 9.4, the execution of commands for report generation was slow in the case of large orders. The performance has been improved.

Reports of discontinued results marked as Needs checking (GLIMS-11394)

This modification corrects an issue with the discontinue-repeat function on results: when a validated result was repeated, the accompanying discontinuation of that result did not mark the triggered report for discontinued results (with medium different from **Communication** and **File**) as **Needs checking**, despite the fact that the report's Trigger status was reached.

Approval user of attached report mentioned in report record (GLIMS-11507)

Since GLIMS 9.4, when a report was attached to another report, the approval user of the attached report was not mentioned in the record of this report.

This problem has been corrected.

Correct report status for complete reports with discontinued results (GLIMS-11544)

Issue

When a user

- generated a complete report,
- discontinued a validated result on said report,
- generated the report again,

the new report status was **Duplicate** instead of **Modified**.

Solution

This behavior was corrected: discontinued results on a complete report will result in the report status **Modified** when the report is generated after discontinuation.

Should the report be generated again thereafter but without any further changes, the report status **Duplicate** will apply accordingly.

Result export also includes the reporting norm reference type (GLIMS-11621)

The option **Reference type** for reporting norms is introduced via modification [GLIMS-08350](#) and the value of this field is from now on exported in electronic reports, for norms with a specified **Reference type** in the **Site attributes** page of the Norm for property editor. The check box **For reporting** needs to be active.

Example

```
<?xml version="1.0" encoding="ISO-8859-1"?>
<...>
<LowLimit>25</LowLimit>
<HighLimit>75</HighLimit>
<Reference>25 - 75 (Diagnostic)</Reference>
<...>
```

Only the results having the configured status appear on Edifact reports (GLIMS-11730)

Under the following circumstances, confirmed but not yet validated results appeared on Edifact reports which were supposed to only contain validated results:

- the status of the results was lower than the Minimal result status set in the **Default report** editor (for instance, the result status was **Confirmed**, the minimal result status was set to **Validated**), and
- the field Empty result in the **Report template** editor contained a MISPL function, and
- the property used in the order was assigned to a property classification node. In the editor of this node, the field Content contained a MISPL function.

This issue has been solved: not yet validated results do not appear anymore on reports configured to only display validated results.

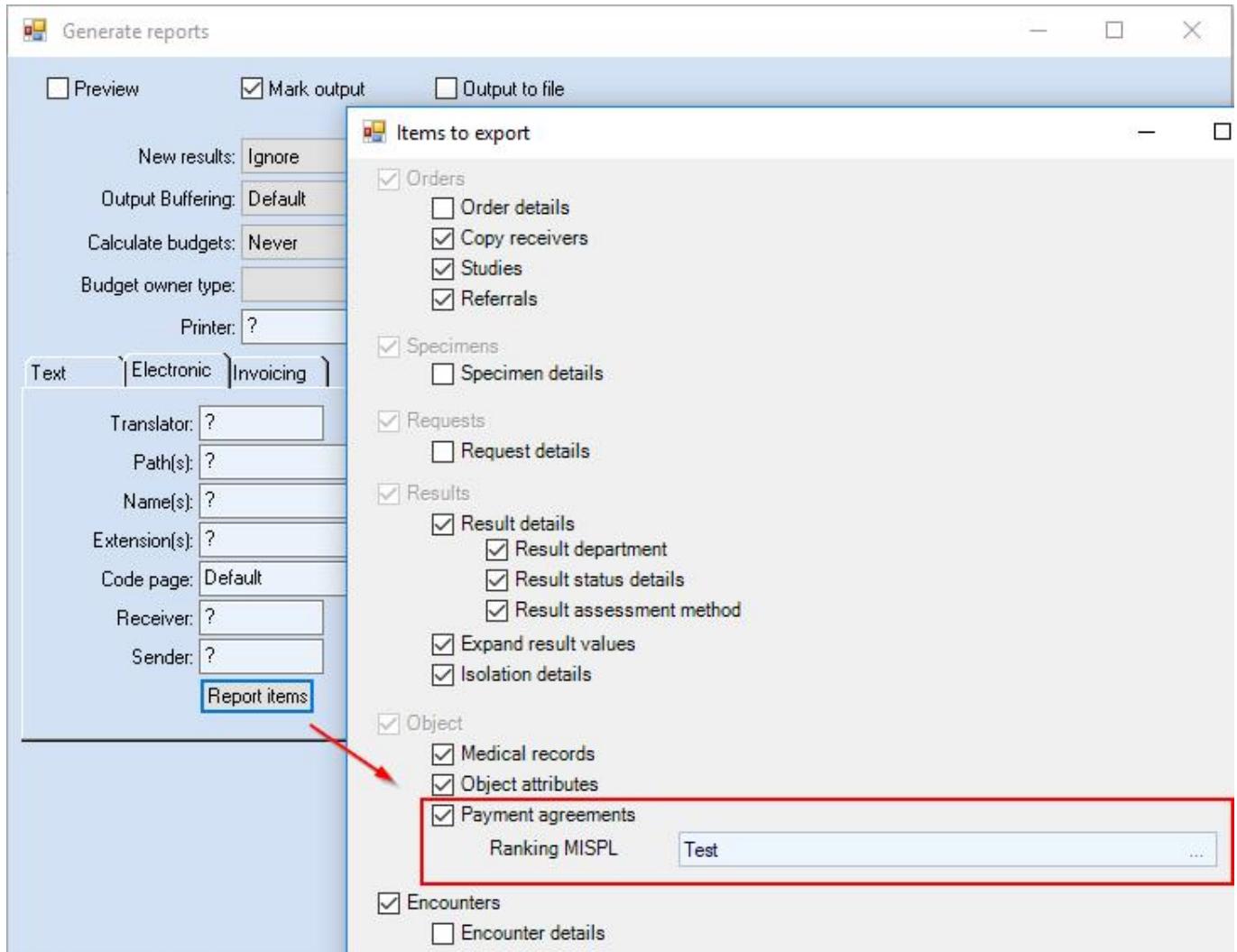
Site function to decide which payment agreement has to be exported during online reporting (GLIMS-11764)

Context

During electronic reporting, payment agreements of order sets can be exported. However, up until now, only the first (created) **Payment agreement** / Financing record was exported. If multiple **Payment agreement** / **Financing** records are linked to an order (set), it was not possible to determine which one needs to be exported.

New functionality

A **Ranking MISPL** can now be specified in the **Items to export** screen (which can be accessed by clicking on the **Report items** button in the **Electronic** tab of the report generation screen) to overrule the default behaviour.



The selected site function must be Financing-based and of datatype Integer. The [Financing](#) record for which the site function returns the lowest value will be used to export the payment agreement.

Example

Suppose the following site function is configured:

```
IF .PaymentAgreement.Fund.Id <> ?
THEN RETURN 2;
ELSE RETURN 1 ;
ENDIF;
```

If, for an order with two payment agreements (the first payment agreement being linked to a fund, the second one being linked to the patient),

- the ranking MISPL is not used, then the payment agreement linked to the fund is exported,
- the ranking MISPL is used, then the payment agreement linked to the patient is exported.

Memory leak during automated report generation (GLIMS-11804)

A memory leak was detected during report generation if executed via a command and task. This issue, which occurred since GLIMS 9.8.4, has been corrected.

Online reports: export responsible of approval user (GLIMS-11994)

For online reports (i.e. reports having a report template with **Generator** set to **Online**) which have an **Attached report** specified in the **Electronic** tab of the **Report template**, the responsible of the approval user of the attached report will now be exported as well. To find the responsible of the approval user, the executing department of the last result that was validated by the approval user is taken into account: the responsible specified in the approval user's employee assignment for that executing department will be exported.

Incorrect "Nothing to process" message when adding a report to an order (GLIMS-12043)

An issue was reported where a **Nothing to process** message erroneously appeared if the user added a report to an order with the option **Generate now** enabled. The report was nevertheless added correctly.

This has been corrected.

Correction of issue where external comment of micro-organism is not reported anymore (GLIMS_BAC-01579)

An issue was reported where during electronic reporting of an order containing a microbiology action with an isolation for a micro-organism with an external comment, the external comment was not reported anymore.

This issue, which occurred since GLIMS 9.8, has been corrected.

Report.LastOutputTime no longer set when no report was generated (GLIMS_RX-00576)

An issue was reported where the **Last output time** of an electronic report was set during report generation with **Mark output** enabled even when no report had been generated. This issue has been corrected.

Online reporting of text used as result during blocking period (GLIMS_RX-00585)

Context

To support blocking periods for microbiology procedures, GLIMS checks if a **Blocking period** is defined for the **Report property** of the requested microbiology procedure. If so (and the user accepts the blocking period in order entry), the microbiology action will not be created and the **Text used as result during blocking period** will be stored as result value.

Issue

In case of electronic order entry, if a microbiology action was not created because of the blocking period, the value of the report property (indicating why the microbiology action had not been created) was not sent to the result server (e.g. CyberLab) during structured microbiology online reporting.

Solution

This has been corrected.

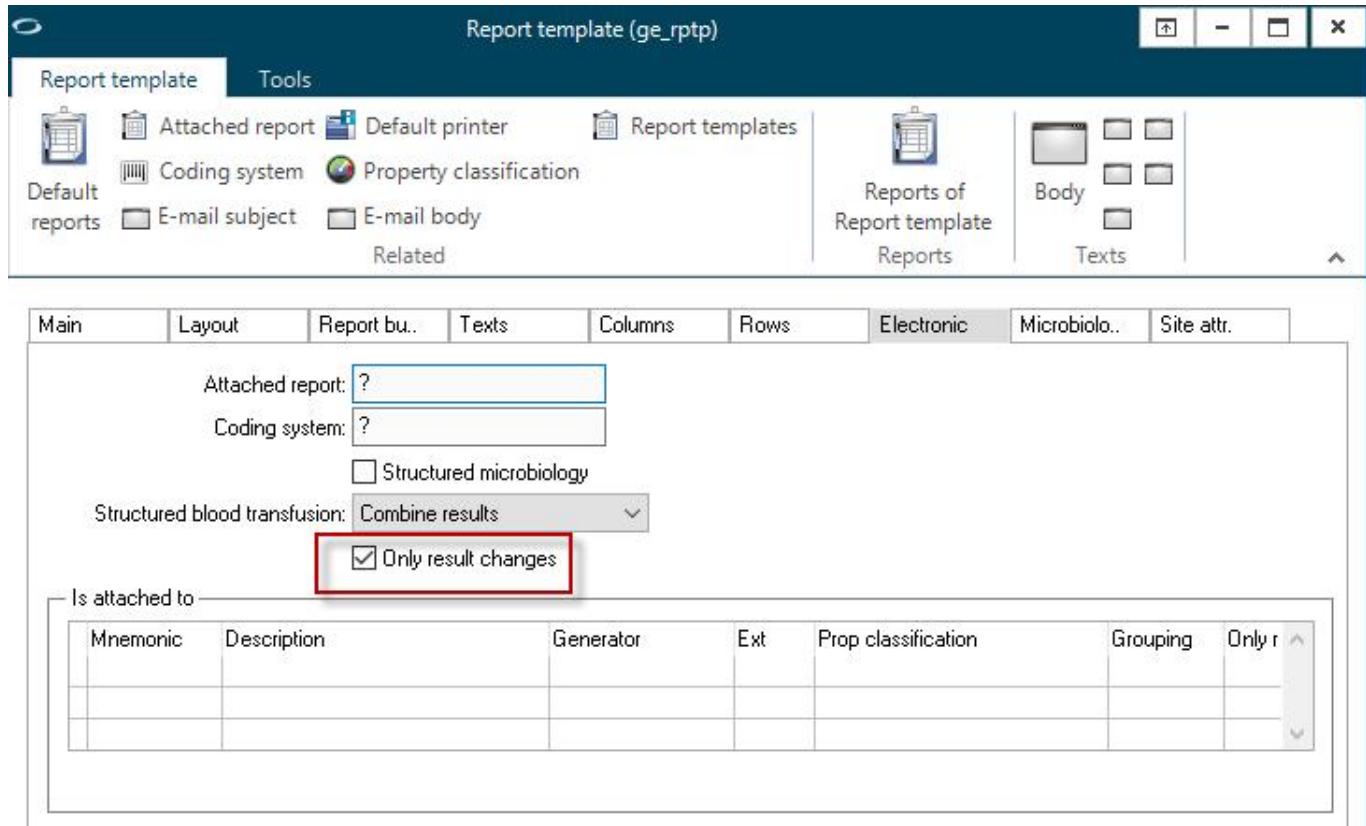
Needs checking flag optionally set on electronic reports (GLIMS_RX-00698)

Introduction

With modification [GLIMS-10708](#), the setting of the **Needs checking** flag upon change of an order's object or encounter has been restricted to electronic reports. The present modification allows restricting the activation of the **Needs checking** flag even more: users can indicate which electronic reports should not be marked as **Needs checking**.

No Need checking flag on chosen electronic reports

If certain electronic reports should not be marked as **Needs checking** when an order's object or encounter is updated, activate the option **Only result changes** in their templates:



Notes

- If you had created a site attribute "_OnlyResultChanges" and had set it to **Yes** in a previous version of GLIMS, an upgrade script will activate the new option **Only result changes**.
- The **Only result changes** option only applies to electronic reports. This means that for reports whose medium is different from **Communication**, the value of this option is not taken into consideration.

Support for nested LOINC coding system during result export (GLIMS_RX-00702)

Issue

If GLIMS is configured as described below, the LOINC code of the result of a property which belongs to a nested coding system of type LOINC is not exported when sending out result reports for which the LOINC code must be exported.

Note

This issue occurred since GLIMS 9.5.

Configuration (example)

Coding systems

A coding system KWS contains two code sets. No codes are defined for these code sets which refer to another coding system (via their **Original coding system** field).

1. The LN coding system has its **Type** set to **LOINC** and refers to a code set containing codes for the Property table.
2. The UCUM coding system has its **Type** set to **Default** and refers to a code set containing codes for the Unit table.

Report template

A report template exists which refers to the KWS coding system.

Solution

This has been corrected.

Online reporting: only export most recent patient identification code (GLIMS_RX-00704)

During electronic reporting, only one identification code will now be exported for a patient per provider: the currently valid identification code with the most recent start date. Moreover, the start date and end date of the identification is now exported as well.

In previous versions, all identification codes of a patient were exported without their start date and end date.

Export multilingual description of coding system code during online reporting (GLIMS_RX-00709)

The multilingual **Description** of a Code is now correctly exported during online reporting.

Note

The language in which the **Description** is exported is determined by the report language.

LOINC code for property classification nodes in variable text reports (GLIMS_RX-00712)

Context

LOINC

The coding system concept in GLIMS offers specific support for LOINC codes. LOINC is a universal code system used to identify laboratory and clinical observations.

Variable text reports

For variable text reports (configured with dynamic text modules), the content can be based on the **w_Result** table. If a coding system is defined in the report template, the **w_Result** field **Mnemonic** will contain the code of the corresponding record in the specified coding system. This is also supported for the LOINC coding system. The code set defined for the **Property** table is used in case of results (the "ObservationalResultType" of the item to report is "Result") whereas the code set defined for the **PropertyClassificationNode** table should be used in case of titles ("ObservationalResultType" = "Label").

Issue

The **Mnemonic** field of the **w_Result** table did not contain the LOINC code in case of titles / property classification nodes. Instead, it contained the **Label** of the property classification node while the **Value** field of the **w_Result** table already contains the **Label**.

Solution

This has been corrected: **w_Result.Mnemonic** will now also contain the LOINC code in case of property classification nodes.

Extension of "Repeat per specimen" to online reports when specimens have material variables or discriminators (GLIMS_RX-00716)

Background

Since modification GLIMS_RX-00600, the Repeat per specimen option of Property classification nodes was only taken into account during the generation of text reports. This option was ignored during the generation of online reports.

Modification

The **Repeat per specimen** option is now also taken into account during the generation of online reports if the specimens have material variables or discriminators. These specimens are thus displayed on separate lines on online reports.

Result export: export at least the department of the order (GLIMS_RX-00724)

For online reports, the **Electronic** tab of the report generation screen allows the user to indicate - via the **Report items** button - which data should (not) be exported. For instance, the user can choose to export the department of the result. However, if no department was specified for the result, then no department was exported, even though certain result servers always expect an executing department (that is, also for discontinued, re-used and blocked results). Therefore, the department of the order of the result is now exported if no department is specified for the result.

"Target group" query option correctly taken into account by Reports browser (MATE-06362)

An issue was reported where the **Target group** query option of the **Reports** browser (**Start > Routine > Reports > Browse**) was not correctly taken into account : if set, reports without a target group were displayed as well.

This has been corrected.

No missing data in HPRIM report messages anymore (MATE_COMLL-00098)

Issue

Some data were missing from HPRIM messages when reporting using the Output to file option (not via a translator).

Cause and solution

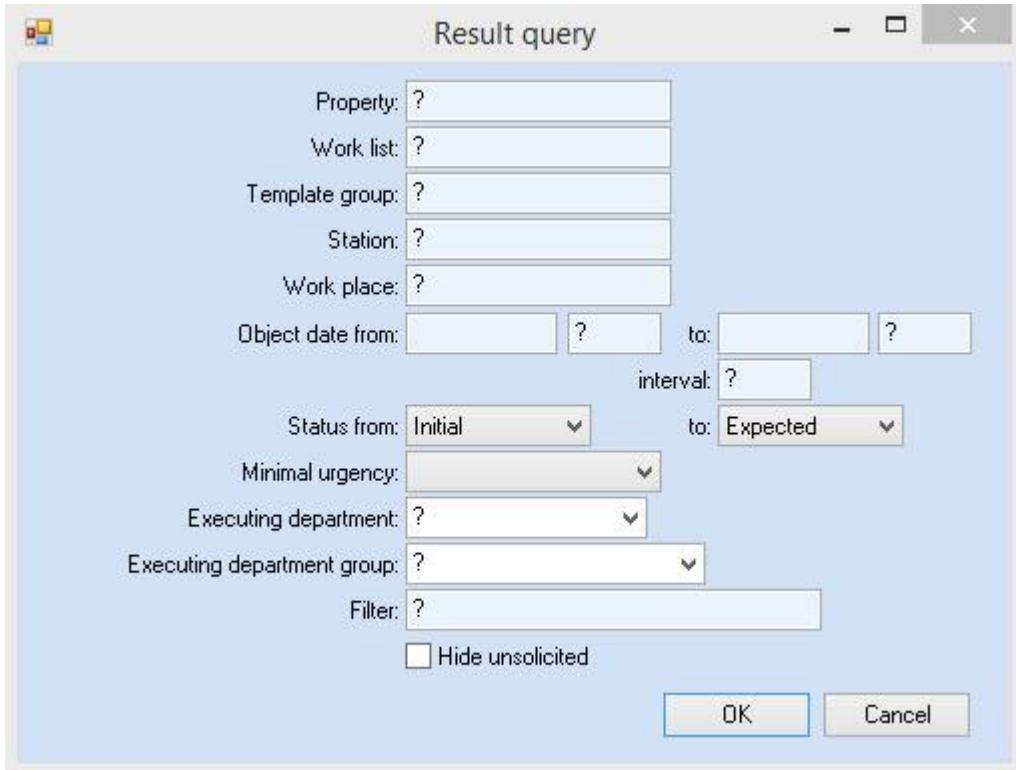
All segments in HPRIM messages should end with <CR>, indicating the end of a line. However, due to a previous modification, <CR> was replaced by other tags at the end of certain segments. As a consequence, some applications could not read the files correctly and some data did not appear on the reports.

This issue has been corrected.

Results

Better performance of incomplete result query (GLIMS-10651)

The result query allows looking for non-validated results of a specific property, work list, station, etc.



Since GLIMS 9.5.19, when filtering incomplete results by property, station, work list or workplace, the execution of the query was very slow, both with Progress and Oracle. When none of these filters was used, the performance was not optimal either on the Oracle version of GLIMS.

This has been corrected and the performance is now better.

Tip

Result query and browser performance can be improved if you:

- exclude discontinued results. The inclusion of discontinued results is likely to significantly increase the number of results considered, and so reduce performance.
- set as many query options as possible.
- use small ranges where a **From / to** value can be entered. For example, reducing the **Object date** range can help improve performance.

Correction for error displayed in incomplete result browser (GLIMS-10654)

Since GLIMS 9.5, when entering results in the incomplete result browser, the following error sometimes occurred:

"w_IncompleteResult already exists with 436526919.(132)"

Despite many attempts, MIPS was not able to reproduce this reported issue. The suspected causes of the problem have been fixed and all the tests were successful.

GetPriorResult ignores duplicated results (GLIMS-10662)

Context

The Result-based MISPL function GetPriorResult(1,?) returns the id of the most recent previous result.

Example

Example

Say there are two results: R1 and R2. R2 was measured just after R1.

Using GetPriorResult(1,?) on R2 will return the id of R1.

The matter becomes slightly more complex in the case of duplicate results:

Say GetPriorResult(1,?) is used on R3, a duplicate of R2. The function should ignore the duplicated result R2, and thus return the id of R1.

Issue and solution

The duplicated result was not ignored. Hence the function returned the id of the duplicated result instead of the id of the first previous, non-duplicated result.

This has been corrected.

Note

Note

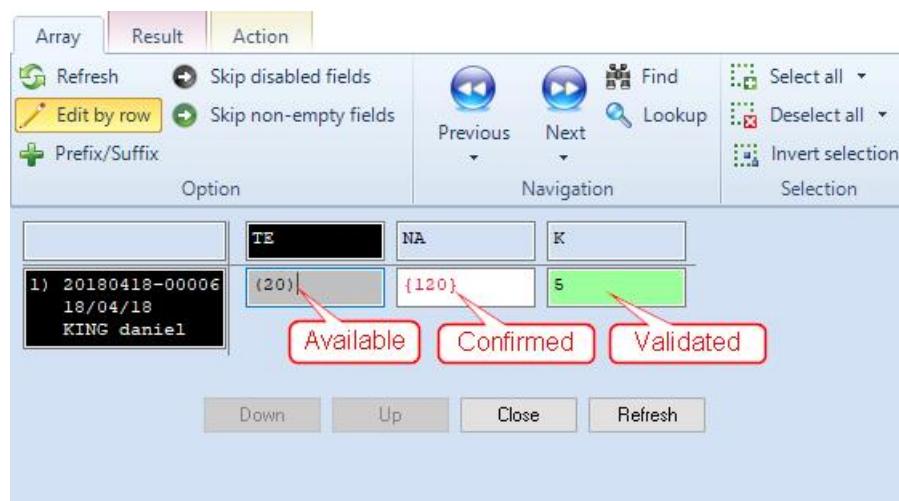
The same issue has been corrected for the Result-based MISPL function PriorAttribute(1,?), which returns the attribute of the most recent, previous, non-duplicated result.

Status of procedure data results now clearly indicated in Worklist grid (GLIMS-10911)

In the Worklist grid, the difference between available and confirmed procedure data results was not explicit.

From now on, the status of procedure data results will be indicated by means of different types of brackets. If the result is "80", for instance, it will be displayed as follows:

- Available: (80)
- Confirmed: {80}
- Validated: 80



Note

Note

Discontinued procedure data results are not displayed in the worklist grid.

Highest severity of multiple result codes not taken into account (GLIMS-10931)

An issue was detected where the highest severity of the result codes entered as a result for a property with the option [Allow multiple result codes](#) enabled, was not applied as the result severity.

Note

This issue could occur since GLIMS-08060.

This has been corrected.

Correction for using incomplete results browser by template group (GLIMS-10965)

An issue was reported where using the incomplete results browser with a [Template group](#) specified in the browser's query options could result in:

1. the error "wb_Output already exists with <number>. (132)" (if the AppServer was not used)
2. an empty browser (if the AppServer was used)

Note

This issue occurred since GLIMS 9.5.21.

This has been corrected.

Informative error message displayed when database contains inconsistent result record (GLIMS-11056)

Issue

When the database contained an inconsistent result record, i.e. a result record whose property attribute pointed to a non-existing property, an error occurred with the property cache and GLIMS had to be restarted.

Solution

When the database contains an inconsistent result record, an informative error message is displayed and GLIMS does not need to be restarted.

Pop-up windows with image results are now displayed (GLIMS-11073)

Since GLIMS 9.6, despite the option [Show image results](#) being activated, pop-up windows with image results were not displayed.

This has been corrected.

Severity result flags are now displayed in the user's language (GLIMS-11136)

Modification GLIMS-08399 dealt with the translation of severity result flags into languages other than English. With .NET browsers and AppServer, these flags were however still displayed in English.

This issue has been corrected.

Determination of result responsible if no property domains are defined (GLIMS-11145)

Context

In order to determine the responsible of a result, the results of an order are first grouped by property domain and lab. For each group of results, one result is selected and its responsible will be determined. The responsible of this result is set as responsible of all results in its group. For more information, see Result: Responsible.

Issue

If no property domains were defined, the results of an order were still grouped in one single group, which may cause the Result.Responsible to be set incorrectly. Because of the Result.Responsible not being set correctly, the Order.Attribute MISPL function, which can be used to display the responsibles on the report (e.g. Order.Attribute("ValidatorSignatureList")) did not seem to work properly.

Solution

This issue, which occurred since GLIMS 9.6, has been corrected. If no property domains are defined, there will now be a group for each result, which means that a responsible will be determined for each result.

