

## Release notes - Version 9.8.0

# **GLIMS**



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## Important modifications

### **Export KVDT files using KV-Connect (BILX\_GKVC-00005)**

#### Background

GLIMS allows to export KVDT files using KV-Connect. As of GLIMS 9.8.0, the connection to KV-Connect will no longer be handled by GLIMS. GLIMS now only generates the required XML file. An external tool is required to handle the connection to KV-Connect.

#### KV-Connect related functions in GLIMS

As a result, the contextual function **Generate KV Connect XML** which can be accessed from a financial shipment now only generates the required XML file.



Moreover, the following KV-Connect related functions in GLIMS have been disabled:

- Contextual function **Check KVConnect Reply** on a **Financial shipment**
- Start > Billing > Configuration > KBV > Generate KV-Connect certificate
- Start > Billing > Configuration > KBV > Change KV-Connect password

#### Installation of external tool

For more information on the installation / configuration of this external tool, please contact your MIPS project manager.

### **Apply choice severity as norm severity and phone list severity of result (GLIMS-08060)**

#### Problem description

If a patient result is entered through