No error anymore when clicking the Phone through button (GLIMS-11228)

Since GLIMS 9.5, an error message was displayed when

1. clicking right on an order -> [Go to](#) -> [Result overview](#)
2. clicking the **Phone-through** button

This issue has been fixed: no error message is displayed anymore.

Auto-refresh of incomplete result browser after result insertion (GLIMS-11264)

Since GLIMS 9.5, the incomplete result browser was not automatically refreshed after result insertion.

This has been corrected.

Enhancements for tool to change the path of image results (GLIMS-11367)

Context

A tool is available to change the image path of all image results in GLIMS. It is available from the main menu via [Start > System management > Tools > Update image results](#).

Issues

- Image results with backslashes in their path are not found.
- Image results with forward slashes in their path are not found if a path with backslashes is specified.
- There's not enough space in the options screen to supply the old and the new image path.
- Changing a result image path might trigger status changes and report rescheduling.

Solution

These issues, which occurred since GLIMS 9.8.0, have been corrected.

Discontinued results remain discontinued after second discontinuation message (GLIMS-11401)

When an electronic message was sent to discontinue a result that was already discontinued, this result was discontinued-repeated and thus expected again.

This issue has been corrected: an already discontinued result remains discontinued when a message is sent to discontinue it.

The performance of Result validation has been improved (GLIMS-11424)

The validation of results was slow, especially when many other results within the same order had already been validated. The performance has been improved.

Correction of dynamic type calculation for results that are input to a calculation (GLIMS-11537)

Context

When a property is requested during order entry and a discriminator is provided, then the eventual **Result** record will have a **Dynamic type** value that is deduced from the provided discriminator. For more information, see Requesting tests with a discriminator.

Issue

An issue was detected where the **Dynamic type** of **Result** records that were automatically created / scheduled by the action scheduler as input for a calculated result was always set to **None**.

Example scenario

Example

Configuration

- Properties: TestA and IntermediateTest
- Procedures:
 - A procedure with material MatA as input and property IntermediateTest as output
 - A procedure (calculation) with property IntermediateTest as input and property TestA as output

Routine

- Create an order and request TestA with a text discriminator.
- A request for property IntermediateTest is automatically added via scheduling.

Actual / Expected result

- Actual result : the **Result** record of TestA has **Dynamic type = Discriminator**, whereas the **Result** record of IntermediateTest has **Dynamic type = None**.
- Expected result: the **Result** record of IntermediateTest also has **Dynamic type = Discriminator**.

Solution

This issue, which occurred since GLIMS 9.5, has been corrected. The **Dynamic type** of the **Result** record of an "intermediate" property will now be calculated based on the discriminator provided for the requested property.

Unsolicited status of results will not be modified when updated (GLIMS-11539)

Since GLIMS 9.5.17, executing the function **Use value** from previous run on unsolicited results modified the **Unsolicited** status of the result.

Example

Executing the function on an unsolicited result should only replace the result value and keep the result **Unsolicited**.

Before this modification, updating the result value via the function **Use value from previous run** would lead to the result becoming solicited (requested) instead.

Furthermore, the functions **Result.SelectValue()** and **Result.Modify()** exhibited the same incorrect behavior.

This issue has been fixed: the correct behavior of these functions has been restored, updating result values will not modify the **Unsolicited** status of the result anymore.

Display of discontinued results without a value in the array editor (GLIMS-11552)

In the array editor, discontinued results without a value are now again displayed using [].

Array editor incorrectly encloses normal results in brackets (GLIMS-11559)

Context

In the array editor, procedure data results that are available or confirmed are enclosed in brackets.

Issue

Since GLIMS 9.8, normal results would also have brackets around them leading to confusion.

Solution

This has been corrected.

Show sampling date and time for results of reused specimens (GLIMS-11612)

When a specimen of an existing order is reused for a new order, the **Property** column of the Results of order browser should display the initial sampling date (as a number of days in the past) and time. However, since GLIMS 9.6, only the time part was shown. Consequently, the user was not provided with the required information. This has been corrected.

Root Specimen (Internal id)	Work Specimen (Internal id)	Property	Value	Fl
20181002-0000301	20181002-0000301	RBC (11:15-101d)	?	

The result status is reset to Available when the result value is updated by an electronic message (GLIMS-11628)

Since GLIMS 9.5, when the value of a validated result was changed via an electronic message, the status of the result remained **Validated**.

This has been corrected: if the value of a validated result is updated by an electronic message, the result is discontinued and then repeated. Its status turns to **Available** (unless auto-validation is configured on the level of the assessment method).

Prevent errors from occurring when confirming a result (GLIMS-11666)

An issue was reported where in a specific scenario the following errors occurred when confirming a result.

- Field `rsti_Id` from `ResultInput` record was missing from `FIELDS` phrase. (8826)
- Error attempting to push run time parameters onto the stack. (984)

A modification has been made in order to prevent the occurrence of these errors.

New function for result validation by responsibility delegation (GLIMS-11805)

Introduction

Validate result by delegation is a new contextual **Result** function. It allows a user without the result validation privilege to do so on behalf of a HC provider, during periods in which the responsible HC provider is absent. Additionally, it is now possible for a HC provider to manually re-validate a result using a delegation.

Necessary configuration

Responsibility

The configuration of a responsibility defines which results can be validated by delegation.

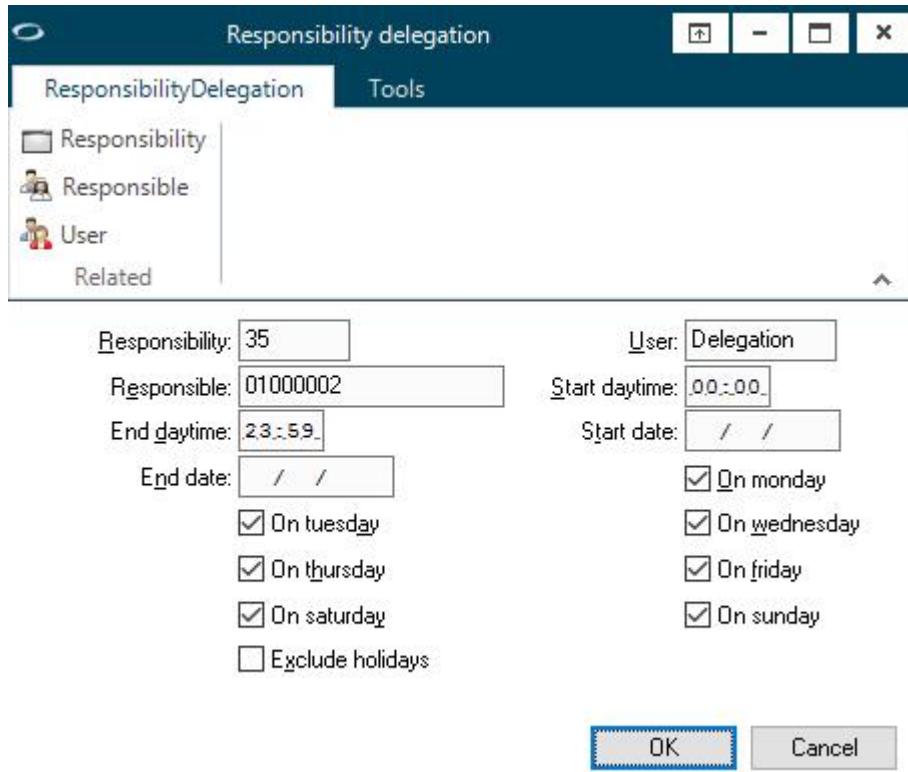
The screenshot shows the 'Responsibility' configuration dialog box. At the top, there are tabs for 'Responsibility' (selected) and 'Utils'. Below the tabs are two buttons: 'Delegations' and 'HC provider responsibilities'. A 'Related' section is present. The main area contains fields for 'Sequence' (set to 20) and 'Responsibles' (with a 'Select...' button). Under the 'Criteria' section, there are fields for 'Property domain' (with a question mark icon), 'Property classification' (with a question mark icon), 'Department' (set to 'Default'), and 'Lab' (with a question mark icon). The 'Responsibles' section shows a grid with columns 'Mnemonic', 'First name', and 'Last name'. The 'Delegations' section is highlighted with a blue border and contains a table with columns 'User', 'Responsible', 'Start time', 'End time', 'Start date', 'End date', 'On Monday', and 'On T'. The table has four rows: 'User: frenchddd Responsible: [REDACTED] Start time: 20:00 End time: 08:00 Start date: 01/02/2019 End date: [REDACTED] On Monday: X On T: X', 'User: Delegate Responsible: [REDACTED] Start time: 00:00 End time: 23:59 Start date: [REDACTED] End date: [REDACTED] On Monday: X On T: X', 'User: Monday Responsible: [REDACTED] Start time: 00:00 End time: 23:59 Start date: 01/02/2019 End date: 31/03/2019 On Monday: X On T: [REDACTED]', and 'User: Sunday Responsible: [REDACTED] Start time: 00:00 End time: 23:59 Start date: [REDACTED] End date: [REDACTED] On Monday: [REDACTED] On T: [REDACTED]'. At the bottom right are 'OK' and 'Cancel' buttons.

Warning

Defining a **Responsibility delegation** may affect the determination of the result responsible.

Responsibility delegation

By defining a **Responsibility delegation** for a **Responsibility**, you can indicate the time period during which the delegation is in effect, the user to whom the delegation is assigned and the person in charge whose responsibilities are delegated.



User

The GLIMS user to whom the delegation is assigned.

Responsible

The HC provider whose responsibility is delegated to the user. The delegation responsible will be used as result responsible, if the result responsible calculation did not find an available responsible HC provider.

Start daytime / End daytime

The delegation activation time and the time during the day when the delegation stops to be active. This applies to the days determined by the options **On Monday**, **On Tuesday**, etc. between the **Start date** and the **End date**. The start daytime and end daytime settings are not used during holidays, it is assumed that a delegation is valid for the entire holiday period.

The end daytime value can be lower than the start daytime value. **Start daytime** 8PM and **End daytime** 8AM means that the user can validate by delegation every day between 8PM in the evening and 8AM the next morning.

Start date

Start date of the delegation.

End date

End date of the delegation.

On Monday / ... / On Sunday

Delegation is valid on Monday, ..., Sunday.

Exclude holidays

Delegation is not valid on holidays.

Privilege

In order to be able to validate results by delegation, the user needs a privilege for the function **ValidateByDelegation**.

Routine: how to validate a result by delegation

Context function "Validate result by delegation"

A user with the necessary privilege and an active delegation for a result can validate a result via the contextual function **Validate result by delegation**. An error message will be displayed if no delegation is active for the user logged in at the time of the validation by validation, or if the responsibility of the delegation does not apply to the result.

Order review and Specimen review

The **Validate** button on the order review screen and the specimen review screen allows the user to validate by delegation, if the current user has the **Validate result by delegation** privilege, but does not have the general privilege necessary to validate results. Only results that correspond to the responsibility of the defined delegation are then pre-selected.

Display of validation by delegation

A result which was validated by delegation acquires the new validation method status **By delegation**. The validation method and validation user are visible in the **Status** tab of the extended **Result** editor.

Routine: how to re-validate a result validated by delegation

A HC provider might need to review the results which were validated by delegation and approve the validation of these results.

If a HC provider executes the **Validate** function on a validated result which does not have the Validation method **Manual**, then the HC provider will become the validation user and responsible of the result, thus changing the validation method into **Manual**. This is logged in the result log.

Browsers

Responsibility delegation browser

There is a new **Responsibility delegation** browser, accessible via **Correspondents > HC providers > Delegations**. It can be used to check if the necessary responsibility delegations for a certain time point are available, e.g. for the next weekend. The query options are **Responsibility**, **User**, **Responsible** and **Target time**.



Extended result browser

It is possible to find results validated by delegation by using this MISPL filter in the extended result browser:

MISPL

```
RETURN .ValidationMethod = 5;
```

Use incomplete results browser without AppServer (GLIMS-11869)

In some cases, there was an issue with the Incomplete results browser when the AppServer was used. When this issue occurred, each time the browser was refreshed via the F5 key, it displayed a different outcome.

As a workaround, the use of the AppServer has - for now - been disabled for this browser.

Repeating discontinued results is possible again (GLIMS-12011)

When trying to repeat a discontinued result (which has not been repeated before), an error message "Result status is 'discontinued', no modifications allowed" appeared starting with GLIMS version 9.8.9.

This issue has been fixed, the functionality has been restored.

Incomplete results browser should not allow deletion of result records (MATE-05969)

An issue was reported where it was possible to delete a **Result** record in the .NET version of the **Incomplete results** browser (**Start > Routine > Results > Incomplete results**). Moreover, no logging was added in the Order log.

This should not be possible and has been corrected.

Security

Access profile must be defined on employee assignment when shielding method "Access profile" is active (GLIMS-11643)

When the GLIMS shielding method is set to Access profiles, users can log in to GLIMS even if no access profile is specified for their employee assignment.

Before GLIMS 9.8.8, no warning was displayed in this case. Now a warning window informs users that the configuration of their employee assignment is incomplete.

Role privileges not correctly updated when user switches roles (GLIMS-11846)

The following issue was reported: if a user having several roles logs out and logs in again with one of the other roles, the privileges of the previous role were still taken into account by GLIMS.

Example

A User record in GLIMS is linked to two Roles:

1. a role of which the privileges grant access to the confirmation and validation functions
2. a role of which the privileges only grant access to the confirmation function

The user logs in with the first role and validates the results of an order. After logging out (manually using the logout icon or automatically because of a timeout) and logging in with the second role, the user is still able to apply changes to validated results.

This has been corrected.

REST services: restrictive cross-domain policy (GLIMS_CBT-00274)

The glims and glims_cbt folders (under Tomcat -> webapps) now contain a [crossdomain.xml policy file](#) which denies any cross-domain calls in the context of Adobe applications. This contributes to the protection of GLIMS and CyberTrack.

Update Microsoft .NET Framework to prevent GLIMS from exiting when opening the Security Center (MATE-05883)

An issue was reported where GLIMS stopped working when opening the Security Center. Installing Microsoft .NET Framework 4.7.2 or a higher version solves this issue.

Browsers in the Security center open without error (MATE-05962)

An error sometimes occurred when opening a look-up browser from within the security center. This error has been corrected.

More flexibility when using an unencrypted LDAP connection (MATE_LDAP-00004)

Past functionality

Up until now, the unencrypted LDAP authentication method took into account a certain fixed, hard-coded DN. E.g. CN=<User Name>,CN=Users.

This would force the customer to have a similar structure in his LDAP implementation.

Current functionality

It is now possible to perform an anonymous search for <User.LoginName> (not last name, first name), starting from a certain LDAPSearchRootDN, e.g. "DC=example,DC=com". This value needs to be specified in the gp_Site-based site attribute "_LdapSearchRootDN" ([Start > System management > Customize > MATE](#)).

When specified, the fixed DN is no longer taken into account, but an anonymous ldapsearch is performed, starting from the specified value. The value used in this search is the login name of the user. When a unique match is found, we use the found DN to perform the authentication.

Backward compatibility

When **LdapSearchRootDN** is not specified, the fixed hard-coded DN is used to ensure backward compatibility.

Correct import and storage of password via Internal User Service (MATE_USRSV-00015)

An issue was reported where the error "Size of Password exceeds maximum 20" occurred when GLIMS (internal User URL service) received a message updating a user's password. This has been corrected.

Note

This issue occurred since GLIMS 9.6.

Specimen review

Improved performance of query in specimen review program (GLIMS-10640)

In GLIMS Oracle, the query of the specimen review program was slow when the only filter used was the **Result status** set from **Initial** to **Available**.

The performance has been improved.

Calculated result not visible during specimen review (GLIMS-10643)

In a nutshell

An issue was reported where a property and its calculated result were not visible in the Specimen review screen.

Issue

Suppose the following configuration exists in GLIMS :

- Material1 - Procedure1 - Property1
 - The **Property** option **Visible** is set to **No**.
- Property1 - Procedure2 - Property2
 - The **Property** option **Visible** is set to **Yes**; Procedure2 is a calculation, meaning that Property2 has a calculated result based on the result of Property1.

An order is created requesting Property2 (and Property1). When the result value for Property1 is validated, the result of Property2 needs to be confirmed. In the **Specimen review** window, opened for result confirmation, Property2 is not visible.

Solution

This has been corrected. In the scenario above, Property2 will now be visible in the **Specimen review** program.

No pop-up message for empty specimen review browser (GLIMS-10738)

When the specimen review query did not yield any records satisfying the selected parameters, a pop-up message was displayed stating that the query was empty. As this message was considered redundant, it is now no longer displayed.

Specimen review shows unavailable specimens again (GLIMS-11681)

An issue was reported where the Specimen review query only returned specimens in status **Available** even if the query option **Available** was set to include specimens that are not available.

This issue, which occurred since GLIMS 9.8.3, has been corrected.

Fixed user preferences for layout of Specimen review screen (MATE-05946)

Changes made to the layout of the Specimen review screen are saved in the user's preferences. However, an issue was reported where the stored preference was not applied correctly the next time the **Specimen review** screen was opened.

This has been corrected.

Specimens

Specimen discriminator not stored when using specimen reception scan with material button screen (GLIMS-10645)

When scanning specimens via the specimen reception scan program and using a material button screen with predefined (i.e. specified in the button definition) discriminators, the discriminators for the created specimens were not correctly stored in GLIMS.

This has been corrected.

Work specimen labels printed for material inputs (GLIMS-10712)

Since GLIMS 9.6.0, work specimen labels were not printed for material inputs when the option **Is sub label** was activated in the Material input editor.

This has been corrected.

Object time of sampling actions and subspecimens is updated when order object time changes (GLIMS-10719)

Since GLIMS 9.6.0, when the object time of an order was modified, the object time of

- the sampling actions (i.e actions derived from a procedure having a material output but no input)
- some subspecimens (e.g. when a result was obtained via a cascade of specimens)

was not updated accordingly.

This has been corrected.

No more error when selecting a specimen after using "Print specimen labels" (GLIMS-10734)

When selecting a specimen in a browser after having used the contextual menu/ribbon item **Print specimen labels** on (an)other specimen(s), an error message was displayed.

This has been corrected.

Specimen reception scan: error when scanning unknown specimens in simultaneous sessions (GLIMS-11011)

Context

When scanning the barcode of a specimen unknown to GLIMS via the specimen reception scan, an order and specimen are created (if the configuration allows their creation). If specimen variables need to be entered for the newly created specimen, the user is asked to enter them via a pop-up window.

Issue

If a user scanned an unknown specimen via the specimen reception scan and needed to enter specimen variables for it, a second user who was also scanning an unknown specimen in the same program (but in another GLIMS session) encountered the error "Sequence is in use by another user". In this GLIMS session, scanning an unknown specimen was not possible as long as in the other GLIMS session the pop-up window (for specimen variable entry) was open.

Solution

This has been corrected.

Specimen reception scan supports longer log history (GLIMS-11034)

When a large number of specimens were scanned using the Specimen reception scan, an error message was displayed and the log history was wiped because it had become too long.

This issue has been corrected: the number of specimen scans that can be logged is now only limited by the system memory.

Possibility to indicate the sampler(s) of a specimen (GLIMS-11129)

Issue

Until now, it was only possible to register one sampler per order. However, in practice, specimens of the same order may be sampled by different people.

Solution

It is now possible to indicate one or more samplers for each specimen of an order, both manually and electronically. The Specimen info screen contains two new fields to this effect, **Sampler** and **Sampler info**:

The screenshot shows the 'Specimen info' screen in GLIMS. At the top, there are tabs for 'Specimen' and 'Tools'. Under 'Tools', there are icons for 'Print specimen labels', 'Screen report', 'Outline', 'Confirm availability', 'Unconfirm availability', 'Discontinue', 'Audit trail Log', 'Specimen info', 'Order', 'Approaches', and 'Identifications'. Below these tabs, there are several input fields: 'Internal id:' (20190805-0003601), 'Material:' (G_Blood), 'Container:' (dropdown), 'Status:' (Available), 'Received on:' (05/08/2019 13:53), 'Received quality:' (dropdown), 'External id:' (empty), 'Sampling time:' (05/08/2019 13:52), 'Received quantity (ml):' (dropdown), 'Discriminator:' (empty), 'Sampling location:' (dropdown), 'Sampler Info:' (dropdown), and 'Container count:' (dropdown). The 'Sampler Info:' and 'Container count:' fields are highlighted with a red box. Below the main form, there is a section titled 'Results of order 20190805-00036 for Lannister, Bart Foetus (?) (05/08/19)' with tabs for 'State', 'Storage', and 'Other result properties'. To the right, there is a 'Material variables' section with 'State:' (Fresh) and 'Treatment*' (Citrate).

Manually

Manually added samplers must be known in GLIMS as correspondents of type Health Care provider.

To indicate the sampler of a specimen manually,

1. open the **Specimen info** screen from a specimen record,
2. click the "..." button next to the **Sampler** field,
3. the HC provider browser opens. Double-click on a HC provider.

Electronic order entry

Specimen samplers

The sampler of a specimen can be set via an electronic order message.

If the sampler is

- known as HC provider in GLIMS, they are saved in the **Sampler** field.
- not known in GLIMS as HC provider, they are saved in the **Sampler info** field.

If the electronic message contains several samplers for a given specimen, the first sampler of the SpecimenList is saved in the **Sampler** field (if known in GLIMS as HC provider) and the other samplers are saved in the **Sampler info** field.

Order sampler

If an electronic order has no sampler indicated,

- GLIMS looks in the SpecimenList of the message for specimens whose sampler is indicated, and known as HC provider in GLIMS,
- among these specimens, GLIMS takes the one that was sampled first, i.e. that has the oldest sampling time. In case two specimens have this sampling time, GLIMS takes the first one in the SpecimenList.
- GLIMS then sets the sampler of this specimen as the sampler for the order.

Once the order sampler is set, it is not updated if the specimen sampler changes. This is to avoid the creation of unnecessary reports.

See also: [GLIMS_OI-00794](#).

New Specimen-based MISPL function FirstRequest (GLIMS-11155)

In addition to the already existing **Specimen**-based MISPL function **LastRequest**, the new **Specimen**-based MISPL function **FirstRequest** is now available.

FirstRequest

This function returns the oldest request for a specimen.

From the Request class, you can further navigate to the Order class, as in `FirstRequest(?)`.Order.

FirstRequest (*Logical* Explicit)

Logical Explicit

The explicit argument indicates whether or not the specimen should have been explicitly requested. If you do not care, specify the unknown value (?).

Example

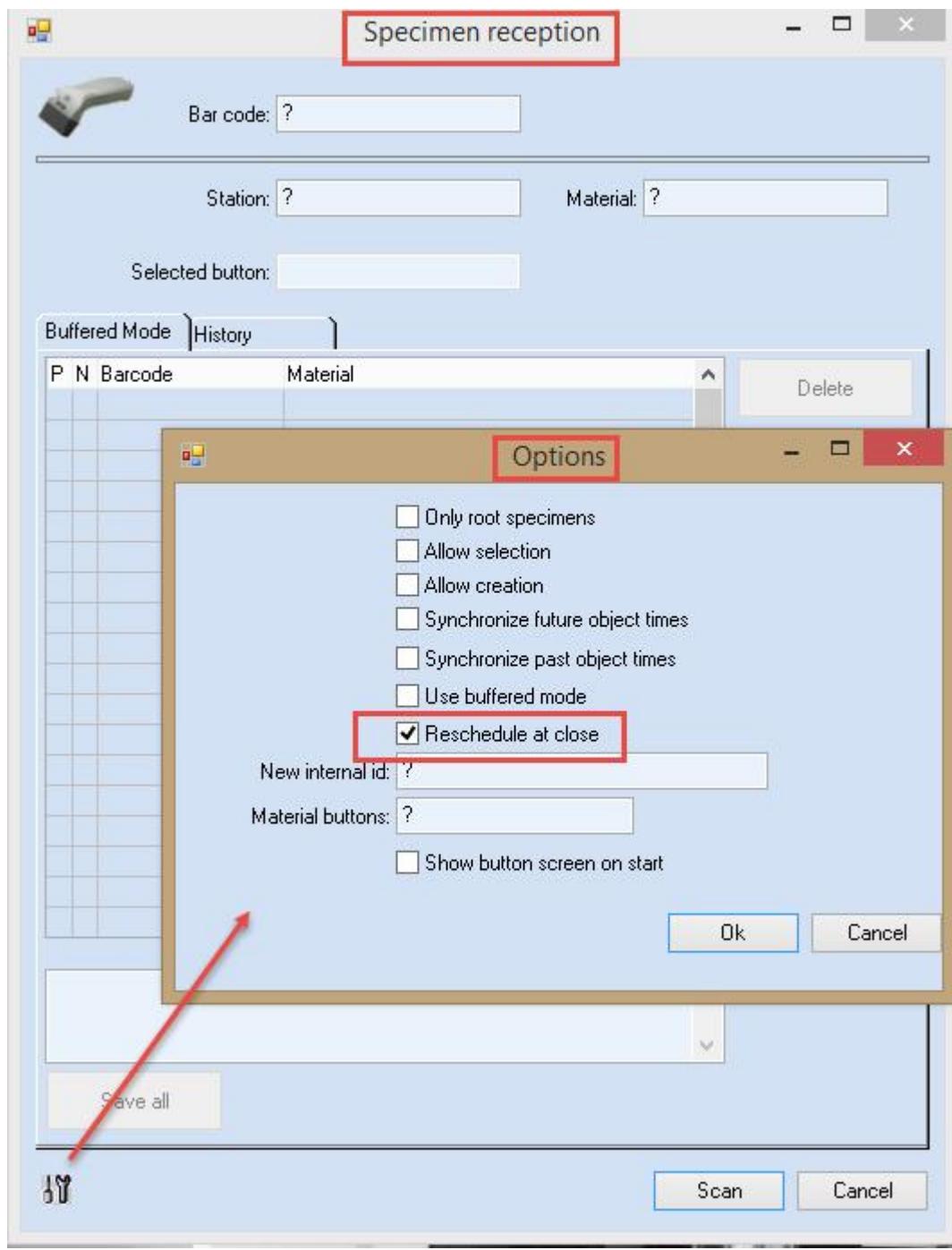
```
RETURN .FirstRequest(yes).Order.InternalId;
```

Lower impact of action rescheduling on Specimen scan and Specimen reception scan functionalities (GLIMS-11190)

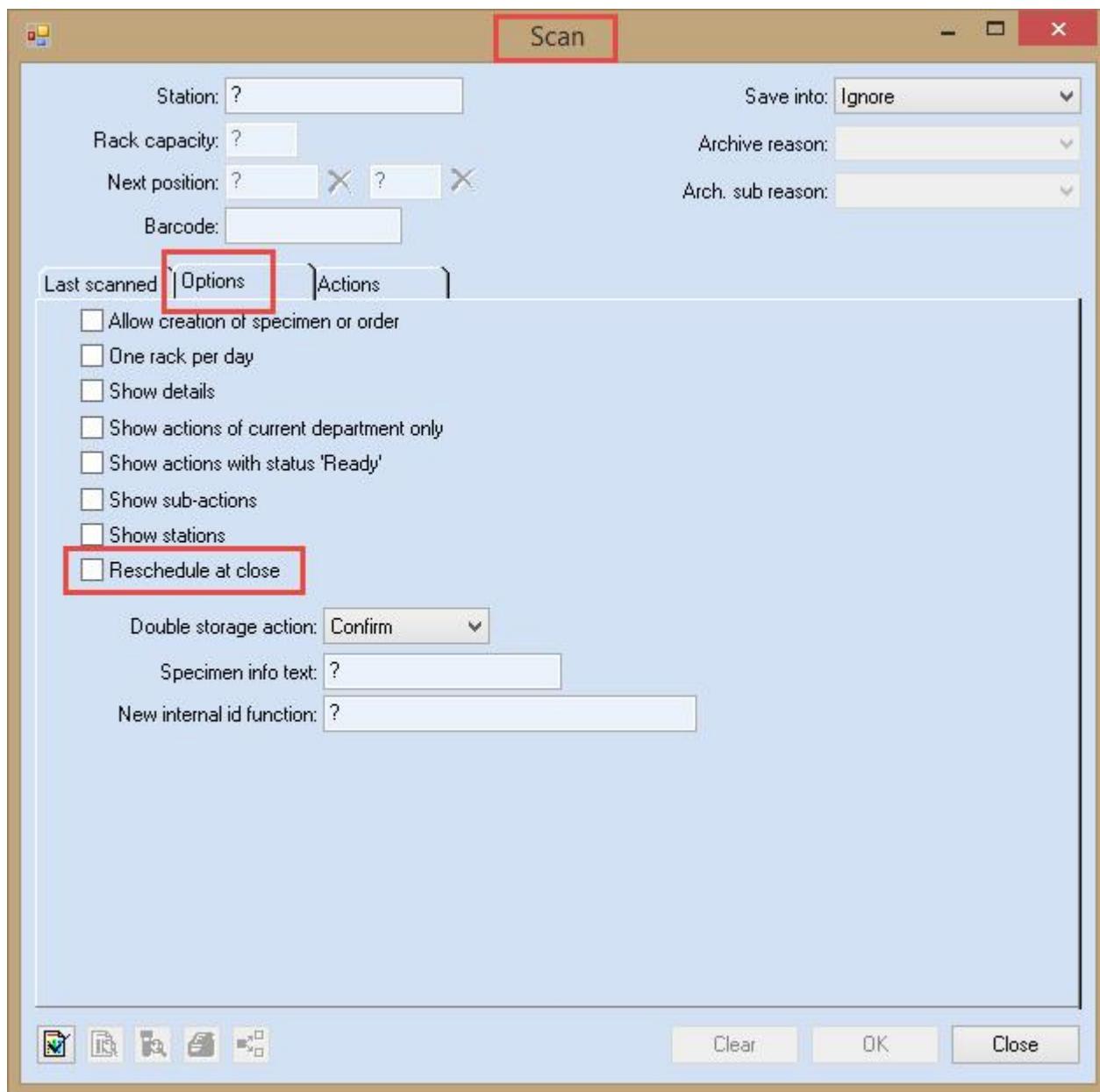
Since GLIMS 9.6, the action rescheduling that can take place after each scan of a specimen in the Specimen reception scan and the Specimen scan screens was slowing down these two scanning functionalities. The performance has been improved.

However, GLIMS now offers a much more efficient way to proceed: a new option allows postponing the rescheduling until all the specimens are scanned. This option, **Reschedule at close**, has been added to the **Specimen reception scan** and **Specimen scan** screens. If it is activated, rescheduling will only take place once the scanning screen is closed.

Specimen reception scan



Specimen scan



Automatic specimen status promotion from initial to expected (GLIMS-11353)

Issue

When receiving sampling time information from an external system (e.g. from CyberLab), the specimen status was promoted to **Available**. This behavior is wrong since if a specimen has been sampled, it does not always imply that it is available on site.

Solution

To solve this, a new parameter **Sampled** was introduced in the Specimen / Specimen review query to clearly indicate whether a specimen is sampled or not.

Specimen - query options

Internal id from:	?	to:	?
Specimen status from:	Expected	to:	Expected
Sampled:	<input checked="" type="radio"/> Yes <input type="radio"/> No <input type="radio"/> Both		
Sampling time from:	This year	?	?
Type of specimens:	Both		
Material:	?		
Archive reason:	?		
Archive sub reason:	?		
All actions ready:	?		
Executing department:	?		
Executing department group:	?		
Filter:	?		
<input type="button" value="OK"/> <input type="button" value="Cancel"/>			

Start Administration Routine Microbiology Genetics Configuration Correspondents System configuration Security System Specimen Tools ?

Print specimen labels	Main	Specimens	Change state	Audit trail Log	Specimen info	Related	Approaches	Identifications	Identifications																																																																																													
<table border="1"> <thead> <tr> <th>Home</th> <th colspan="10">Specimen query (DynamicBrowser - SpecimenQuery)</th> </tr> <tr> <th>M</th> <th colspan="10">Specimens</th> </tr> <tr> <th>T</th> <th>Urg</th> <th>Internal id</th> <th>Material</th> <th>Object</th> <th>Status</th> <th>Material variabl</th> <th>Sampled</th> <th>Sampling time</th> <th>Discriminal</th> </tr> </thead> <tbody> <tr> <td>S</td> <td></td> <td>UnitTest2019072910593137501</td> <td>ut_mat07388_1</td> <td>Unk-47186 (29/07 10:59)</td> <td>Exp</td> <td>?</td> <td><input checked="" type="checkbox"/></td> <td>29.07.2019 10:59</td> <td>?</td> </tr> <tr> <td>S</td> <td></td> <td>_119353</td> <td>Serum</td> <td>NACER13, NACER13 (M), 10/09/1976</td> <td>Exp</td> <td>?</td> <td><input checked="" type="checkbox"/></td> <td>4.06.2019 12:11</td> <td>?</td> </tr> <tr> <td>T</td> <td></td> <td>_119482</td> <td>Serum</td> <td>Bridges, Ciara (F), 17/12/1965</td> <td>Exp</td> <td>?</td> <td><input checked="" type="checkbox"/></td> <td>9.06.2019 10:44</td> <td>?</td> </tr> <tr> <td>L</td> <td></td> <td>2019704-0031</td> <td>ho_H1B</td> <td>Unk-46965 (04/07 15:36)</td> <td>Exp</td> <td>?</td> <td><input checked="" type="checkbox"/></td> <td>14.07.2019 15:36</td> <td>?</td> </tr> <tr> <td>D</td> <td></td> <td>UnitTest2019072409192526701</td> <td>ut_mat07388_1</td> <td>Unk-47151 (24/07 09:19)</td> <td>Exp</td> <td>?</td> <td><input checked="" type="checkbox"/></td> <td>08.08.2019 09:19</td> <td>?</td> </tr> <tr> <td></td> <td></td> <td>UnitTest2019072409192741701</td> <td>ut_mat07388_1</td> <td>Unk-47152 (24/07 09:19)</td> <td>Exp</td> <td>?</td> <td><input checked="" type="checkbox"/></td> <td>24.07.2019 09:19</td> <td>?</td> </tr> </tbody> </table>											Home	Specimen query (DynamicBrowser - SpecimenQuery)										M	Specimens										T	Urg	Internal id	Material	Object	Status	Material variabl	Sampled	Sampling time	Discriminal	S		UnitTest2019072910593137501	ut_mat07388_1	Unk-47186 (29/07 10:59)	Exp	?	<input checked="" type="checkbox"/>	29.07.2019 10:59	?	S		_119353	Serum	NACER13, NACER13 (M), 10/09/1976	Exp	?	<input checked="" type="checkbox"/>	4.06.2019 12:11	?	T		_119482	Serum	Bridges, Ciara (F), 17/12/1965	Exp	?	<input checked="" type="checkbox"/>	9.06.2019 10:44	?	L		2019704-0031	ho_H1B	Unk-46965 (04/07 15:36)	Exp	?	<input checked="" type="checkbox"/>	14.07.2019 15:36	?	D		UnitTest2019072409192526701	ut_mat07388_1	Unk-47151 (24/07 09:19)	Exp	?	<input checked="" type="checkbox"/>	08.08.2019 09:19	?			UnitTest2019072409192741701	ut_mat07388_1	Unk-47152 (24/07 09:19)	Exp	?	<input checked="" type="checkbox"/>	24.07.2019 09:19	?
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Specimens with an active **Sampled** parameter are now promoted from status **Initial** to **Expected** in GLIMS during

- electronic order entry (e.g. specimens with option **Sampled** in CyberLab lead to specimens with status **Expected** in GLIMS)
- an update of the specimen sampling time with activated option Sampling time confirmed

Name	Value
InternalId	_119353
Object.InternalId	19760910NACN52
Material.Mnemonic	Serum
SamplingTime	14/06/2019 12:11:00
Discriminator	?
Scope	?
Size	3
Distributed	no
HomeLocation	?
LastLocation	?
LastSortingLocation	?

Correction of issue where implicit specimens in status "Expected" are not deleted during rescheduling (GLIMS-11421)

Example scenario

Configuration

Procedures

- A procedure is configured with Material C as input and Property C as output (Schedule preference = 10).
- A procedure is configured with Material D as input and Property D as output.
- A procedure is configured with Material D as input and Material E as output.
- A procedure is configured with Material E as input and Property C as output (Schedule preference = 20).
- A sampling procedure is configured with Material C and Material D as outputs. As a result, the specimens will be immediately created in status **Expected** and not **Initial**.

General options

The option Reschedule when specimen becomes available is enabled in the GLIMS general options (**Start > System management > Customize > GLIMS General**).

Routine

- An order is created containing requests for Property C and Property D.
- When Material D is scanned (e.g. via the reception scan) and the specimen becomes available, rescheduling takes place and a sub specimen (Material E) is added to schedule Property C on Material D.
- When Material C is scanned and rescheduling takes place, Property C is rescheduled on Material C. The previously created sub specimen (Material E) is deleted as it is no longer required.

Issue

Since GLIMS 9.6, the redundant sub specimen (Material E) was not deleted if **Audit specimen status changes** was enabled in the GLIMS general options (**Start > System management > Customize > GLIMS General**). If enabled, a specimen audit is created when the specimen becomes available. However, the presence of the specimen audit prevented the specimen from being deleted during rescheduling.

Solution

This has been corrected. The sub specimen will now be deleted even if a specimen audit is available.

See also: [GLIMS-11190](#).

Prevent errors from occurring when processing specimens (GLIMS-11459)

An issue was reported where in a specific scenario the following errors occurred when confirming the availability of a specimen:

- Field spmi_Id from SpecimenInput record was missing from FIELDS phrase. (8826)
- Error attempting to push run time parameters onto stack. (984)

A modification has been made to prevent the occurrence of these errors.

Specimen confirmation and rescheduling can be delegated to the AppServer (GLIMS-11689)

Background

Specimens scanned in the Specimen reception scan program are usually confirmed and their status turns to **Available**.

Issue

When the option Reschedule when specimen becomes available is active, the specimens are not only confirmed but also rescheduled. When a lot of specimens are scanned, this can take a long time.

Solution

A new option in the Specimen reception scan program allows delegating the specimen confirmation and rescheduling to the AppServer: **Asynchronous specimen confirmation**. If this option is activated, users can continue their work while rescheduling takes place.

Specimen scope not taken into account during Specimen.AddRequest (GLIMS-11691)

An issue was reported where the action scheduler did not take into account the specimen scope of the imposed specimen when adding a request. As a result, it happened that the request was scheduled on a specimen which was not the imposed specimen.

Example

Configuration

- Properties: COBAS_N_1, COBAS_S_1, HEMO
- Stations:
 - COBAS_N in Department DEPN
 - Procedure COBAS_N_1 with property COBAS_N_1 as output and material Serum as input
 - Procedure COBAS_N_HEMO with HEMO as output and material Serum as input
 - Both procedures have Specimen scope = COBAS_N
 - COBAS_S in Department DEPS
 - Procedure COBAS_S_1 with property COBAS_S_1 as output and material Serum as input
 - Procedure COBAS_S_HEMO with HEMO as output and material Serum as input
 - Both procedures have Specimen scope = COBAS_S

Routine

- Log in to GLIMS for Department DEPN
- Create an Order containing the property requests COBAS_N_1 and COBAS_S_1
- Open the order outline.
- Use the F6 key on the Specimen with Specimen scope COBAS_N
- Add the property request HEMO for this specimen via the contextual menu / ribbon item AddRequest.
- => HEMO is correctly scheduled on the Specimen with Specimen scope COBAS_N
- Close GLIMS
- Log in to GLIMS for Department DEPS
- Open the order outline.
- Use the F6 key on the Specimen with Specimen scope COBAS_S

- Add the property request HEMO for this specimen via the contextual menu / ribbon item AddRequest.
- => HEMO is incorrectly scheduled on the Specimen with Specimen scope COBAS_N while it should have been scheduled on the Specimen with Specimen scope COBAS_S.

This issue has been corrected.

The specimen receipt time is not set to the sampling time anymore (GLIMS-11745)

When the Order entry option Automatic sample login was active, the specimen receipt time was set to the sampling time.

This has been corrected: the receipt time is not set to the sampling time anymore, it is set to the current time.

Specimen scope not taken into account during scheduling of a request (GLIMS-11821)

Modification [GLIMS-11691](#) attempted to correct an issue where the specimen scope of the imposed specimen was not taken into account when scheduling an added request. An additional correction has now been implemented as, in certain cases, it still happened that a request was scheduled without the specimen scope being taken into account.

Partial improvement of specimen scan performance (GLIMS-11952)

A modification has been implemented that should partially improve the performance of the specimen scan program.

Specimen size of new implicit specimen is recalculated after rescheduling (GLIMS-12038)

An issue was detected where the specimen size of a new implicit specimen was not set after rescheduling. The specimen size of all specimens should be recalculated.

Example

A user enabled **Reschedule when specimen becomes available** and created an order for which rescheduling is applicable. The availability of a specimen was confirmed, the specimens were correctly rescheduled but the intended specimen size was wrong.

Furthermore, in certain cases rescheduling was taking place while there was no need for it. Intermediate specimens should not be rescheduled when the resulting property, for which they were created, cannot be rescheduled.

These issues have been corrected: the specimen size is recalculated after rescheduling. Intermediate specimens are not rescheduled if the resulting property cannot be rescheduled.

Specimen confirmation on scan can be restricted to departments of the same laboratory site (GLIMS_ANLZ-01355)

Context

Normally, when a specimen is scanned, it is automatically confirmed if this was not yet the case. However, the setting Confirm specimen on scan allows limiting the automatic confirmation to specific situations.

Note

The **Confirm specimen on scan** setting is a GLIMS-wide setting, its value is taken into account in the

- specimen scan and specimen reception scan programs,
- analyzer communication: every time a specimen is mentioned in the ASTM-communication (query message or result message).

- In particular in the automatic specimen confirmation of distributors in slave mode.
- Logistics manager when a specimen is unpacked.

Modification

A new value is available for this setting: **Per user laboratory site**. If this value is chosen, specimens scanned in a department A will only be confirmed automatically, and thus made available, for the departments belonging to the same laboratory site as department A.

Additional change

Next to the present modification, the **Receipt method** field of the **Log** tab page on the **Specimen** editor has been hidden. It should not be used at the moment.

No more specimen duplication in the case of sampling time updates for specimens of different panels (**GLIMS_OI-00821**)

Since GLIMS 9.3.6, GLIMS wrongly created duplicate specimens in the following scenario:

1. GLIMS receives a request message with 2 panels but no specimen. Panel 1 contains 3 tests for different materials, Panel 2 contains 2 tests for the same material.
2. GLIMS receive an update message with
 - a sampling time for two of the specimens of Panel 1 and for the specimen of Panel 2,
 - the same panel requests as in the first message, with a reference time that is identical to that of the first request message (and thus different from the sampling time).

The solution to this issue is provided by the translator modification J_LTW_OFPOM-00034.

The present modification corrects the following: when an order update message contained (a request of) an existing requested code that had already been sent previously, GLIMS systematically marked this requested code as updated, even if it had not changed at all. GLIMS then created a new specimen for the updated requested code. Now, GLIMS only marks a requested code as updated if the value of at least one of its fields has changed.

Rack lookup browser during specimen scan (**GLIMS_SERO-00163**)

Choose **Start > Routine > Specimens > Scan**:

1. Select a **Station** for which an **Associated archive** is specified.
2. Double click in the **Next position** field (if **Save into** is set to **Storage location**).
3. A **Rack** lookup browser is displayed.

=> Issue: the lookup browser displayed in GLIMS 9 did not contain the same information as the one displayed in GLIMS 8. As a result, some useful information such as **Date range** was missing in GLIMS 9.

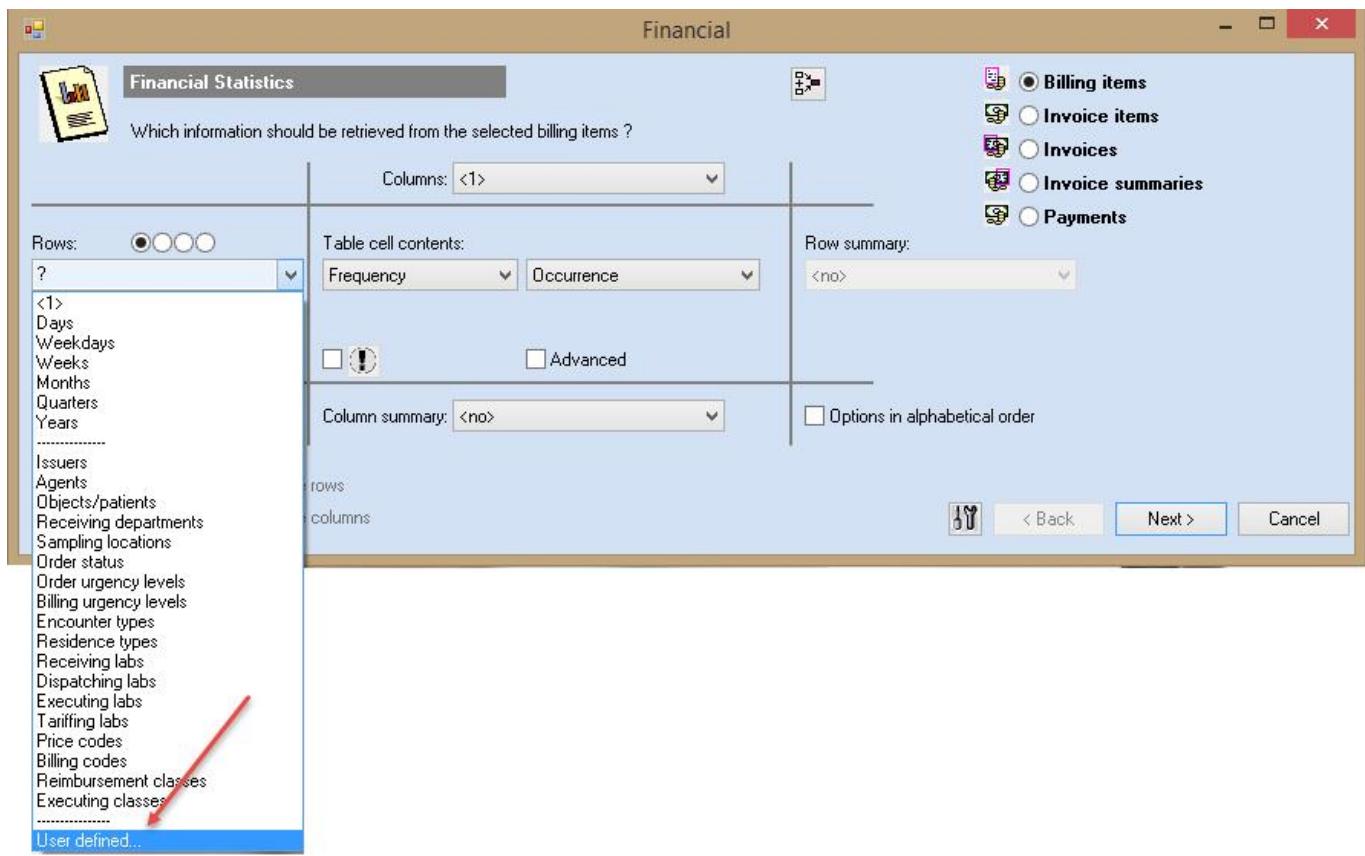
This has been corrected: the information which was missing is now available in the displayed **Rack** browser. If a **Station** without an **Associated archive** is specified, double clicking in the **Next position** field displays the query options screen of the **Rack** browser.

Statistics

Site function returns logical executing department for billing items (GLIMS_FST-00043)

Context

The financial statistics functionality allows the insertion of a MISPL function in order to retrieve specific billing item data:



Issue

MISPL functions defined to return the executing department to which a billing item was associated did not always return the most logical executing department. This issue arose when panel members were linked to different executing departments.

Solution

When different executing departments are identified for a billing item,

- executing departments linked to requests of type Material are not taken in consideration,
- the most used executing department is returned.

Adjusted column / row output restrictions for export to Excel (MATE_STAT-00162)

When exporting statistics data to Excel, the statistics module was still limited to the Microsoft Excel 2003 constraints. As a result, worksheets were limited to 255 columns by 65,536 rows.

Since Microsoft Excel 2007 and higher, worksheets can contain 1,048,576 rows by 16,384 columns.

From now on, the statistics module checks the Microsoft Excel version to determine the maximum applicable amount of rows and columns.

Correction of error in statistics module (MATE_STAT-00163)

An issue was reported where running statistics could lead to an error "Array subscript 21 is out of range: (26)". This has been corrected.

Configurable marker characters for the statistics export (MATE_STAT-00164)

When exporting statistics, there were three hard-coded markers which could not be configured by the user: No value '-', No occurrence '-' , Presence '*' .

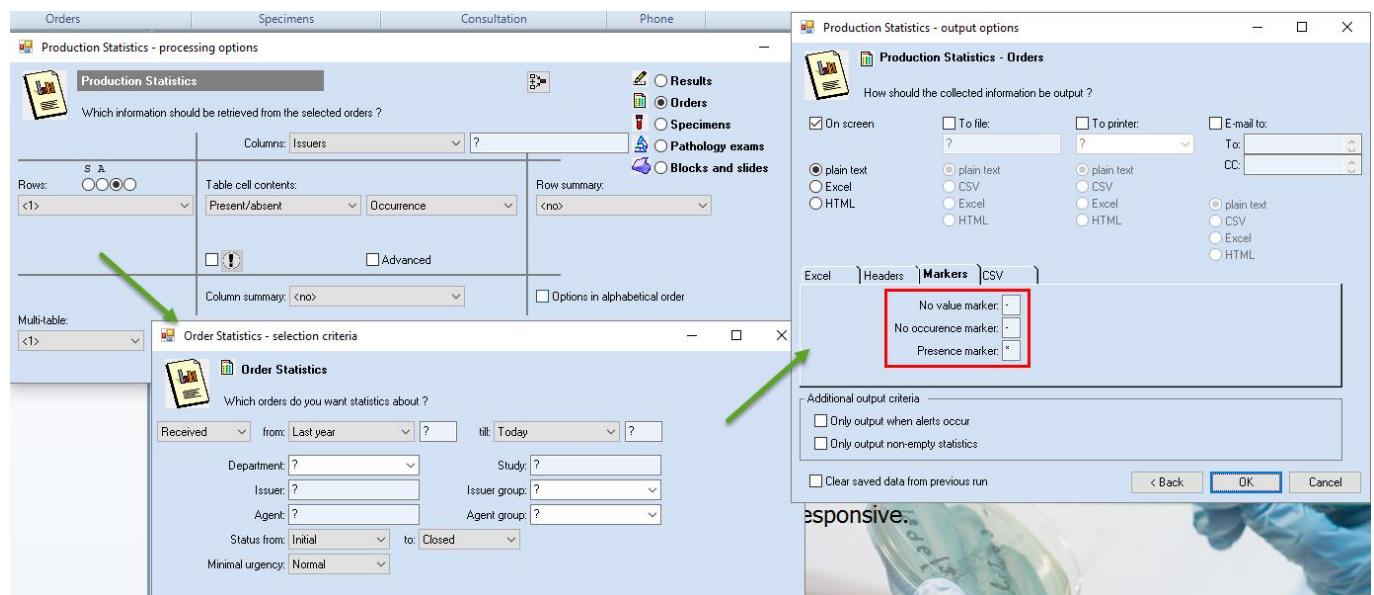
Example

Bill, Me (?)	*
Bill, Me (M), 09/06/1984	-
Buyle, Ralf (A), 02/06/1971	-
Fuentes, Isabel (F), 10/07/1985	*

For certain statistics, this made it harder to distinguish between cases where there was no value, and cases where there was a value that happened to be '-'.

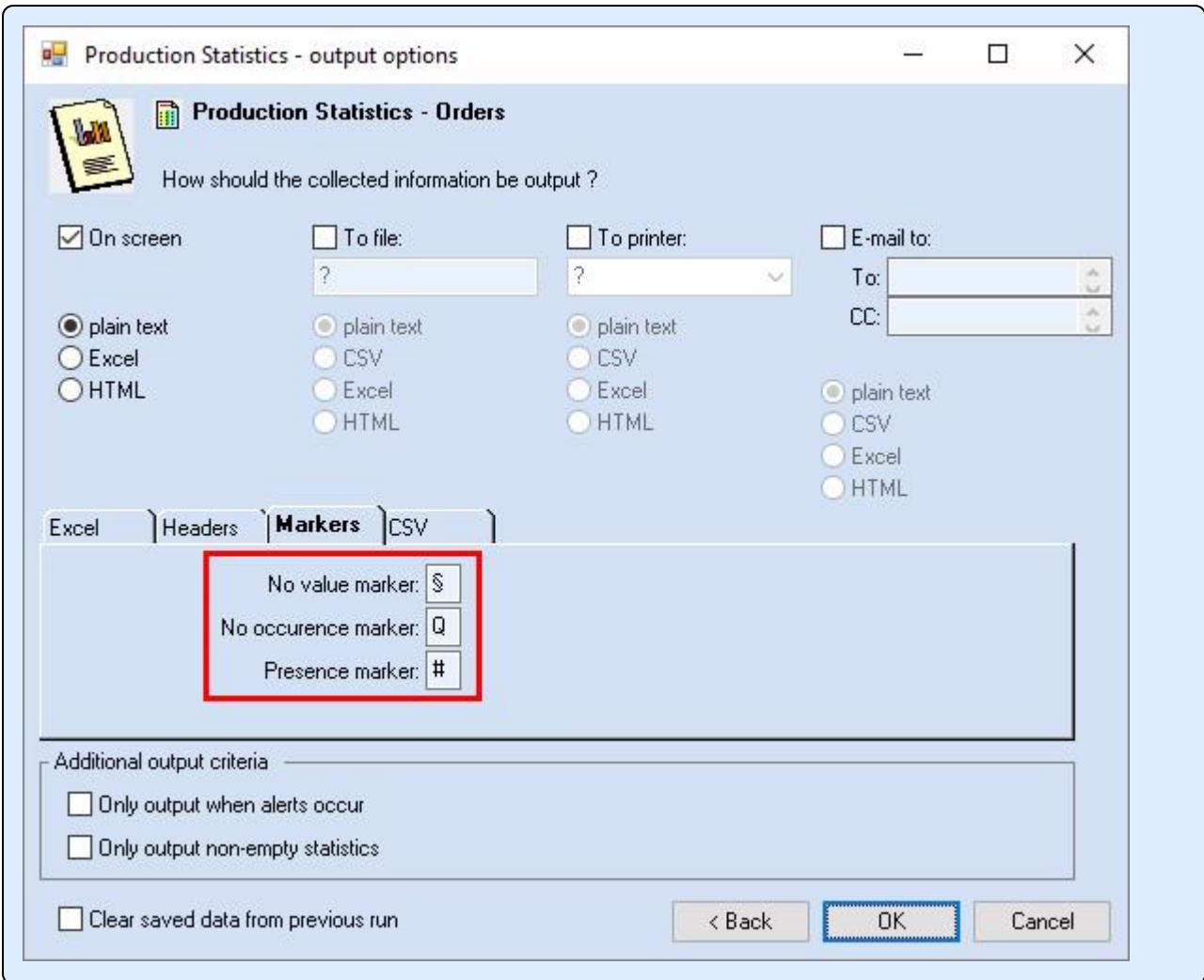
Therefore, these three hard-coded filler characters have been made configurable.

From now on, the third page of the statistics wizard contains a tab **Markers** between the tabs **Headers** and **CSV**, where you can configure the three marker characters.



Example

The fields in the tab **Markers** can be filled in by the user as required:



Note

The default values for the marker fields did not change. The markers still can be pre-configured through function parameter sets.

It is possible to configure no (empty) markers, by leaving the marker fields empty.

Correction of week of year calculation in Statistics module (**MATE_STAT-00166**)

In the Statistics module, the week of year calculation is now based on [ISO 8601 / ISO week date](#).

Example

Up until now, the statistics output referred to 31/12/2019 - 6/1/2019 as week 0.

As of now, this will be week 1.

Up until now, the statistics output referred to 7/1/2019 -> 13/1/2019 as week 1.

As of now, this will be week 2.

Stock management

Correct default value of parameter of ProductSpecification-based tool Lots (GLIMS-11696)

When changing the parameter **Needs verification** in the function parameter set of the ProductSpecification-based tool **Lots** (i.e. referring to the function mnemonic **Lots**), the value "?" was not saved and was automatically replaced by **No**.

This has been corrected.

Purchase order browser available in .NET format (GLIMS_STCK-00504)

This modification pertains to the Stock management module. The **Purchase order** browser which can be accessed

- via the main menu: **Start > Stock management > Purchase orders**
- from a stock
- from a supplier

has been redesigned.

Note

When two or more purchase orders are merged, the browser is currently not automatically refreshed.

In addition, some (synchronization) issues have been corrected in the following .NET browsers:

- Purchase items
- Product specifications
- Product lots
- Deliveries

The features of .NET browsers are described in the documentation.

Changes regarding the activation and updates of (MB) QC lots and (MB) reagent lots (GLIMS_STCK-00576)

Warning

See also release note GLIMS_STCK-00589, which corrects some aspects of the present release note.

Background

In the Stock management module, when a new product lot is created (during the configuration of product lots or during product check-in) on a product specification which refers to an (MB) QC material or an (MB) reagent, an (MB) QC lot or an (MB) reagent lot is also created and linked to the product lot. After its creation, the (MB) QC lot or MB reagent lot is immediately set as **Active**. As non-MB reagent lots do not have any **Active** field, this does not apply to them.

Issue

(MB) QC lots and MB reagent lots should not be activated as soon as they are created. The reason is twofold: these lots cannot be used before check-out and the configuration can change between check-in and check-out. Instead, these lots should be activated at product check-out.

Solution and improvements

Activation of (MB) QC lots and MB reagent lots

(MB) QC lots and MB reagent lots are now created inactive. MB QC lots and MB reagent lots are only activated at check-out. For non-MB QC lots, the system is different: at product check-out, GLIMS looks for the most recent (active or inactive) QC lot with the same QC material and with at least one (active or inactive) QC population.

- If this QC lot is found,
 - The found QC lot F is used as the basis to create a new QC lot N.
 - This new QC lot N is activated and gets the lot number, production date, expiration date, populations and attributes of the found QC lot F.
 - The populations on the new QC lot N are activated.
 - The new QC lot N is linked to the product lot.
 - QC lot F is renamed and gets a new unique number based on its former number.
- If no such QC lot is found, the inactive QC lot created when the product lot was created is activated. This activated QC lot has no population and no population will be created by the stock management module.

Note

If a product lot is created starting from an active (MB) QC lot or MB reagent lot, this (MB) QC or MB reagent lot remains active.

Update of product lots

When (MB) QC lots and (MB) reagent lots are created, they are linked to the product lots related to the product specification that refers to an (MB) QC material or an (MB) reagent. When these product lots are updated (e.g. change of product lot number or expiration date), the same changes are only applied to the linked (MB) QC lots and MB reagent lots if they are not active yet. As non-MB reagent lots do not have any **Active** field, they are always updated if the product lot they are linked to is updated.

Summary table

The following table summarizes the workings described above:

Product lot action	QC lot	MB QC lot	Reagent lot (no Active field)	MB reagent lot
creation	If does not exist: creation, inactive If already exists, remains active.	If does not exist: creation, inactive If already exists, remains active.	If does not exist: creation. If already exists, no change	If does not exist: creation, inactive If already exists, remains active.
update (change of lot number, production or expiration date)	If inactive, same changes as for product lot. If active, no change.	If inactive, same changes as for product lot. If active, no change.	Same changes as for product lot.	If inactive, same changes as for product lot. If active, no change.
product check-out	GLIMS looks for the most recent QC lot F with same material and at least one QC population. <ul style="list-style-type: none"> • If found: <ul style="list-style-type: none"> • Creation of a new QC lot with lot number, production and expiration date, population(s) and attributes of F. • Activation of new QC lot and population(s). • Creation of link between product lot and new QC lot. • If not found: activation of inactive QC lot created upon product lot creation. 	Activation	n.a.	Activation

Log entry upon deletion of purchase order items (GLIMS_STCK-00577)

In the Stock management module, when adding or updating a purchase order item either in the **Purchase order** editor or in the Product order list, the action is logged in the purchase order log, which can be opened via the contextual menu option **View log** on a purchase order.

An issue was reported where the deletion of purchase order items produced no log entries.

This issue has been fixed: from now on, the deletion of purchase order items is logged in the purchase order log, except when all items of a purchase order are deleted, since that means the removal of the entire purchase order.

Improved support for simultaneous updates made by multiple users for the same purchase order (GLIMS_STCK-00578)

Introduction

The purchase order screen and the product order list of the Stock management module now offer improved support for simultaneous updates made by multiple users.

New functionality

When

- a user updates a purchase order or
- clicks **OK** in the product order list (containing items of multiple purchase orders),

GLIMS will now check if the purchase order or any of its items has been changed by another user since the screen was opened. If this is the case, GLIMS will now display a warning and ask the user if they want to reload the screen. If the user chooses to reload

- the purchase order screen, then the purchase order and its items will be refreshed.

Note

Any changes made in the current session to the purchase order or its items will be lost.

Note

It is no longer possible to update the internal or external comment of sent purchase orders. If the purchase order needs to be reloaded and in the meantime the purchase order appears to have been sent, then the comment fields and the **Update** button will be disabled.

- the product order list, then the modified items will be refreshed.

Note

Any changes made in the current session to items of modified purchase orders will be lost. Any changes made in the current session to items of unmodified purchase orders will not be lost.

Product specification editor no longer truncates reference to related record (GLIMS_STCK-00580)

Issue

A data visualisation error occurred in the product specification editor: the reference to the related record (reagent, QC material, blood product, MB reagent or MB QC material) was truncated at 20 characters. If the database contained multiple related records where the first 20 characters were identical, then an error occurred when saving the product specification.

Solution

This has been corrected. The product specification editor now displays the reference to the related record with a size of 70 characters. In addition, the label of the field referring to a microbiology reagent record is now **Microbiology reagent** (and no longer **MB reagent**).

Correct values in check-in screen Status column (GLIMS_STCK-00583)

Background

The **Status** column of the Stock management check-in screen indicates whether **None**, **Some** or **All** packages have been checked in.

Issue

This indication was not always correct. For instance, when 5 packages out of 10 had been checked in and then checked out, the **Status** column indicated that **None** of the packages had been checked in. This was because only the packages in status **Delivered** were counted as being checked in. However, packages with a higher status than **Delivered**, such as checked out packages, should also be counted among the checked in packages.

Solution

This issue has been corrected: packages whose status is equal or superior to **Delivered** are considered as checked-in for the determination of the value indicated in the **Status** column. So, if 5 packages out of 10 have been checked in and subsequently checked out, the **Status** column now indicates that **Some packages** have been checked in.

Allow creation of delivery reports for individual delivered products (GLIMS_STCK-00587)

Background

In previous versions, there was no way to get information about individual delivered products, since multiple products are all linked to one product delivery.

It is now possible to generate a delivery report based on individual delivered products. This report can be printed per delivery and it contains all delivered products along with their quantity. This can be used as a product receipt confirmation.

New MISPL function

To generate a delivery report containing the delivered products, a new MISPL function `ProductDelivery.ProductByNumber(Index)` can be implemented. It returns specific (indexed) products of a product delivery.

The index indicates which product needs to be retrieved, based on the internal id in ascending order. Specify 1 for the first product, 2 for the second, etc.

MISPL function to get the first product of a product delivery

```
STRING FirstProductOfDelivery;
FirstProductOfDelivery := .ProductByNumber(1).InternalId;
RETURN FirstProductOfDelivery;
```

MISPL function to get the complete product list of a product delivery

```
/* Build product list */
String ProductList, ProductInternalId;
Integer ProductCount;
Logical GoOn;
ProductList := "";
ProductCount := 1;
GoOn := TRUE;
WHILE GoOn
DO
    ProductInternalId := .ProductByNumber(ProductCount).InternalId;
    IF ProductInternalId = ?
        THEN
            GoOn := FALSE;
        ELSE
            ProductList := ProductList + ProductInternalId + ",";
            ProductCount := ProductCount + 1;
    ENDIF;
DONE;
```

```
RETURN ProductList;
```

Procedure

1. Navigate to **Start > Stock management > Deliveries**
2. Fill in the query (date range)
3. Select a delivery
4. Select **Delivered articles**
5. Select a product specification
6. In the tab **Tools**, select **Run MISPL**
8. Enter the description (e.g vs_ProductDelivery_id) or select via F6
9. Press **Run**

No creation of inactive QC lot when a product lot is created (GLIMS_STCK-00589)

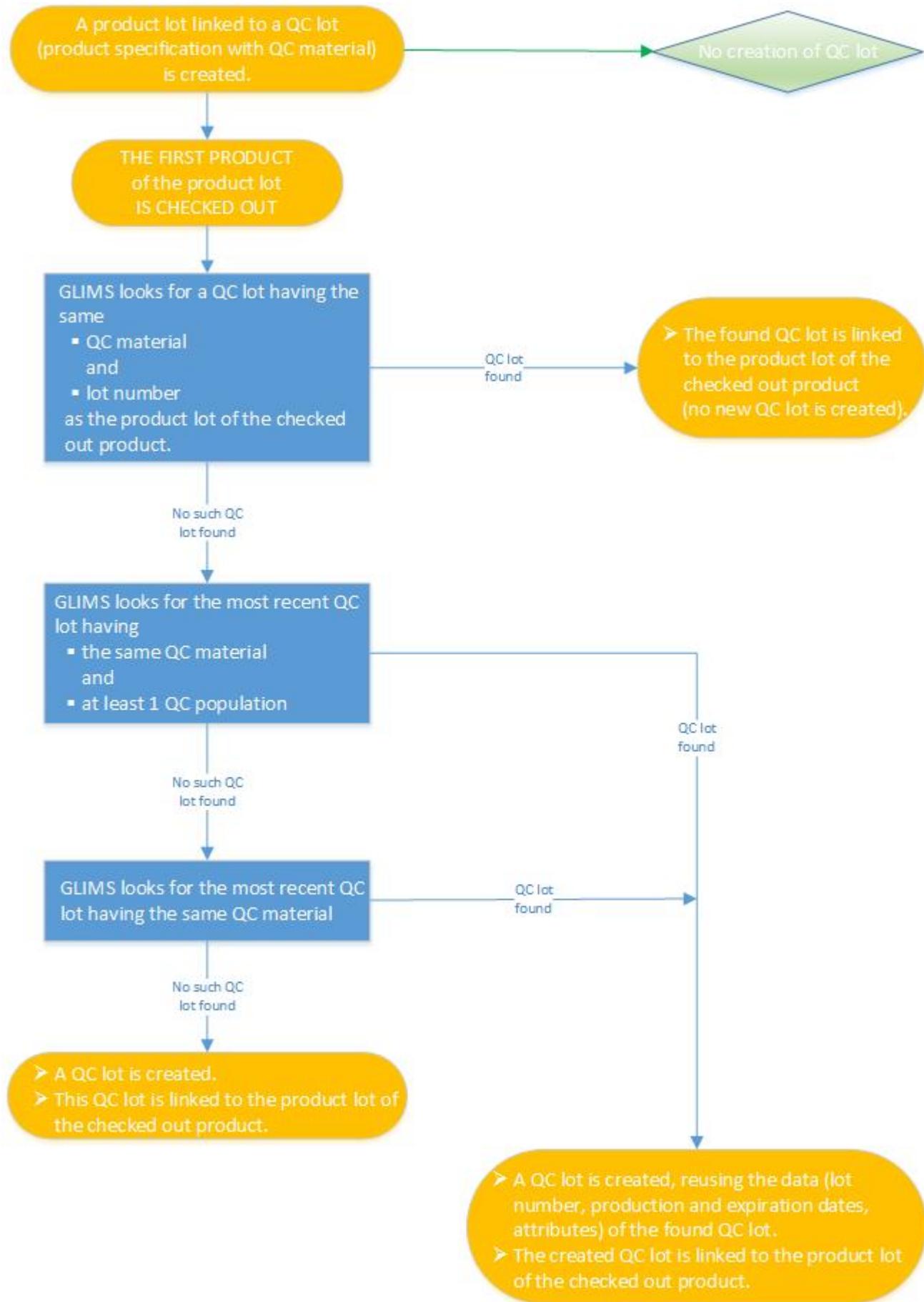
Issue

Since GLIMS 9.8.0, when a product lot was created for a product specification of type QC and linked to a QC material, a matching, inactive QC lot was created automatically. Additionally, when a product of a product lot linked to a QC lot was checked out, a QC lot was also created and activated. This resulted in the presence of two QC lots: an active one and an inactive one.

Solution

As the inactive QC lot cannot be used, it is not created anymore. In other words, when a product lot is created, no QC lot is created anymore. A QC lot is now only created when the first product of a product lot is checked out.

The creation of this QC lot is based on the following system:



Correction of synchronization issue in classic stock management browsers (GLIMS_STCK-00591)

In the stock management module, some classic browsers if opened from a browser where not synchronized with this parent browser. For instance, the classic purchase item browser if opened from the purchase order browser displayed all purchase items and not only the items of the purchase order which had been selected in the parent browser.

This issue, which occurred since GLIMS 9.8.0, has been corrected.

Display warning only once when checking out multiple products of unverified product lot (GLIMS_STCK-00592)

In the stock management module, when multiple products, linked to a product lot which requires verification but has not yet been verified, are checked out at once, a warning is automatically displayed and a reason must be provided for checking out these products. However, this reason had to be given for each product which is not considered user-friendly.

This issue, which occurred since GLIMS 9.8.0, has been corrected. The reason why the unverified product lot should be accepted now only has to be given once.

Demote purchase order status when items are added to approved purchase order (GLIMS_STCK-00593)

Issues

In the stock management module, modifying an approved purchase order normally demotes its status.

1. When new items with a standard order quantity were (automatically) added to an approved purchase order in the purchase order screen, the purchase order was not demoted.
2. When the price display options of an approved purchase order were changed in the purchase order screen, it occasionally was demoted, even though no items were added or modified.

The screenshot shows the 'Purchase order' screen for purchase order 2740 (Approved). The top menu bar includes 'Purchase order', 'Tools', 'Run procedure', 'Approve' (with a checkmark), 'Close', 'Discontinue', 'Items', and 'Related'. Below the menu are fields for Supplier (ut_Supp00616), Work place (ut_Wrkp00616), Cost location (?), and Stock (ut_Stck00616). The main area displays a table of items:

Article no	Name	Min exp date	Lot no	Comment	Ord	Dlv	Price	Total Cur
?	ut_pspc00616_1	?	?	?	3	0	?	??
?	ut_pspc00616_2	?	?	?	4	0	?	??

Annotations: A blue box highlights the table of items. Number 1 is in a circle above the table. Number 2 is in a circle at the bottom right corner of the screen.

3. When items were added to an approved purchase order via the product order list, the purchase order was not always

demoted.

The screenshot shows a software window titled "Product order list". At the top, there are dropdown menus for "Work place" (set to "IntW/pltLabo") and "Stock" (set to "IntStock1.1.1"). To the right of these are three radio button options for "Item display option": "None" (unchecked), "Scheduled + approved" (checked), and "All incomplete" (unchecked). Below these are two checkboxes: "All stocks and work places" (unchecked) and "All stocks and work places" (unchecked again). The main area is a grid table with columns: Article no, Name, Lot no, Comment, Qty, Price, Total Cur, and a header row with icons. The "Qty" column contains numerical values. One cell in the "Qty" column for a row with "Name" "BP1628E" and "Comment" "T D Disc Complete" has the value "110" highlighted with a blue border. The bottom right of the grid has "OK" and "Cancel" buttons.

Article no	Name	Lot no	Comment	Qty	Price	Total Cur
?	TestCommit	?	?	441	?	? EUR
AVLAHC9043	# AVL auto trol plus Level 3 #	?	?	110	15.00	1650.00 EUR
?	MyTestSpec	?	?	56	?	? EUR
BP1628E	T D Disc Complete	?	?	45	0.00	0.00 EUR
?	TestMBQCMaterial	?	?	23	?	? EUR
0001245	epv.Product1	1234567890123456	sadasd	11	14.70	161.70 Europ
?	Belgisch bier	?	?	6	10.00	60.00 EUR
Test1	test4	?	?	6	?	? EUR
?	ydyj	?	?	5	?	? EUR
AVLACH9930	Capillary tubes, 50 µl	?	?	3	40.58	121.74 EUR
5678	TRANSABOTT	?	?	3	23.00	69.00 EUR
MC0028	BLOODSAMPLER (2ml)	?	?	2	0.00	0.00 EUR
?	TestMBReagent	?	?	2	100.00	200.00 EUR
12145383122	ELECSYS PROGESTERONE II (100)	?	?	1	0.00	0.00 EUR
?	blabla	?	wf	1	?	? EUR

Solution

The above described issues have been solved. Additionally, the general performance of the functionality has been improved.

Purchase order fields correctly filled in (GLIMS_STCK-00597)

Since GLIMS 9.8, the following purchase order fields were no longer filled in:

- **Approved at** {ApprovalTime}
- **Approved by** {ApprovingUser}
- **Sent at** {SendingTime}
- **Sent by** {SendingUser}

In all GLIMS versions, the following fields were not correctly filled in:

- **Checked at** {CheckingTime}
- **Checked by** {CheckingUser}

This has been corrected: from GLIMS 9.8.4 on, all these fields are correctly filled in with the current user and time.

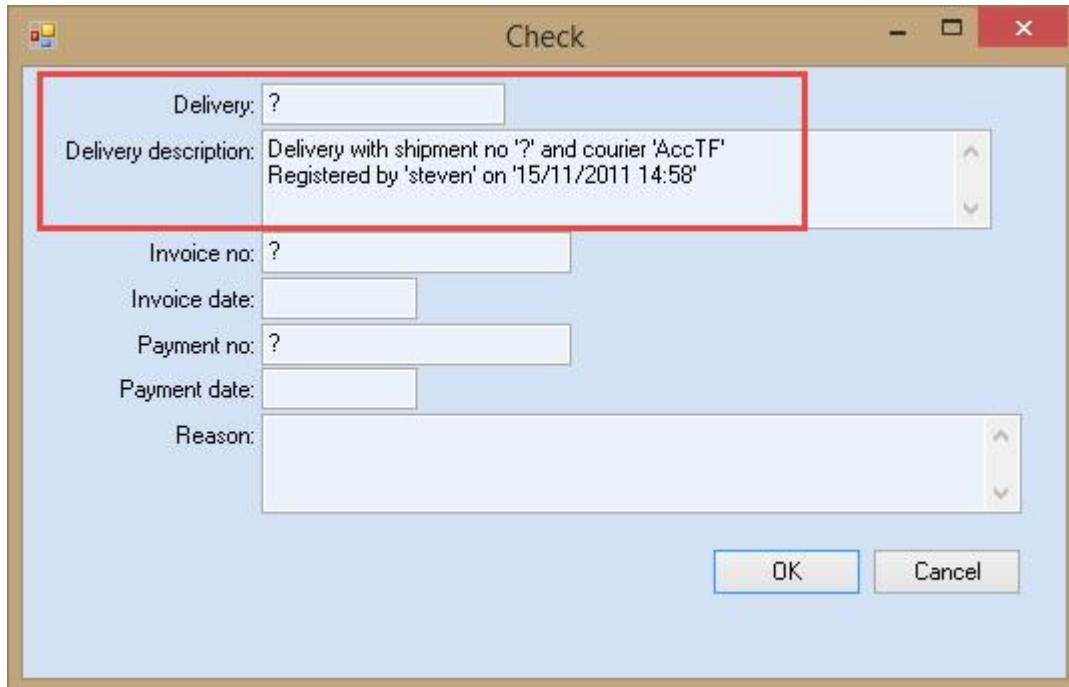
More delivery information in Purchase order Check screen (GLIMS_STCK-00598)

Since GLIMS 9.8.0, when

- using the Check function on a Purchase order,
- neither invoice data nor delivery shipment number had been specified,

no delivery information was provided in the Purchase order **Check** screen.

In order to provide more information regarding the delivery, a read-only **Delivery description** field has been added to the **Check** screen:



Set immediate focus on Barcode field in Stock management check-out screen (GLIMS_STCK-00600)

Upon selecting and opening any of the options ([Check-out](#), [Register loss](#) etc.) of the Product check-out program, the initial focus when opening the Check-out screen was not set on the **Barcode** field.

This has been corrected: From now on, the barcode can be entered immediately after opening the [Check-out screen](#).

Fixed "Cost location" functionality in the Purchase order editor (GLIMS_STCK-00603)

Problem description

Since GLIMS 9.8, the cost location of a purchase order was determined by the default work place set in the general settings of the Stock management module.

This behavior caused the creation of purchase orders with an incorrect value for the cost location:

- If this work place was not set or had no cost location, the cost location of the created purchase order remained unknown / empty, even though a work place with a specified cost location was chosen in the editor.
- If this work place was set and had a cost location, this cost location was inherited for the purchase order, even though a work place with a different cost location was chosen in the editor.

Solution

Purchase order editor

A new field **Cost location** has been added to the **Purchase order** editor, which allows the user to edit the cost location directly during the purchase order creation.

Unless specified otherwise by the user, this field will correctly inherit the cost location of the default / selected work place.

The invoice and payment information (invoice no, invoice date, payment no, payment date, cost location) in the embedded **Billing** browser can no longer be updated in the purchase order screen. This information should be supplied during check in and can be modified via the [Purchase order check](#) function.

Purchase order 2327 (Approved)

Purchase order	Tools																																																					
<input type="button" value="Generate order form"/> <input type="button" value="Merge log"/> <input type="button" value="View Main"/>	<input type="button" value="Run procedure"/> <input checked="" type="checkbox"/> Check <input type="checkbox"/> Close <input type="checkbox"/> Discontinue	<input type="button" value="Items"/> <input type="button" value="Related"/>																																																				
		Change state																																																				
Supplier: ut_Supp00593_2 Work place: ut_Wrkp00593_1 Cost location: ? <input type="button" value="?"/>		External comment: <input type="text"/> <input type="checkbox"/> <input type="button" value="Print"/> <input type="button" value="Search"/> <input type="button" value="New"/> <input type="button" value="X"/> <input type="button" value="Edit"/>																																																				
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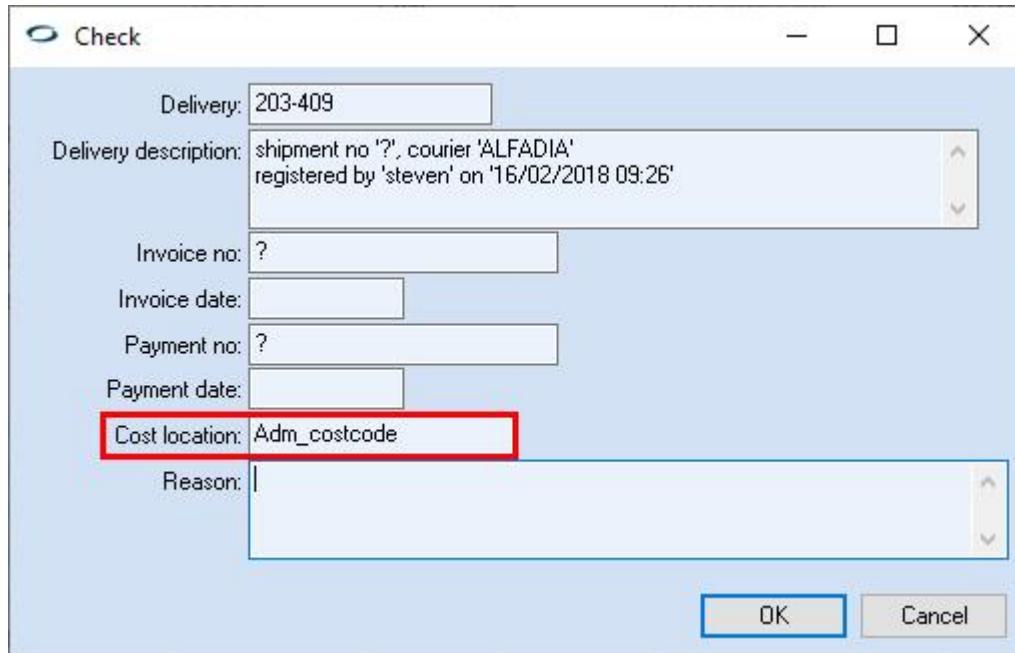
Check in screen

The cost location is still inherited from the purchase order but can from now on be updated directly in the Product check in screen, in the corresponding column of the embedded Billing browser.

Additionally, billing information for previous deliveries is from now on displayed in the same browser (if available), but grayed out and in read-only mode.

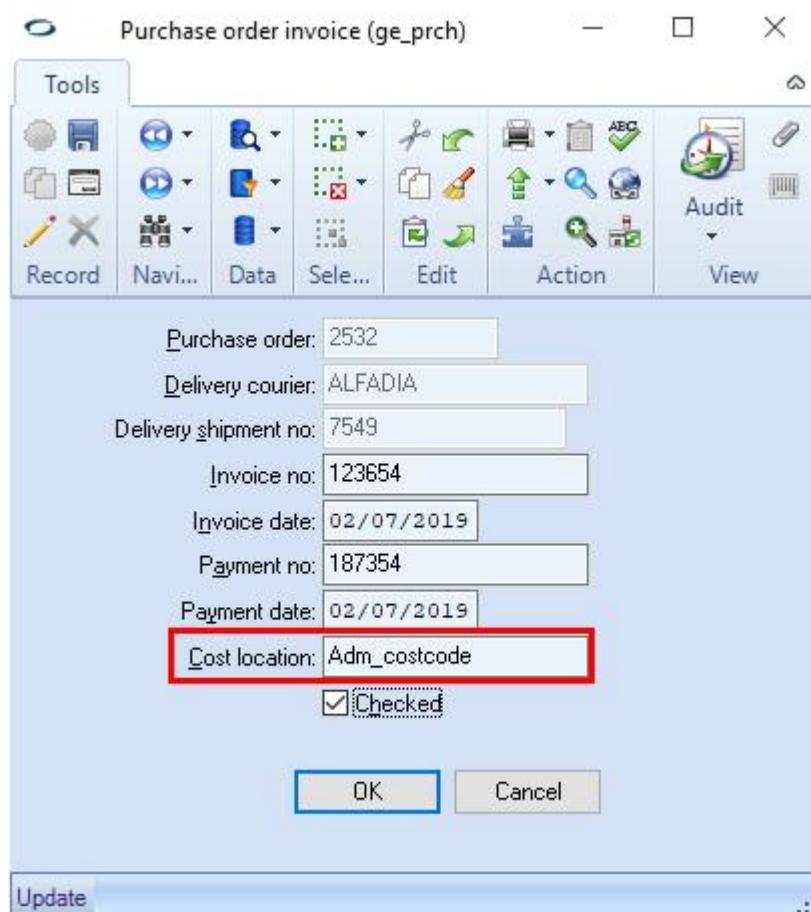
Purchase order check function

The Purchase order check function now supports cost location changes next to the other billing data.



Purchase order invoice editor

The cost location (and the other invoice and payment related fields) can be modified on purchase order invoice level via the Purchase order invoice editor, but only by users having a role with **User type** set to **System manager** or **Developer**.



Record selection should include the specified maximal time (GLIMS_STCK-00606)

In several query screens of the Stock management module and in the Order query, the specified maximal time was not taken into account correctly. The selection did not include records of the specified date. In fact, the maximal date taken into account by GLIMS was the date preceding the specified date.

This has been corrected. For the following query options, the specified maximal date will now be included in the selection:

- Purchase order maximal creation time
- Purchase order maximal sending time
- Product maximal creation time
- Product maximal check in time
- Product maximal check out time
- Product maximal discontinuation time
- Product maximal expiration time
- Delivery maximal receipt time
- Product lot creation time to
- Order maximal last update time

Automatic selection of consecutive deliveries when checking a purchase order (GLIMS_STCK-00608)

When promoting the status of a Partial or Complete purchase order to Checked, the **Check** screen appears, pre-filled with **Delivery**-related information and allowing the user to update the purchase order invoice fields **Invoice no**, **Invoice date**, **Payment no**, **Payment date** and **Cost location** for the selected **Delivery**.

If the purchase order has multiple deliveries / invoices: upon committing the purchase order invoice information entered for the first **Delivery**, the **Check** screen remains open and will now automatically select and display the next delivery. In previous versions, since GLIMS 9.8, the user had to manually select the next delivery.

When all deliveries / purchase order invoices have been checked, GLIMS will inform the user that the **Check** screen can be closed.

Correction for the Stock management Check-in trigger (GLIMS_STCK-00609)

Issue

The Check in trigger field, which allows entering configurable w_Product based site functions, did not have access to the **Lot number** specified during Product check-in when the product lot was not the one directly linked to the corresponding purchase order. In this specific scenario, this was due to GLIMS not being able to set the field w_Product.Lot.

Therefore, the execution of a configurable MISPL call failed when the user wanted to check, for example, whether or not the indicated lot number was known.

Furthermore, the **Check in trigger** was executed immediately after the **Check-in** action, which was not the most appropriate moment since the database commit only happens after the **Check-in screen** is confirmed.

Solution

From now on, any existing lot number for a product is taken into account for the **Check-in** MISPL evaluation, except when lots are created during the **Check-in** itself, which was already the case in the previous versions of GLIMS.

The **Check in trigger** is now executed when the Check-in screen is confirmed. Depending on the return value of the configurable function, the whole **Check-in** process can be blocked or any other action can be taken (e.g. automatic sending of an e-mail, etc.)

Updated product check-in and check-out trigger functionality (GLIMS_STCK-00611)

This modification amends four elements of the Stock management module.

Context

Check-in

1. When expired products were selected (scanned) for check-in, no warning was displayed.
2. The check-in trigger was not only executed on products which have been scanned in the current check-in session but also on products in status **Delivered** and/or for which the scan action had been undone.

Check-out

1. A message always appeared upon check-out of a product when the stock level of that product was down to a minimum quantity.
2. The check-out trigger was immediately executed after each product scan.

Modification

Check-in

1. The check-in trigger is from now based on the table w_ProductCollection. In addition to the same fields as before, one new field is available: wpcl_ProductionDate (the production date). The configurable function that is defined as a check-in trigger will be automatically updated when upgrading to GLIMS 9.9.
2. When the **Expiration date** of an entered product lies in the past, the following warning is now displayed: "The scanned in product is expired. Do you want to accept it anyway?"
3. The check-in trigger is now only executed on products which have been scanned in the current check-in session.

Check-out

1. If a check-out trigger is defined, the warning about low/ insufficient product stock is not displayed. This information will remain visible in the check-out overview.

This stock level check can now be performed via the check-out trigger MISPL (see example below):

Example

```
Message("Product: " + .Id.InternalId);
If .FirstOfSpecification = YES
THEN message("First of specification " + .Specification.Name);
ENDIF;
If .FirstOfPurchaseItem = YES
THEN message ("First of item " + .PurchaseItem.ProductSpecification.Name);
ENDIF;
If .FirstOfLot = YES
THEN message("First of lot " + .Lot.LotNo);
ENDIF;
If .FirstOfUsage = YES
THEN message("Available: " + IntegerToString(.AvailableCount,"%d")
+ " Checked out: " + IntegerToString(.CheckedOutCount,"%d")
+ " Warning: " + IntegerToString(.WarningCount,"%d") );
If .AvailableCount - .CheckedOutCount < .WarningCount
THEN message("Stock below warning level");
ENDIF;
ENDIF;
RETURN YES;
```

Note

The check-out trigger base table w_Product has been extended with the following fields:

- wprc_FirstOfSpecification (logical)
- wprc_FirstOfPurchaseItem (logical)
- wprc_FirstOfLot (logical)
- wprc_FirstOfUsage (logical)
- wprc_Usage (product usage reference)

- wprc_AvailableCount (integer)
- wprc_WarningCount (integer)
- wprc_CheckedOutCount (integer)

The field wprc_LotNo (which was only intended for check-in) has been removed.

The logical "FirstOf" fields can be used to avoid duplicate MISPL actions/checks when checking out multiple products of the same specification, lot, etc.

The wprc_Usage field and the (...)Count fields can be used to check the stock warning or alarm levels.

2. The check-out trigger is now only executed when the user clicks the **Check-out** button of the **Check-out products** screen. As the trigger is not executed directly after the check-out of a product, the user has the possibility to cancel the check-out action or perform another action for the checked out product, such as sending an e-mail.

ProductUsage.OrderProducts(): store "Automatically created" in internal comment of purchase order (GLIMS_STCK-00612)

When ordering products manually via the contextual ribbon / menu item **Order products** of a Product usage record or automatically by using the **ProductUsage.OrderProducts()** function in a command, the text **Automatically created** was stored in the **External comment** field of the created **Purchase order**.

As this behaviour was not desired, the text **Automatically created** will now be stored in the **Internal comment** field (which is more suitable for internal GLIMS processes) of the **Purchase order**.

Purchase order form generator supports custom text with XML (GLIMS_STCK-00614)

Issue

When the dynamic texts configured for a purchase order form in the **Stock management** general options contained XML tags for a custom text header, footer and/or body, the report generated in PDF format was incomplete.

In the generated XML file, the XML tags were replaced by other characters. As a result, the fields in the Jasper template referring to these tags remained empty.

Solution

Customization via dynamic texts containing XML tags is supported again, but it should contain no XML header (<?xml version='1.0' encoding="UTF-8"?>).

If they do, it should be removed, see example below:

Example

```
<?xml version='1.0' encoding="UTF-8"?><DeliveryLab>/DeliveryLab><DeliveryDep>Hospital AZ</DeliveryDep><DeliveryAddress1></DeliveryAddress1><DeliveryAddress2>[...]
```

Option screen "Generate order form" always displayed (GLIMS_STCK-00615)

This modification solves two issues regarding purchase orders.

Issue 1

When the contextual menu/ribbon item **Generate order form** was used on a purchase order record, the option screen did not appear.

This has been fixed: now, the option screen always appears. Note that the **Skip setup** function never applies to this screen.

Issue 2

When a button is clicked in the purchase order screen while there are pending changes for the purchase order, the message "Do you want to save your changes" should be displayed, unless the purchase order status is **Approved**. This mechanism did not work as intended and has thus been corrected.

Stock management product discontinuation support (GLIMS_STCK-00616)

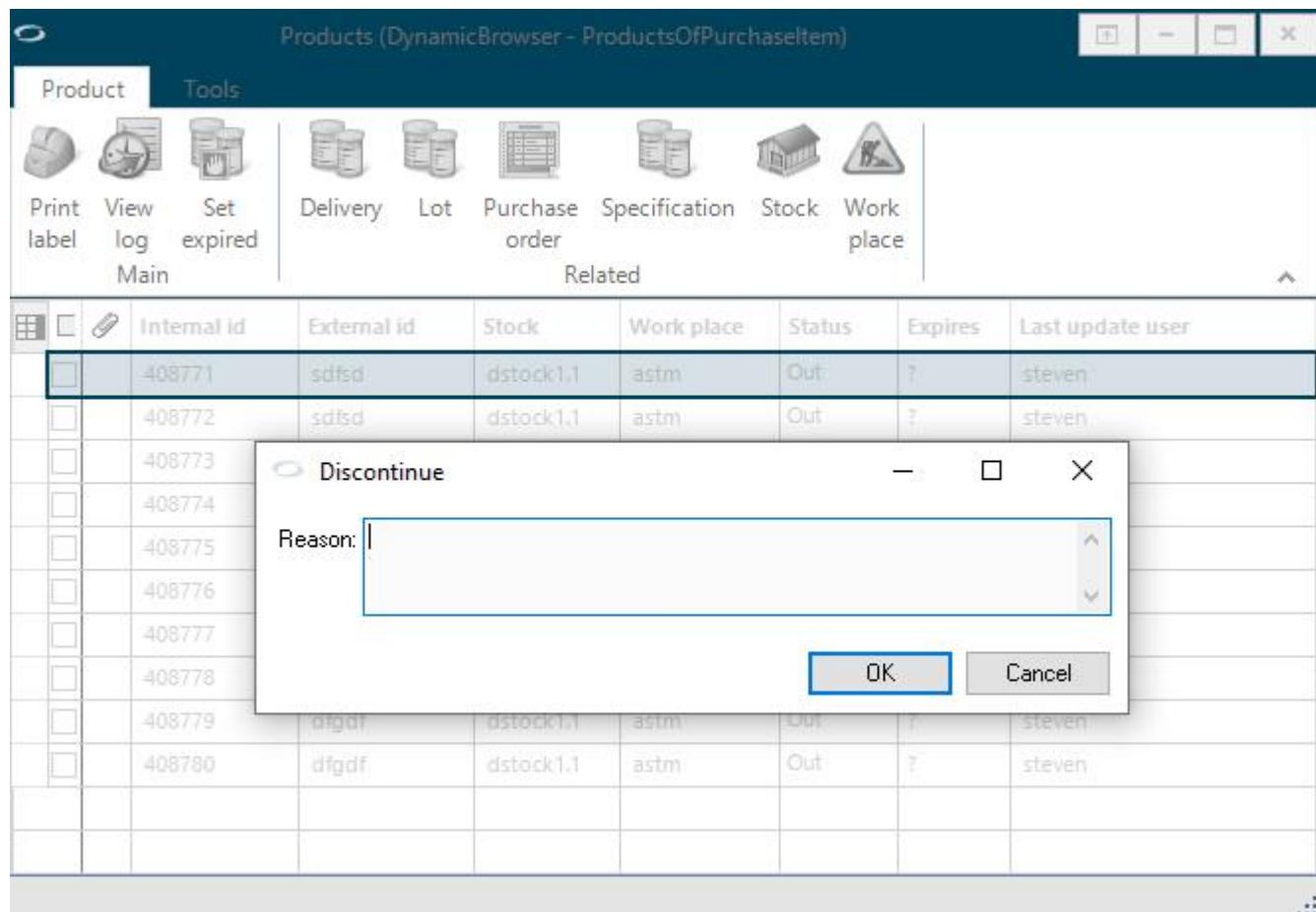
Issue

When a product was scheduled or ordered in the Stock management module, the related purchase item or the product of this purchase item might not have been deliverable any longer.

In previous versions it was not possible to mark these products as **Discontinued**.

Improvements

New function Product.Discontinue()

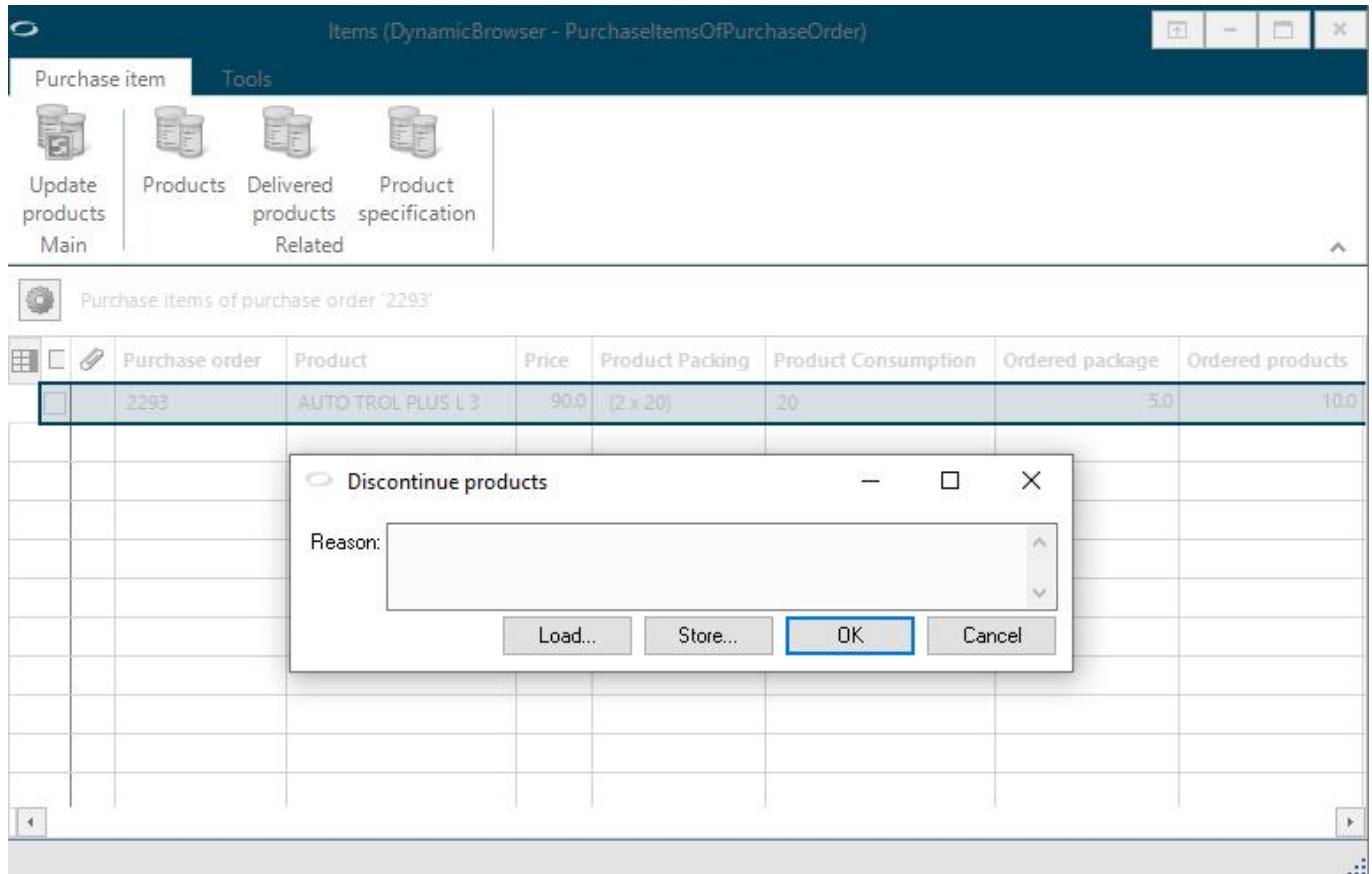


A new Product based multi-record function has been introduced to discontinue products via the product context menu. It can be applied on products in any status except **Discontinued** and a reason must be specified, which is logged under `Product.DiscontinuationReason`.

When it is applied on products linked to a purchase order in status **Scheduled** or **Approved**, the ordered quantity of the purchase item will decrease for each discontinued package. The discontinuation will be mentioned in the purchase order log akin to any other purchase order changes.

- If the function is applied on products linked to a purchase order in status **Approved**, the purchase order will be demoted to status **Scheduled**.
- If applied to products linked to purchase orders in other statuses, the purchase order (i.e. status, item quantity etc.) will not be modified.

PurchaseItem.DiscontinueProducts()



A new PurchaseItem based multi-record function has been introduced to discontinue products via the purchase item context menu. Only products in status **Scheduled** or **Ordered** will be processed. A reason must be specified, which is logged under `Product.DiscontinuationReason`.

Check in screen

In the Product check in screen, the column Avl has been renamed to Avl/Dsc. It contains the number of packages that have been delivered in a previous delivery or discontinued after sending the purchase order.

Note

- If the discontinuation was performed before sending the purchase order, the ordered quantity will have been decreased accordingly, so there is no need to display the discontinued products. The same logic applies to the product browser, where discontinued products are only included if discontinuation was performed after sending the purchase order.
 - If the purchase order has discontinued products, the status column will display **Some products/Some packages**.

Removal of purchase items in the Product order list

When all purchase items of a purchase order are deleted via the product order list, the purchase order will no longer be deleted, but discontinued. This change is related to the requirement to have full logging of all actions on purchase items and purchase orders.

System management

Correction for conversion procedure for responsibilities when upgrading to GLIMS 9.9 (GLIMS-10713)

Context

Responsibilities in GLIMS are used to determine the responsible of a result.

Issue

When upgrading to GLIMS 9.9 (from GLIMS 9.3 or an earlier version), the conversion procedures filled the **Responsibility** table ([Start > Correspondents > HC providers > Responsibilities](#)) with one record which was linked to **HC provider responsibility** records for each responsible HC provider referred to by the **Employee assignment** records.

Solution

This has been corrected. When upgrading to GLIMS 9.9.0 from GLIMS 9.3, no **Responsibilities** will be defined, the **Responsibility** table will be empty.

Run time of post-conversion routines has been reduced and can be customized (GLIMS-11546)

Issue

The following post-conversion routines previously had a fixed MaxMinutestoRun value of 5 hours:

- cdr93_Order
- cdr93_RequestedCode
- cdr94_SpecimenSampled
- cdr96_RequestedCodes
- cdr98_ReagentLotSerialNumber

A run time of 5 hours was however much too long and could lead to an After Image overflow.

Solution

SpecificSite-based site attributes have been created in order to allow for the customization of the run time for each of the five post-conversion routines:

Site attribute	Default value in minutes
cdr93_Order_MaxRunMins	120
cdr93_ReqCodes_MaxRunMins	120
cdr94_Spec_MaxRunMins	120
cdr96_ReqCodes_MaxRunMins	120
cdr98_Reagent_MaxRunMins	60

These values can be modified via [Start -> System management -> Scheme -> Tables](#) -> right-click on **SpecificSite** -> **Site attributes** -> right-click on the name of the site attribute -> **Show all** -> **Site attribute values**.

Autonomous transactions are no longer used for GLIMS on Oracle (GLIMS-11704)

Issue

For GLIMS on Oracle, modification GLIMS-08041 introduced the use of an autonomous transaction for setting the report's **Needs checking** flag, in order to prevent a specific deadlock situation. However, this caused a performance degradation due to a bug in the Progress software.

Solution

Since most customers do not encounter the situation in which deadlocks occur, autonomous transactions will now by default not be used anymore.

Customers who insist on using autonomous transactions can set the **UseAutonomousTransaction** variable to "Yes" in the progress.ini file (MA section).

Conversion of "Reagent usage" records (GLIMS_QC-00869)

The conversion procedure required to upgrade the **Reagent usage** records (for GLIMS_QC-00725) will now be executed by the **PostConversionDuringRoutine** task so that it can be executed at night for one hour until the conversion is finished.

Warning when launching auto db upgrade (MATE-05736)

Upon starting auto db upgrade, a warning will now be issued that the process cannot be reverted. The user/operator is requested to confirm the process through a message box.

Confirmation is requested for each database (except genro). Upon a "No", the migration process is aborted.

Remove check on environment variable ICU_DATA (UNIX only) (MATE-05911)

In a UNIX environment, GLIMS still checked if the environment variable ICU_DATA, which is no longer used by OpenEdge 11, was set. This has been corrected.

Correction of schema mismatch during upgrade from GLIMS 8 to GLIMS 9 (MATE-05978)

When upgrading from a GLIMS 8 version to a GLIMS 9 version, a column in the Oracle database would get in a wrong position. As a consequence, there was a mismatch between the schema holder and the database schema and the upgrade was halted. This issue has been solved.

-Bt parameter set to 5000 in session.pf file (MATE-06121)

When having upgraded from GLIMS 8 to GLIMS 9.9, the **session.pf** file will now contain the setting below:

-Bt 5000

Automatically add -znoposirc startup parameter to session.pf file (Oracle only) (MATE-06147)

In order to provide a workaround for a bug in the Progress software, the startup parameter -znoposirc will be added to the session.pf file at first login. This applies to the Oracle version of GLIMS only.

Correction for obtaining the server identifier (MATE-06183)

The functionality to obtain the server identifier without connecting to the database has been restored. The server identifier can be obtained by running the tool gp_dsias.p. The tool can be run by copying and modifying the **Target** properties of the GLIMS shortcut and running "gp_dsias" instead of "gp_run".

If MA_AUTODBUPGRADE is set to FALSE, disallow access to the application (MATE-06275)

GLIMS contains a mechanism to automatically upgrade the schema of the database. This mechanism can be switched on or off via the environment variable MA_AUTODBUPGRADE.

When this environment variable is set to FALSE or NO, and the schema is not up to date, the transient message **The application is being upgraded and temporarily not available** will now be shown when logging in to the application to avoid that client sessions hinder the session performing the upgrade on the server.

User interface

Synchronization of quick report for a result not linked to a specimen (GLIMS-08074)

An issue was reported where the quick report - opened by selecting a result (cell) on a work list and choosing **Result > Order > Quick report** in the contextual menu - did not refresh upon selection of a result from a different order on the work list. Consequently, the quick report of the previously selected result was still displayed. This happened if the latter result was not linked to a specimen (because the procedure producing the result only has an output property defined and no input material).

This has been corrected: the quick report screen now refreshes and informs the user that the order does not have any reportable results.

Order identifier browser titles have been made distinct (GLIMS-10866)

Issue

An issue was reported where opening the three browsers OrderidentifiersByCreationTime, OrderidentifiersByIdentifier and OrdersByOrderidentifier led to tabs with misleading/identical titles (e.g. twice **Order identifiers**).

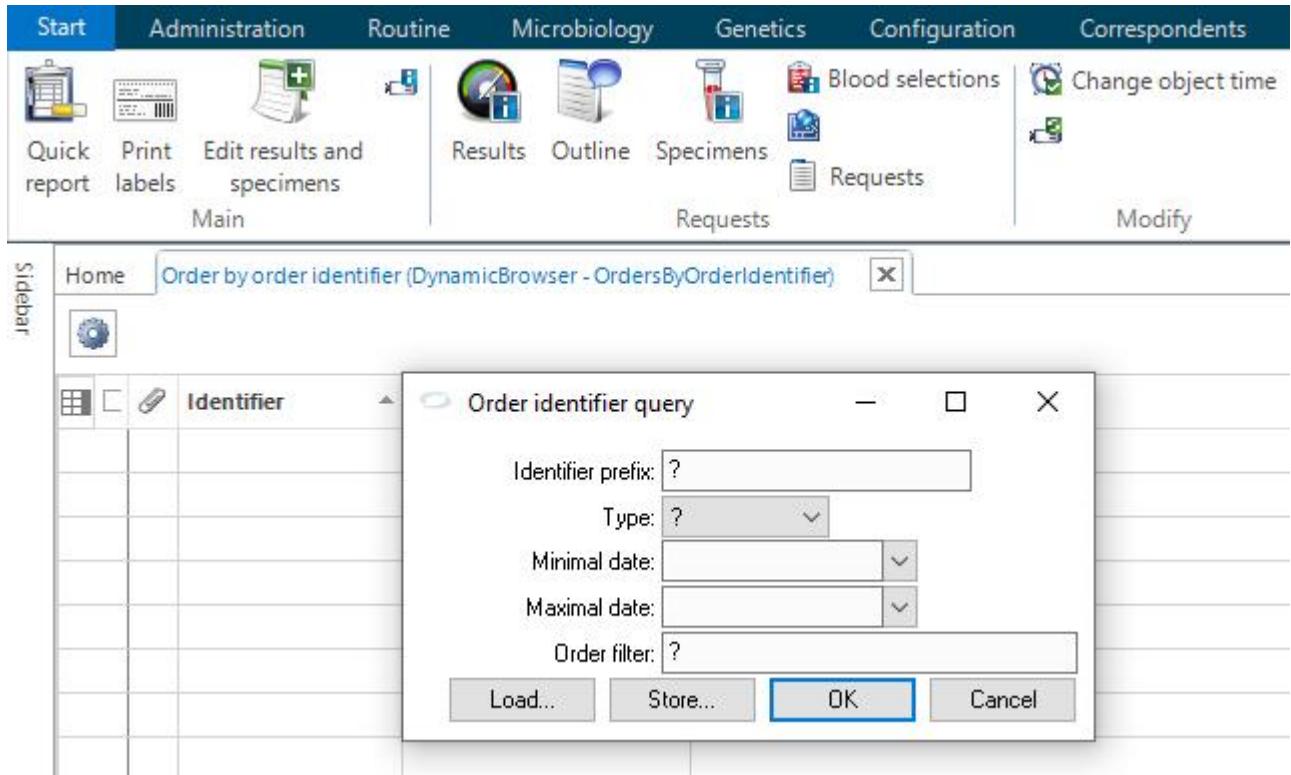
Furthermore, no fields were shown in the classic order query browser OrdersByOrderidentifier.

Solution

The following browsers have received a unique browser label both for their .NET and classic versions:

- Order identifiers by creation time
- Order identifiers by identifier
- Order by order identifier

The screenshot shows the GLIMS software interface. At the top is a menu bar with 'Start', 'Administration', 'Routine', 'Microbiology', 'Genetics', 'Configuration', 'Correspondents', 'System configuration', 'Security', 'System', and 'Order' tabs. Below the menu bar are several icons for quick access: 'Quick report', 'Print labels', 'Edit results and specimens', 'Results', 'Outline', 'Specimens', 'Requests', 'Blood selections', 'Change object time', 'Reports', 'Add', 'Add medium', 'Schedule reports', 'View order document', 'Documents', and 'Billing'. Two browser windows are open: 'Order identifiers by creation time (DynamicBrowser - OrderidentifiersByCreationTime)' and 'Order identifiers by identifier (DynamicBrowser - OrderidentifiersByIdentifier)'. Both windows show tables with columns like Identifier, Order Receipt time, Order Urg, Order Sts, Order Object, and Order Issuer. The first window has rows for 09.10.2017 11:11, 27.10.2017 09:06, and 27.10.2017 09:13. The second window has rows for Fleischmann, Dr. Med. Kurt (M), 29/12/1919; BARACETTI, FREDERIC CHRISTIAN JOSEPH (M), 01/01/1990; and Jaak, Jaak (M), 13/01/1951.



The correct functionality of the order query browser OrdersByOrderIdentifier has been restored.

OrderTodoItems browser can be opened in .Net format (GLIMS-10869)

Context

MIPS is redesigning the GLIMS browsers using the .NET format.

Issue

The OrderTodoItems browser had not been placed on the list of redesigned browsers because of issues with the Progress-Oracle dataserver. Additionally the classic version of this browser was not available either. This means that neither the .NET nor the classic OrderTodoItems browser could be opened.

Solution

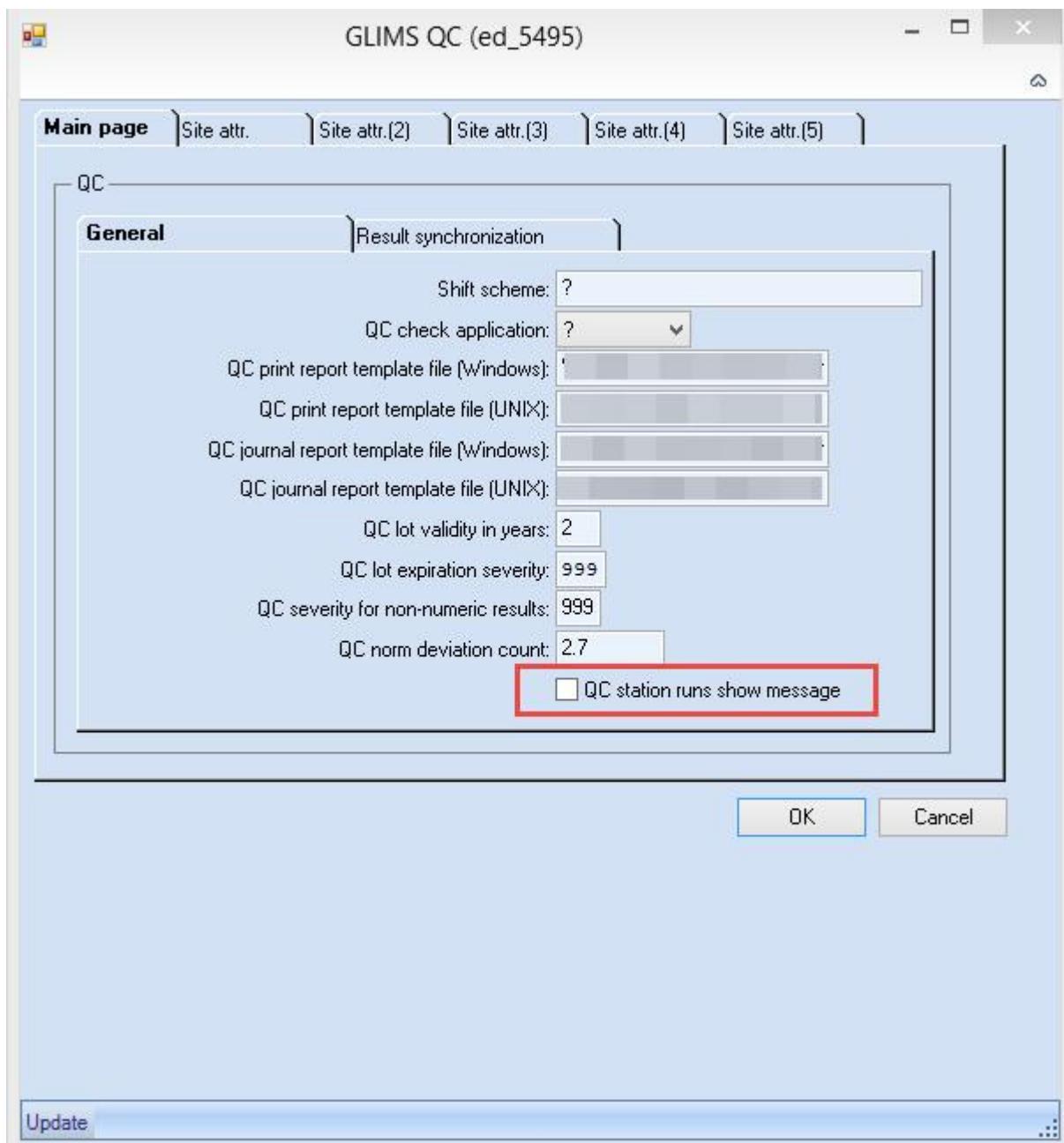
The OrderTodoItems browser has been placed on the list of .Net redesigned browsers. Hence, the order to-do items can now be consulted.

Warning

The present modification does not solve the issues with the Progress-Oracle dataserver. Issues with the sorting of to-do item records could occur.

Display of informational messages during station run creation made optional (GLIMS-10925)

During the creation of QC station runs, informational messages are displayed. If you consider these messages superfluous and would like them not to be displayed, deactivate the option **QC station runs show message** situated under **Start -> System management -> Customize -> GLIMS QC -> Main page** tab.



Navigation issues in Actions of stations browser when cell counter is open (GLIMS-10957)

Problem description

- Select **Start > Routine > Actions > Browse actions**
- Fill in a **Station** and click on the **OK** button.
- Open the cell counter (via the contextual menu or by double clicking on the record) for one of the records in the **Actions of stations** browser.
- Issues:
 1. Using the page up and page down keys to navigate to another record in the **Actions of stations** browser did not work.
 2. When selecting another record in the **Actions of stations** browser, the data in the cell counter window was not updated accordingly.

Note

These issues occurred since GLIMS 9.6.

Solution

This has been corrected.

No scroll bar anymore in Specimen variable screen (GLIMS-11091)

During the creation of the first order after logging in to GLIMS, the **Specimen variable** screen was too small and a scroll bar appeared.

This issue has been corrected: the entire content of the **Specimen variable** screen is visible without scroll bar.

Issue with synchronization of "Invoice summaries" screen with "Orders by receipt time" browser (GLIMS-11095)

Problem description

- Open **Orders by receipt time**.
- Select an order, right click and choose **Object... > As Person > Correspondent... > Billing > Invoice summaries > By External date**.
- In the **Orders by receipt time** browser, select another order.
- Issue: the **Invoice summaries** screen is not updated.

Solution

This has been corrected: the **Invoice summaries** screen will now be correctly synchronized upon selecting another order.

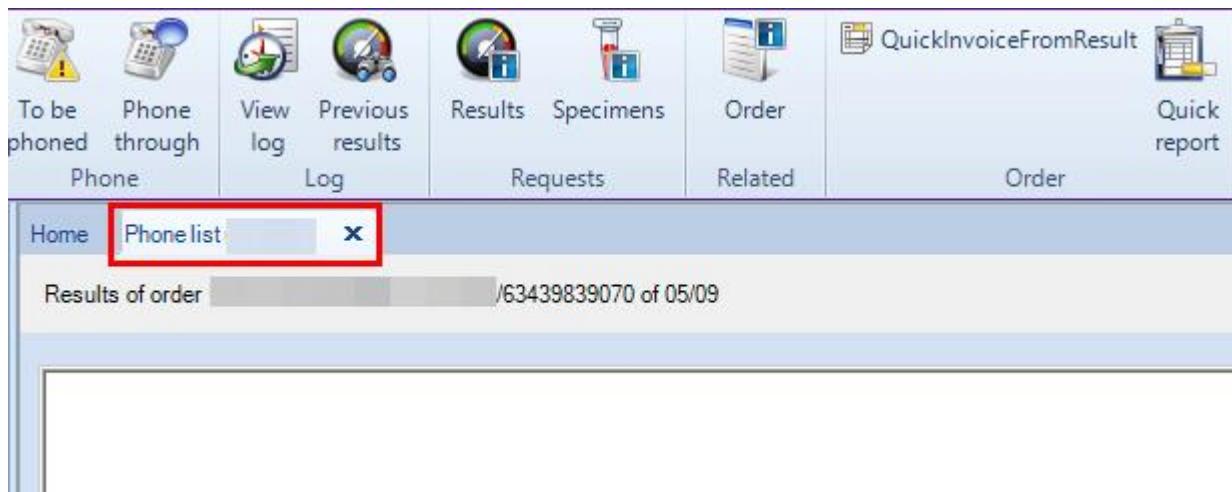
Add subtitle for redesigned Norms browsers (GLIMS-11396)

The redesigned Norms browsers (for instance, the **Norms** browser that can be opened from a Property) no longer displayed suitable subtitle text to describe the records displayed in the browser. This has been corrected.

Correction for the tab header of the "One by one" phone list browser (GLIMS-11464)

An issue was reported, when opening a phone list browser tab via **Start > Routine > Orders > Phone list** > View type: **One by one** would result in a main browser with an empty tab header.

This problem has been fixed, the tab header of the **One by one** phone list browser is displayed again.



Correction of issues with the .NET version of the Specimen query browser (GLIMS-11531)

In the Specimen query browser, the records are sorted by internal id if the fields **Internal Id from /to** are filled in, otherwise by material if the **Material** field is filled in, and so on.

This modification solves the following issues occurring with the .NET version of the **Specimen query** browser:

- When none of the criteria **Internal Id from /to**, **Material**, **Specimen status**, **Archive (Sub)reason** were specified in the query screen, the browser would open very slowly instead of simply displaying an error message like the Classic browser does.
- When GLIMS was calculating the initial sort order and checking for sufficient query criteria, the **Specimen status** was not used if the maximal specimen status was set to **Available**.

The following changes have been implemented for the .NET browser:

- If none of the criteria mentioned above are specified in the query screen, an error message is displayed and the browser does not open.
- When GLIMS calculates the initial sort order and checks for sufficient query criteria, the **Specimen status** is taken into account, even if the maximal specimen status is set to **Available**.

Notes

- Changing the sort order in the .NET browser is possible but may be slow.
- The .NET browser is currently only available on Progress databases.

Opening a data sheet for the first time does not block the session anymore (GLIMS-11608)

In the 9.5 and 9.8 versions of GLIMS, opening an object data sheet for the first time sometimes blocked the application : a small, empty window was displayed and the session was hanging.

This issue has been solved: when opening an object data sheet for the first time, a sand clock icon is shown while the data sheet is being loaded. The data sheet is then correctly displayed.

More consistent use of "Requestable" and "Request definition" (GLIMS-11669)

The nouns "requestable" and "request definition" were used interchangeably in the user interface and documentation. The use of these nouns has been made more consistent: when referring to the Requestable table, "Requestable" is used. Otherwise, the noun "request definition" is used.

Order query should not be executed again when an order in the browser is updated (GLIMS-11710)

Problem description

1. Open the standard order query.
2. Fill in some query options, a MISPL filter for instance, which will cause the query to take a while.
3. Double click on an **Order** record in the browser and update the order (for instance: add a request or change the issuer).
4. When saving the changes via the **OK** button, the query is executed again to refresh the entire browser. This causes a delay for the user.

Solution

This has been corrected: only the row of the updated **Order** record will now refresh and no longer the entire browser. This way, there's no delay for the user.

Aspect ratio of multiple result images is shown correctly again (GLIMS-11750)

Certain analyzers can upload images as result values for orders, which subsequently can be viewed by the user.

An issue was reported where viewing multiple result images of an order via the contextual ribbon / menu item **Results** in the Results of order browser would lead to an aspect ratio distortion, making the images appear stretched or contracted.

This issue has been solved: all the uploaded images will retain the proper aspect ratio when viewed.

Department printers in Set devices screen no longer disappear (GLIMS-11954)

When switching from a role that is not linked to a department to a role that is linked to a department (via the user's employee assignment), the Set devices screen no longer showed the defined department printers.

This has been corrected.

Date display format should be applied consistently (MATE-04390)

The date display format specified in the session.pf file via the -d parameter is now applied consistently throughout the application. In previous versions, issues were reported where dates were displayed in inconsistent formats (for instance, .NET screens did not take into account the specified/required format but used the operating system's date format instead).

Redesigned "Field history" browser (MATE-04410)

The Field history browser has been redesigned and is now available in the .NET format.

Issue when selecting records in a redesigned browser (MATE-04680)

An issue was reported which occurred when selecting records one by one in a redesigned browser using the space bar and the arrow down key. When the user was selecting records, after a while, it seemed as if a number of records were skipped and did not get selected.

This has been corrected.

Fixed behaviour of Previous / Next in .NET browsers (MATE-05652)

Issue

In previous GLIMS 9 versions, the **Previous** and **Next** ribbon items of the contextual Tools ribbon behaved differently in classic and .NET browsers:

- classic browsers: previous / next set of records (PageUp / PageDown)
- .NET browsers: previous / next record

Solution

The behaviour of the **Previous** and **Next** ribbon items of the contextual Tools ribbon in classic and .NET browsers has been aligned, meaning that for both types of browsers these ribbon items are now equivalent to the **PageUp** and **PageDown** keys.

Changes applied to site function used as filter in browsers not taken into account (MATE-05653)

Changes applied to a site function used as a filter for selective display of records in a browser were not immediately taken into account.

This has been corrected.

Correction of error with dynamic texts in .NET browsers (MATE-05756)

GLIMS offers the possibility to add dynamic text fields in .NET browsers.

When the dynamic text contained a database field name though the column corresponding to this field was not selected to be displayed in the browser, an error occurred.

This issue has been fixed.

Multilingual character of "Text" field in "Text" editor indicated by flag icon (MATE-05794)

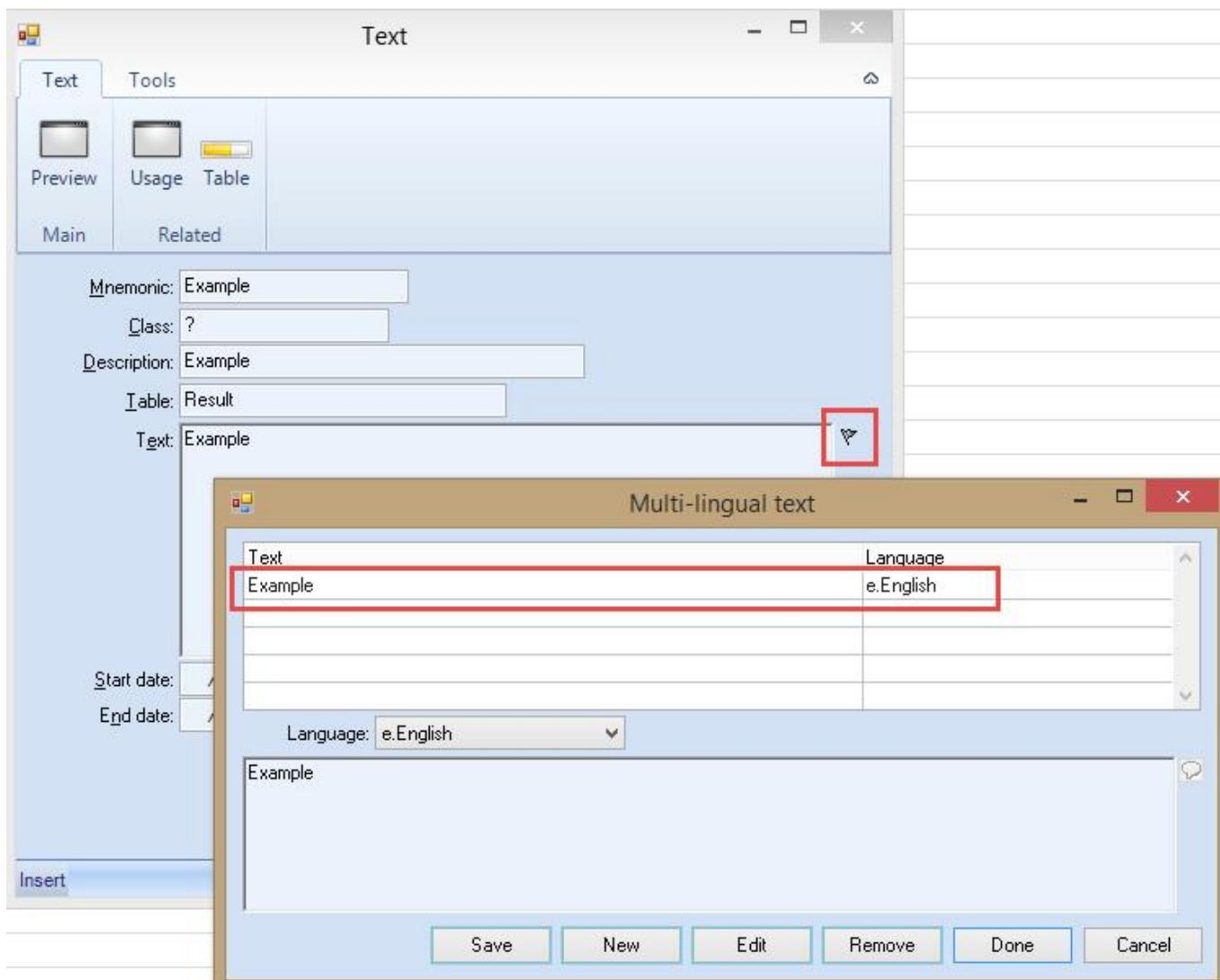
Issue

The **Text** field in the Text editor is a multilingual field: double-clicking on it allows opening a window in which the text can be entered in several languages. In the UI, the multilingual character of this field was not obvious.

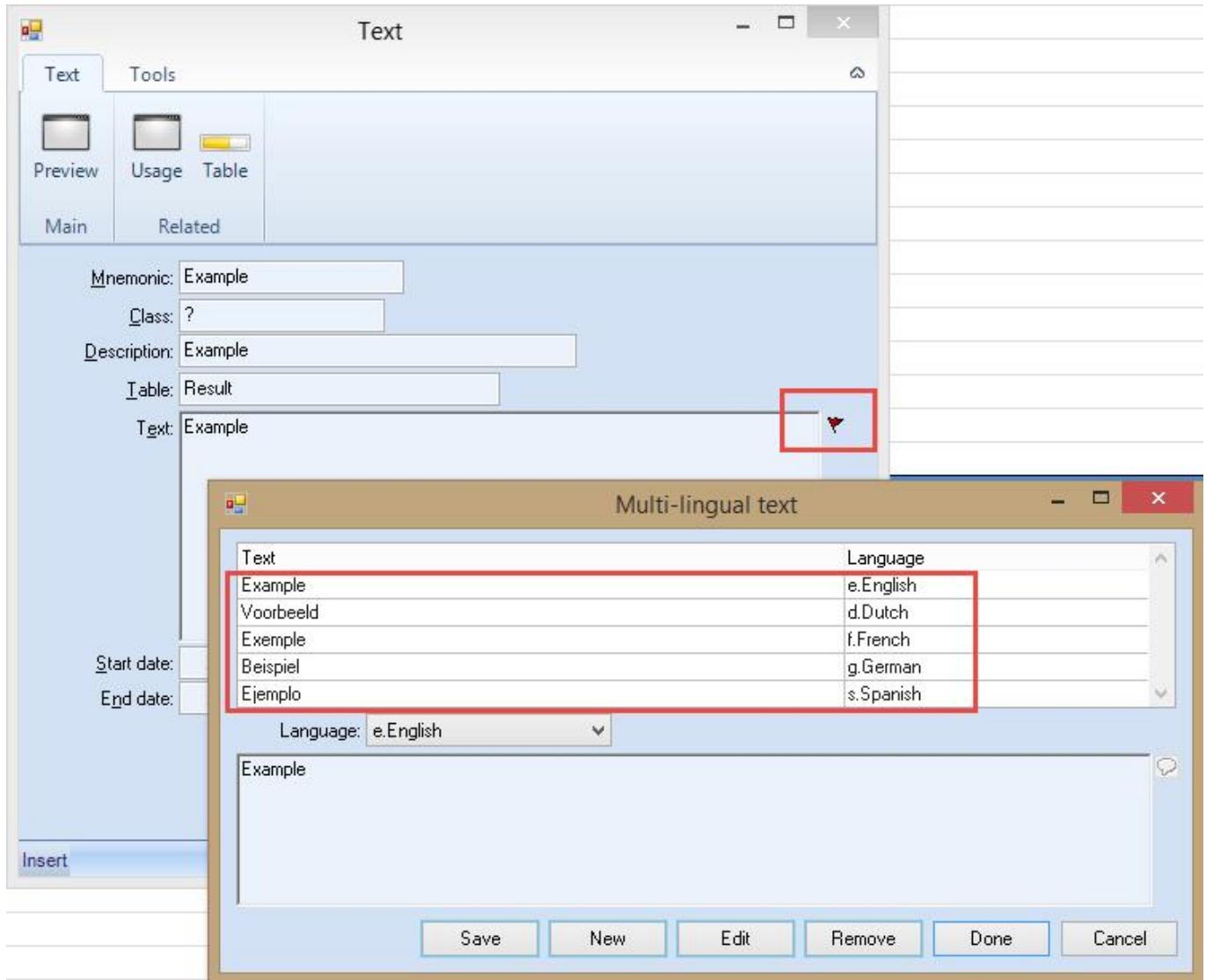
Solution

The fact that the field is multilingual is now indicated by a gray flag. This flag is displayed in red if the text has been entered in more than one language, i.e. if translations of the original text are available.

Multilingual field, no translation available



Multilingual field, translations available



Correction for browser refresh (MATE-05797)

In certain scenarios, browser content was not refreshed.

Example:

1. Open a specimen browser.
2. Select a specimen in status **Exp.**
3. Double-click to open the **Specimen** editor.
4. In the editor, right-click and choose **Change state > Discontinue**.
5. In the editor, the status is changed to **Discontinued**.
6. When closing the editor, the browser still shows **Exp.**.

This has been corrected.

Correction for fast-positioning while using a prefix (MATE-05804)

Context

Some browsers allow to fast-position using a prefix. E.g. the **Orders by internal id** browser, when enabling the **Use prefix as positioner** check box in the query options of the browser. If enabled, the specified prefix will automatically be used as prefix when you start searching for an order by typing in his internal id in the browser.

Issue

When the user fast-positioned to a record in the browser while the prefix was set and he / she wanted to open the editor by using the ENTER key on the record, then GLIMS fast-positioned to the first record of the browser and opened that record.

Solution

This has been corrected.

Icon in column header of browser now moves along when resizing (MATE-05810)

A button or icon which was positioned in the column header (label) of a browser (e.g. order review) did not move along when the column was resized or repositioned.

This has been corrected.

Pre-configured "Order review" displays grey area in "Results of order" browser (MATE-05826)

When using the Order review function in a tool (i.e. with a pre-configured parameter set) while a **Conclusion property** was specified in the **Results of order - options** screen, then a grey area was visible in the **Results of order** browser.

	Root Specimen (Internal id)	Work Specimen (Internal id)	Property	Value	Flags	Sev	Sts	U	Norm	Previous (-1)	Lapse	Previous (-2)	Lapse

This has been corrected.

Correction of row selection via SHIFT+END in .NET browsers (MATE-05833)

Issue

In previous versions of GLIMS, using the SHIFT + END key combination in a .NET browser would only apply row selection* from the currently active row till the last row of the currently loaded batch of records.

* Row selection = the row is highlighted with a light blue background. Note that row selection is not taken into account when performing a function on these records. You first need to switch to record selection by using the space bar (check boxes will be enabled for all records in the row selection).

Solution

Using the SHIFT + END key combination now applies row selection* from the currently active row till the last row of the .NET browser. If 400 rows are selected and there are still rows left, the user is offered the choice of continuing the selection or limiting the selection to 400.

Scrolling up in parent browser should not cause child window to be refreshed (MATE-05837)

Problem description

Scrolling up (via the scroll bar or using the mouse) in a browser (e.g. Orders by receipt time) while a child window (e.g. Results of order) was active caused the child window to be briefly refreshed (i.e. its contents changed) as new data was retrieved before it displayed again the related data of the originally selected record in the parent browser.

Solution

This has been corrected. The child window will now no longer be refreshed when scrolling up in the parent browser as long as no other record is selected.

Fast-positioning in browsers: new behaviour when search text is not found (MATE-05845)

Issue

When fast-positioning in a browser and no record beginning with the entered search text was found, GLIMS fast-positioned to the nearest record. Moreover, if entering the search text was followed by pressing Enter, the editor of the record to which GLIMS had fast-positioned was opened as well. However, there was no indication that the entered search text had not been found.

Solution

When fast-positioning in a browser and no record beginning with the entered search text is found, the part of the search text for which no match was found will now be displayed in red. This way, the user is informed that the entered search text was not found. Users can then modify the search text and continue their search.

Redesigned browsers

The search box now remains displayed and the part of the search text for which no match was found is displayed in red.

20190308-000242

Specified text '20190308-000242' was not found.
Something exists that begins with text in black color, text in red color does not exist.
Modify the specified text to continue search or press Escape key to close the search box.

I already know this, don't show this tip again.

Classic browsers

A warning icon is displayed and the part of the search text for which no match was displayed in red.

Reports of order 20190305-00002

Scope	Tgt typ	Target	Template	# C	Usage	Medium	Min res./trig.	Prev. res.	A
Ord	Expl	Pereboom Kees	epvrText	?	Std	Courier	Cnf / Val	None	X
Spmn	Dflt	VUNDERINK HJD	erb_GRB_ReportE	?X	Std	Courier	Ini / Ini	None	X
Spmn	Dflt	VUNDERINK HJD	LC_online	?	Std	Courier	Val / Exp	None	X
Obj	Dflt	VUNDERINK HJD	sbt_report	?	Std	Courier	Val / Val	None	X
Ord	Dflt	VUNDERINK HJD	rr_attachedReport	?	Std	File	Cnf / Val	None	
Ord	Dflt	VUNDERINK HJD	FBR_Online	?X	Std	Courier	Cnf / Ini	None	X
Ord	Dflt	VUNDERINK HJD	dnl_rp_tmpl2	?X	Std	Courier	Ini / Ini	None	X
Ord	Dflt	VUNDERINK HJD	test_js_grb_att	?X	Std	Courier	Ini / Ini	All	X
Ord	Dflt	VUNDERINK HJD	SMI_RB	?	Std	Courier	Cnf / Val	All	X
Ord	Dflt	VUNDERINK HJD	TestBarth	?X	Std	Communication	Cnf / Ini	None	X
Ord	Dflt	VUNDERINK HJD	vs_RB_HTML	?X	Std	Courier	Cnf / Ini	None	X
Ord	Dflt	VUNDERINK HJD	UTReportTemplat	?	Std	Courier	Cnf / Avl	None	X

Start time: 05/03/2019 08:25, End time: 05/03/2019 08:25
Last output time: ?

vunder a

Decimal separator should be applied consistently (MATE-05887)

An issue was reported where a redesigned (.NET) browser and its editor would retrieve the decimal symbol from different settings, possibly leading to a different separator.

This has been corrected.

See also: [MATE-04390](#).

Improved legibility of log entries in "Verify logs" screen (MATE-05900)

To improve legibility, the text color of the log entries to be checked in the Verify logs program has been changed from pink to purple.

.NET browser performance issues on Oracle (MATE-05901)

This modification should improve the performance of .NET browsers on Oracle in terms of:

- Fast repositioning
- Paging Up/Down
- Using the Home/End keys

Error upon Drag and Drop in tree view (MATE-05915)

An error could occur when using Drag and Drop in a Tree view (e.g. when editing menus).

This has been corrected.

Browser refresh improvements (MATE-05922)

This modification solves a number of issues related to inappropriate browser refreshing. In some situations, a browser tried to refresh its data while the initial data retrieval was not yet performed, e.g. because the browser was just opened and a query screen was first displayed and not yet confirmed.

The following problem was related to these refresh issues.

1. Choose **Start > System management > Scheme > Tables**.
2. Right mouse click > **Show all > Site functions**.
3. In the **Site functions** browser, open the query options screen.
4. In the **Tables** browser, select another table.
5. The **Site functions** browser refreshes while the query options screen is open. This has been corrected: the **Site functions** browser will now no longer refresh while the query options screen is open.

Selection issue in lookup browser (MATE-05930)

An issue was identified when fast-positioning in a lookup browser and then selecting a record in that browser.

Example

1. Choose **Start > System management > Site functions**.
2. Press Insert.
3. In the **Site function** editor, double click in the **Table** field.
4. In the **Table** browser, fast-position to one of the last rows.
5. Double click on one of the rows (but not the active row).
6. The table entered in the **Table** field of the **Site function** editor is not the selected table.

This has been corrected.

Titles of browser printouts contain all required information (MATE-05966)

Titles of .NET browser printouts did not contain all the expected data. As a consequence,

- if the label of the tool was unclear, the title of main browsers could be misleading,
- the title of child browsers was not informative enough because it did not display the parent record externalization.

This has been corrected: titles of .NET browser printouts are now the same as that of classic browsers.

Focus in "Text" field after closing the "Multi-lingual text" screen (MATE-05972)

This modification corrects a focus mistake in the Text editor.

After closing the screen **Multi-lingual text**, in which translations can be inserted, the cursor should appear in the **Text** field of the editor. It however appeared in the **Start date** field. This has been corrected.

Last sorting order used in Order consultation browser is saved in user preferences (MATE-05981)

The last sorting order applied by a user in the Order consultation browser should be saved in that user's preferences. This was however not the case in the Progress version of GLIMS.

This issue have been solved.

Filtering browser data via ribbon Tools tab possible again (MATE-05984)

Background

The ribbon of browsers contains a **Tools** tab in which a Filter can be selected.

Issue and solution

When

- filtering on a temp table browser (such as the Urgency monitor, Order consultation and Incomplete results browsers), and
- the MISPL function accesses fields of the main database table (such as fields of the result table in the Incomplete result browser), and
- the MISPL function is chosen from the ribbon (not in the query window)

the filter did not work properly. As a consequence, the fast positioning function did not work and a MISPL error was added to the AppServer log file.

This has been fixed.

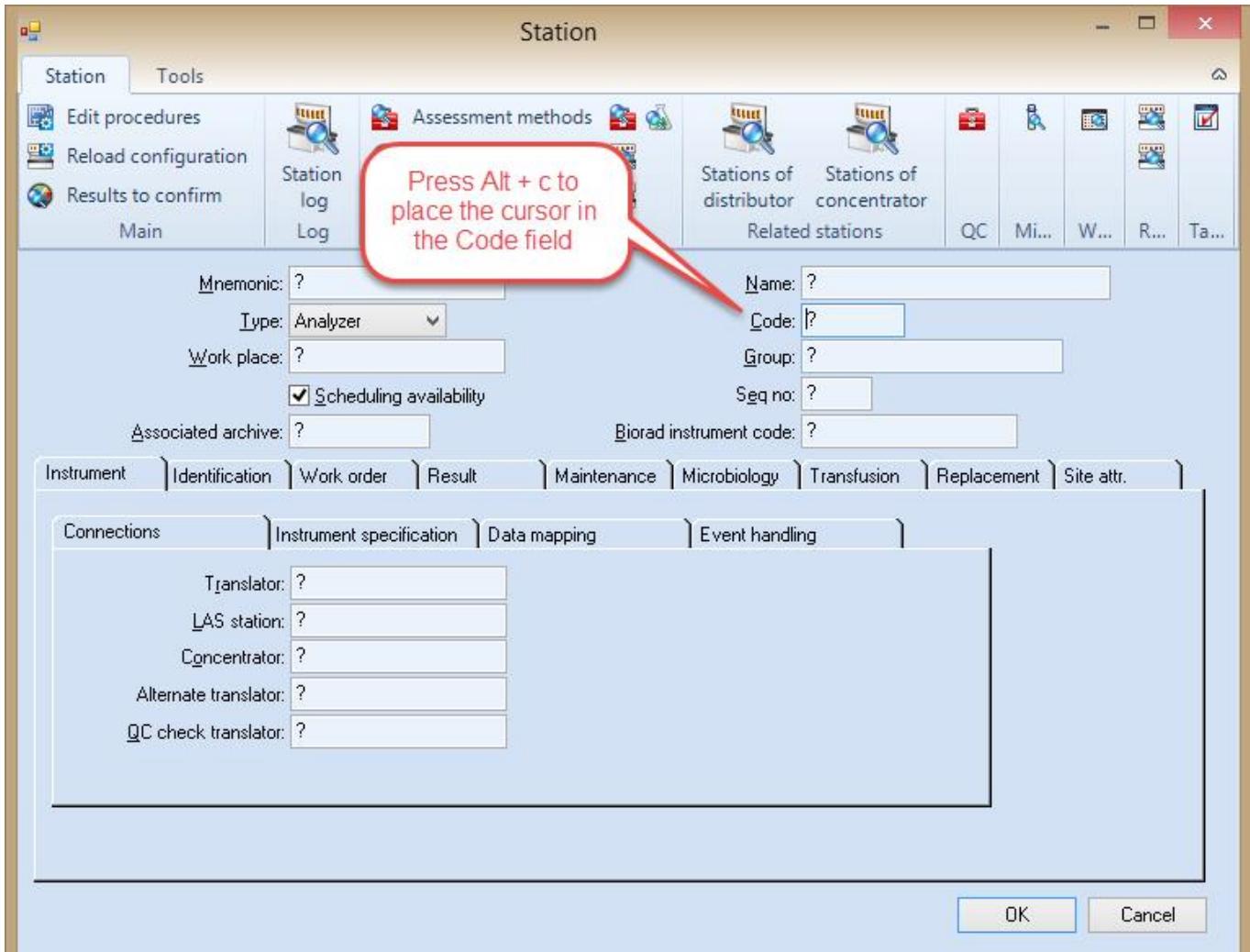
Correction of issue arising when moving property classification nodes in tree view (MATE-05992)

An error sometimes occurred when moving property classifications nodes to another level in the tree view of the property classification editor.

This error was due to a lock table overflow. It has been corrected.

Shortcuts "Alt + underlined letter" work again (MATE-05999)

Pressing Alt + underlined letter allows moving the cursor to the desired field of an editor, for instance.



This functionality did not work anymore : the shortcut key was caught by the ribbon.

This issue has been solved.

Application error when trying to sort a browser (e.g. log entries) (MATE-06010)

An issue was reported where an application error occurred when trying to sort a browser by clicking on a column header. Possible scenario:

1. Select **Start > System management > Logging > Logs**.
2. Right-click on a record in the browser and select the contextual function **Entries > By Seq no.**.
3. Click on the column header **S**.
4. The error "An application error has occurred (Progress.Lang.AppError)" occurs.

This has been corrected.

Correction for too large columns in Request browser of Order entry screen (MATE-06041)

Context

When a user resizes a screen or columns in GLIMS, the chosen widths, heights and positions are stored (User's record -> **Settings -> Preferences**). The next time the user opens the screen, the screen and the columns are displayed according to the saved dimensions.

Issue and solution

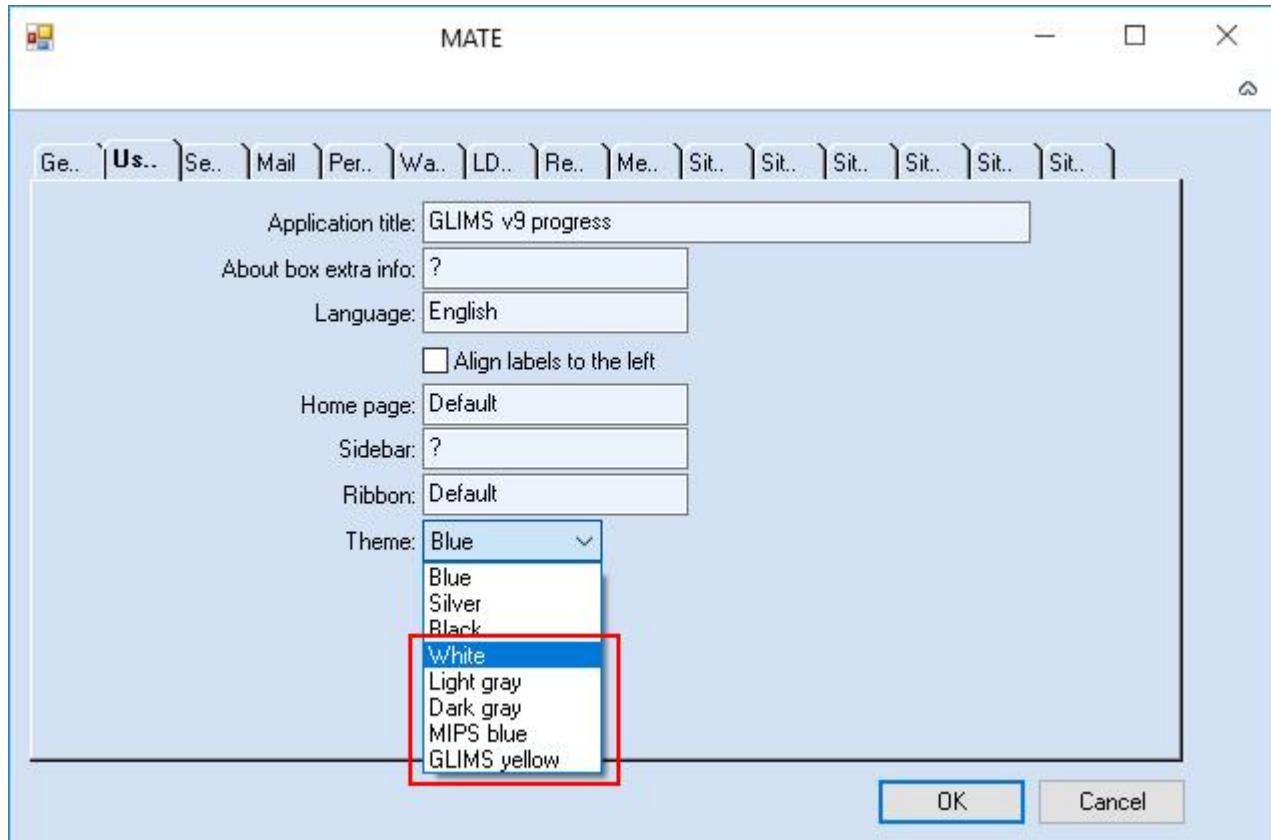
On some PCs, the widths stored for the columns of the embedded request browser in the Order entry screen are incorrect and exceed the width of the screen. The columns are therefore not displayed correctly.

The cause of the problem has not been identified yet. However, a check is now performed on the column widths: if they are too high, GLIMS does not store them anymore and uses the default settings instead.

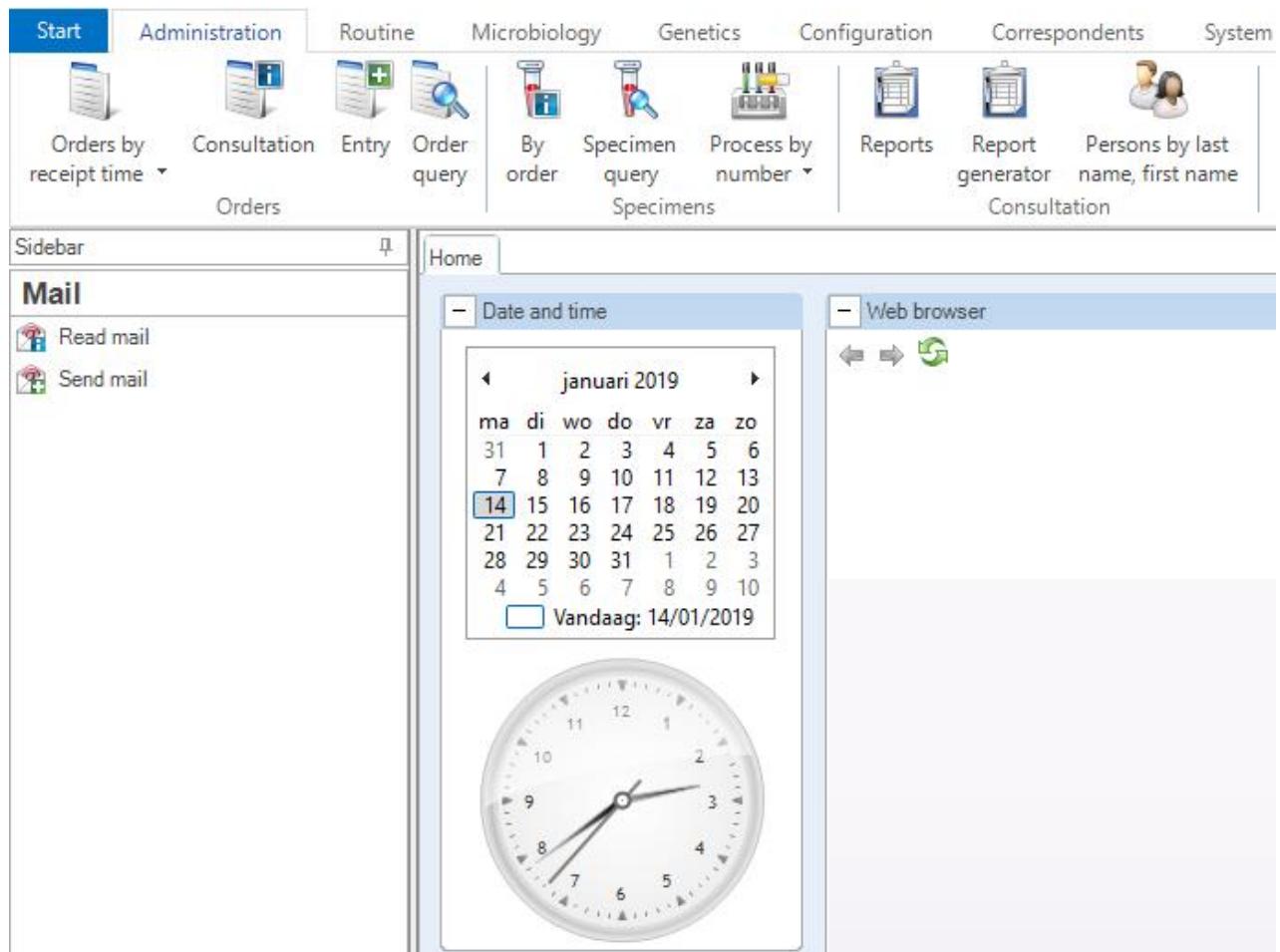
Customizable user interface theme (MATE-06052)

The user interface of GLIMS 9.9 supports five new themes: **White**, **Light gray**, **Dark gray**, **MIPS blue** and **GLIMS yellow**.

1. Choose **Start > System management > Customize > MATE** to change the user interface theme.

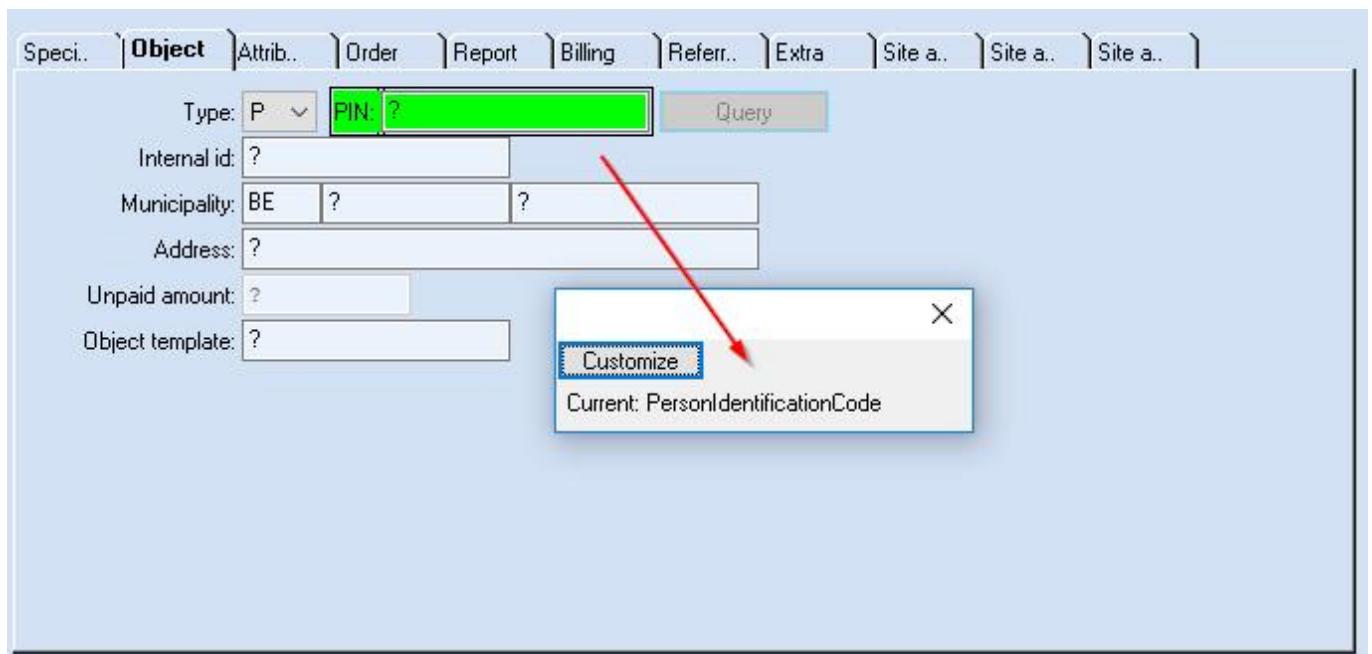


2. Re-login to see the new theme.



Display name of focused field during screen customization (MATE-06066)

When customizing the screen layout (e.g. of the order entry screen), the name of the focused field will now be displayed in the window containing the **Customize** button.



No error messages in ribbon configuration tool (MATE-06070)

When using the ribbon configuration tool, error messages appeared.

This has been corrected.

Visual issue in tree view (MATE-06071)

A visual issue was reported in tree view windows:

1. From the main menu, choose **System management > Scheme > Tables**.
2. Select a table, right click and choose **Menu > Edit**.
3. A tree view window is displayed.
4. Move the vertical splitter bar that divides the actual tree view from the details panel at the right-hand side.
5. Minimize the window.
6. Maximize the window.
7. The left-hand side with the actual tree view is now collapsed (splitter bar is positioned at the far left-hand side).

This has been corrected: the vertical splitter bar will now keep its position after minimizing / maximizing a tree view window.

Performance improvement when looking up records situated towards the end of a browser (MATE-06074)

In the Oracle version of GLIMS, an improved query mechanism allows finding records situated towards the end of a browser significantly faster.

Superfluous message in look-up field (MATE-06080)

An issue was reported where a classic look-up field would display two messages instead of one in case the user entered a non-existing or ambiguous search string. The second message would appear only briefly, potentially obscuring the first message.

This has been corrected, and only one message is displayed now.

No empty-side bar in main windows anymore (MATE-06082)

An issue was reported where users would see an empty sidebar on the left-hand side of the main windows, though no sidebar was configured.

This has been corrected: the application no longer displays an empty sidebar area in this case.

Main tab headers no longer affected by the internal mail notification (MATE-06083)

GLIMS features an internal mail system. Every so often, GLIMS checks if it has unannounced new internal mails. As unread mail is detected, a message box "You have new mail. Read your mail ?" will pop up with corresponding buttons **Yes** and **No**.

An issue was reported where choosing the option **Yes** would lead to incorrect main tab headers, if the internal check for mails was being executed during the course of opening a new main tab.

This problem has been fixed, the pop-up message will no longer have any impact on main tab header appearance.

Note

On Windows, the notification will from now on appear by means of a pop-up window in the bottom-right of the screen, without any workflow interruption.

With a single click on this pop-up window the user can open the mail browser at any given time.

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Posted on: 28/09/2018

MTDS. ACQUA ITDEC English

You have new mail.
Click here to read your mail

Translations of home page shortcut labels are displayed according to user language (MATE-06093)

In a multilingual environment, the shortcut labels of a home page did not always display the expected translation according to the user language.

Example: A shortcut with a multilingual label containing several translations was defined in a home page section. If a user logged into the French version of GLIMS, this label would still be displayed in the defined "English" language, while it actually contained a defined translation in French.

This has been corrected. From now on, multilingual labels with available translations will be shown in the configured language of the user.

Note

If no label is defined for the shortcut to a tool, the defined label of the tool together with all configured translations will be applied according to the user language.

No error when scrolling in Orders browser while Blood selections browser is open (MATE-06110)

In the following scenario, a Microsoft .NET framework error occurred:

- open the browser Orders by internal id,
- use the contextual menu item **Object -> Transfusion -> Blood bag selections**,
- click on an order in the Orders browser,
- scroll down to an older order.

This issue has been solved.

Correction of "input blocking statement" error in Urgency monitor (MATE-06157)

This modification corrects an "input blocking statement" error in the Urgency monitor. It would occur when users selected an order after having opened a screen report (with report template generator set to **GLIMS report builder**) for another order.

Correction of memory leaks in .NET timers (MATE-06161)

This modification corrects a number of memory leaks which occurred in the timers that are used for .NET browsers and which could cause errors.

Orders by order identifier browser supports custom columns (MATE-06244)

Context

The redesigned (.NET) browsers offer the possibility to add custom columns displaying the value returned by a dynamic text.

Issue

An issue was reported where in the Orders by order identifier browser the value of such a column was not shown ("?" was displayed).

Solution

This has been corrected.

Reset screens to their default settings (MATE-06274)

Contextual Tools ribbon

The Reset screen item is now available in the contextual **Tools** ribbon. It allows the user to reset browsers, editors and outliners to their default settings. When clicking on the ribbon item, a message is shown to the user indicating which settings will be reset. If the user decides to continue, the settings will be reset and the screen will be closed.

Browsers

For browsers, the following settings are reset:

- Screen size and position
- Column visibility, order and width (.NET only)
- Infobox visibility (collapsed or not) and size (when applicable, e.g. in the Orders by internal ID browser) (.NET only)
- Active sort column (when applicable, e.g. in the Order consultation browser) (.NET only)
- Active style function (.NET only)

Editors and outliners

For editors and outliners, only screen size and position are currently reset.

Prevent opening field chooser multiple times (MATE-06282)

An issue was reported where a user could open the same field chooser window multiple times by clicking the field chooser icon multiple times.

This has been corrected.

Focus issue when checking the activity of a service or translator (MATE-06318)

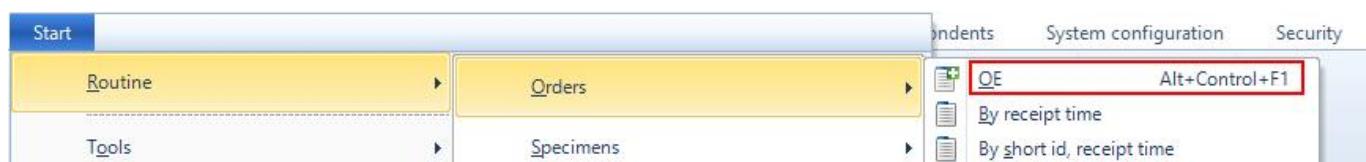
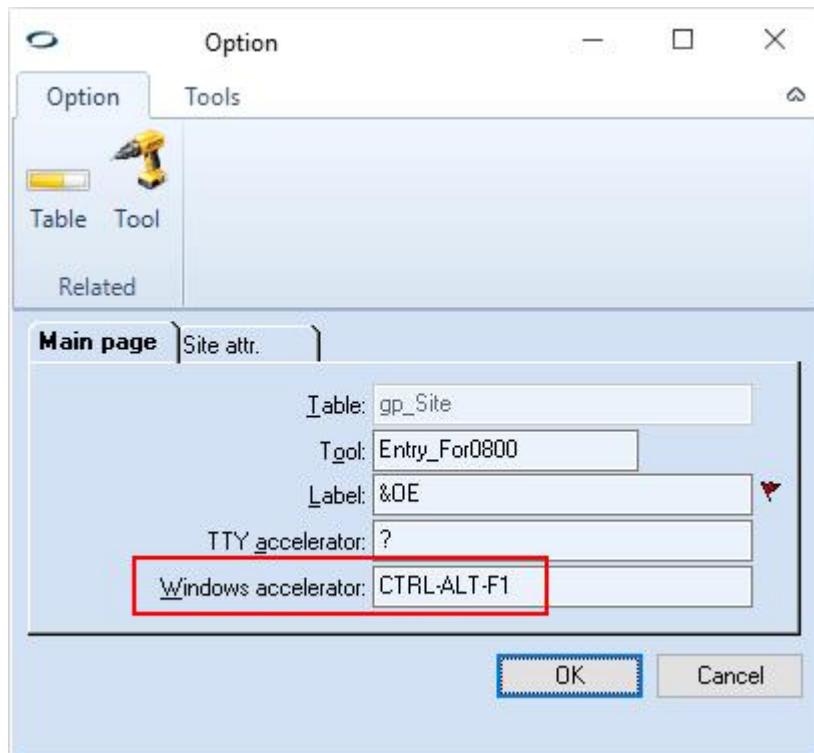
The following focus issue has been corrected.

1. Choose **Start > Routine > Orders > By receipt time**.
2. Choose **Start > System management > Services > Services**.
3. Select a **Service**.
4. Choose the contextual menu / ribbon item **Check activity**.
5. Click on the **Cancel** button in the warning message that informs the user about the service's inactivity.
=> The focus is incorrectly set to the **Orders by receipt time** browser.

Fixed display of menu accelerators in menu (MATE-06357)

An issue was reported where the **Windows accelerator** specified for a menu option was not displayed correctly in the menu. For instance: "CTRL-F11" was displayed as "Control + F1".

This issue has been corrected.



Validation

Correction of memory leak during result validation (GLIMS-11267)

A memory leak was detected during result validation. This issue, which occurred since GLIMS 9.6, has been corrected.

The Domain authorizations browser has a sort order (GLIMS-11492)

Issue

The Domain authorizations browser did not have a sort order when it was opened, for instance via **Start -> System management -> Security -> Domain authorizations**.

Solution

The issue has been corrected: the records are now automatically sorted by user name. This sort order can be changed by clicking on one of the column headers.

Watchdog

Disk monitoring options of Start Watchdog function (MATE_COMHL-00447)

Introduction

New **Disk monitoring** options have been added to the **Start Watchdog** function.

Note

These new options require Watchdog 6.2 or higher. They will be ignored by older versions of Watchdog.

Disk monitoring options

The following options have been added:

Monitor server disks

Disk space warning threshold

Disk space alert threshold

Tip

The values specified when starting the Watchdog service can be viewed in the Watchdog tab page of the MATE screen (Start > System management > Customize > MATE).

Extended logging options of Start Watchdog function (MATE_COMHL-00449)

Introduction

New **Logging** options (which were already available for **Services** and **Translators**) have been added to the **Start Watchdog** function.

Note

These new options require Watchdog 6.2 or higher. They will be ignored by older versions of Watchdog.

Logging options

The following options have been added:

Log verbosity

Defines the amount of logging detail.

Tip

Only set this to High for debugging purposes!

Log file refresh (unit)

Are used together to indicate after how long a period open log files should be closed and a new log file should be opened.

Log file folder

Folder in which the log files are stored.

Tip

The values specified when starting the Watchdog service can be viewed in the Watchdog tab page of the MATE screen (Start > System management > Customize > MATE).

Watchdog disk monitoring parameters restored on start (MATE_COMHL-00464)

The values of the disk monitoring parameters ([Start -> System management -> Services -> Watchdog -> Start -> Disk monitoring](#) tab) were correctly saved in the database but not restored when Watchdog was restarted. Instead, the default values of these parameters were applied.

This issue has been corrected.

Monitoring of XML control service (MATE_COMHL-00471)

An issue was reported where the Watchdog daemon would claim that its XML control service was disconnected, even though it was running correctly. This has been corrected.

Work lists

Support for multiple specimen selection in the Generate work list screen (GLIMS-11154)

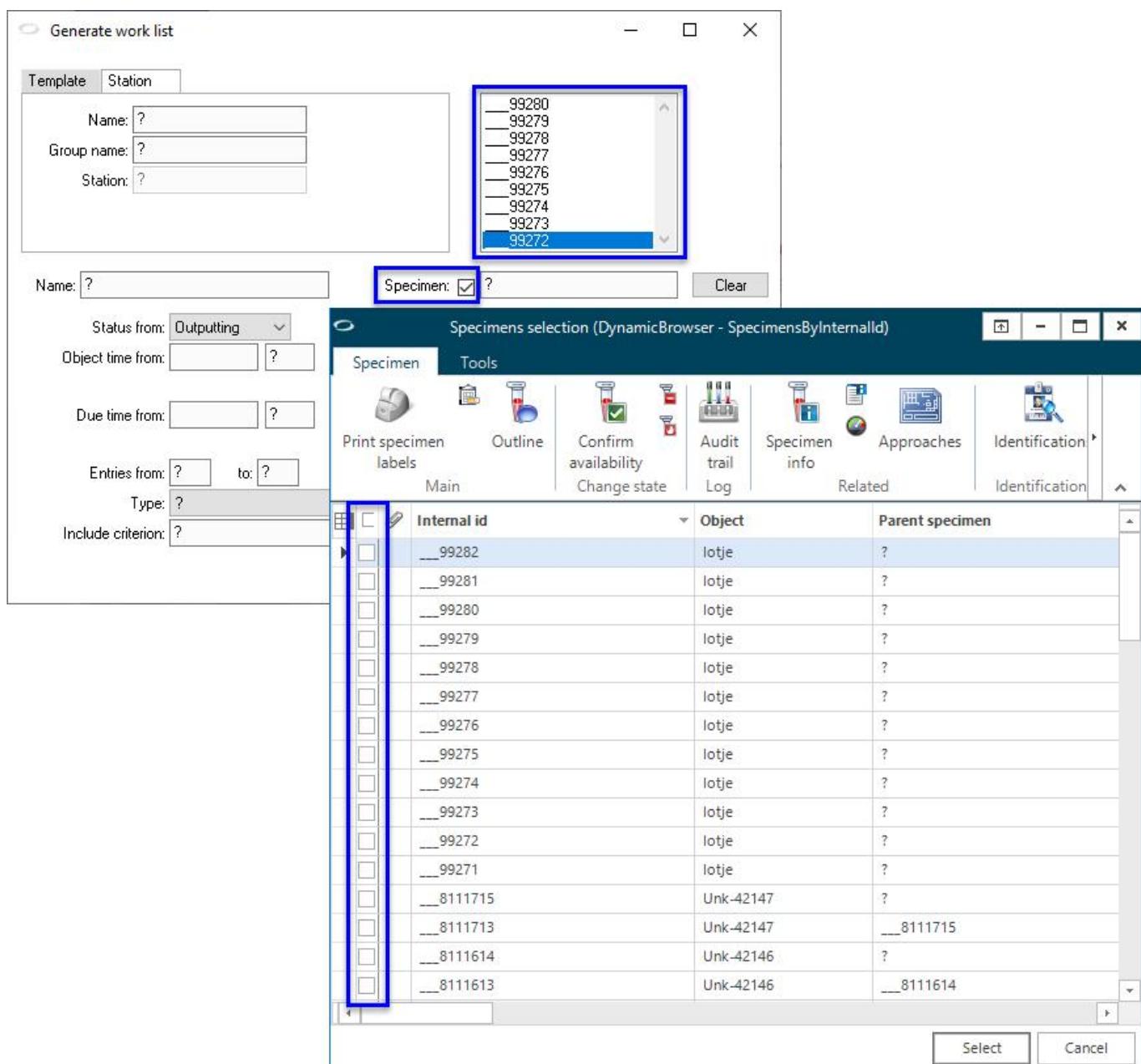
Issue

The Generate work list screen could process multiple specimen records, however the **Specimens selection** browser could not return multiple specimen records to the screen.

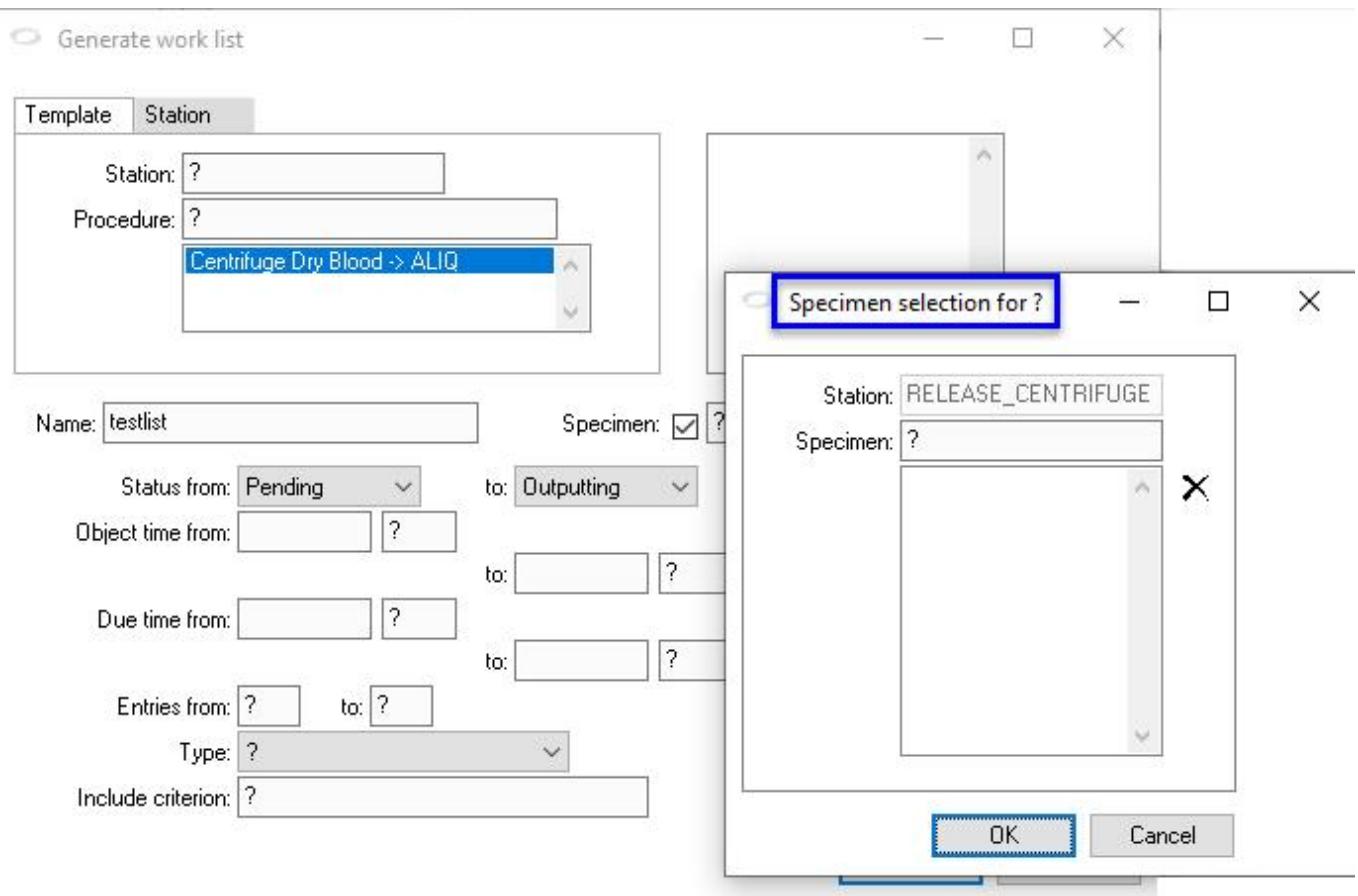
When run from the **Generate work list** screen, the SpecimensByInternalId browser should allow multiple records to be selected for generation.

Solution

From now on, it is possible to select multiple specimen records when opening the SpecimensByInternalId browser directly from the **Generate work list** screen:



Additionally, when the **Specimen** option is activated but the user selects **Generate** with no specimen specified, the **Specimen selection** screen is displayed, prompting the user to select at least one specimen record:



If the user confirms the selection screen with no specimens selected, the focus returns to the **Generate work list** screen and the message "Please enter at least one specimen" is shown. This is more helpful than the previous message "Operation cancelled".

In the selected specimens list, it is possible to scroll up and down when more than nine specimens are selected. The user can delete specimens one at a time by using the **Delete** key, or clear the list of the displayed specimens by using the **Clear** button on the screen.

Note

When **Generate** is triggered, Specimen validation in the **Generate work list** screen is carried out and the selected or entered specimens are checked.

If any invalid specimens are detected (e.g. specimens which are not scheduled on the selected station/procedure or which are scheduled on an action which is outside the selected range), a message will be displayed stating that no work was found for one of the specimens.

- This check is done for each specimen one at a time, each time the work list is generated.
- The specimen internal id is shown in the message to make clear which specimens are invalid.

Correction of error that occurred during work list generation (GLIMS-11802)

An issue was reported where the error **Field isot_Status from IsolationTest record was missing from FIELDS phrase** occurred when generating a work list if there were procedure outputs of type **Microorganism test**. This has been corrected.

Prevent error from occurring when opening a newly generated work list (GLIMS-11883)

A modification was made to prevent the error **Illegal operator for unknown value or zero-length character string.** (**1457**) from occurring in an Oracle environment when choosing the contextual menu / ribbon item **Edit** for a newly generated work list.

Incorrect display of work list prevents result input (GLIMS-11924)

An issue was reported where the work list was not displayed correctly anymore after minimizing the window for work list editing, making it impossible for the user to enter results.

This has been corrected.

Accelerator keys fixed for worklist grid (MATE-06177)

An issue was reported when the accelerator keys CTRL-A and CTRL-N did not work as expected in the Worklist grid.

This issue has been fixed. From now on, the accelerator keys CTRL-A and CTRL-N will select / deselect all the results accordingly.

Examples

Screenshot of a software interface showing a list of records. The top menu bar includes tabs for 'Result' and 'Action'. The toolbar contains various icons for refresh, skip disabled fields, edit by row, skip non-empty fields, prefix/suffix, navigation (Previous, Next), selection (Sele...), and edit.

	VDRL	TPHA
2) 20020415-00021 15/04/02 FOLKERS David	8	[]
3) 20011031-00005 31/10/01 TOBER JOHAN	16	[]
4) 20011031-00006 31/10/01 ARRAZOLA DE ONATE	Negatief	[]
5) 20011031-00007 31/10/01 0405FB-0022 PIETER	[]	[]

Buttons at the bottom: Down, Up, Close, Refresh.

A red callout bubble points to the 'Edit by row' icon with the text 'CTRL-A'.

Screenshot of the same software interface after applying the 'CTRL-A' command. The 'Edit by row' icon is now highlighted in yellow. The 'VDRL' column for record 2 and the 'TPHA' column for record 3 are now highlighted in green, while the other rows are grayed out.

	VDRL	TPHA
2) 20020415-00021 15/04/02 FOLKERS David	8	[]
3) 20011031-00005 31/10/01 TOBER JOHAN	16	[]
4) 20011031-00006 31/10/01 ARRAZOLA DE ONATE	Negatief	[]
5) 20011031-00007 31/10/01 0405FB-0022 PIETER	[]	[]

Buttons at the bottom: Down, Up, Close, Refresh.

A red callout bubble points to the 'Next' navigation icon with the text 'CTRL-N'.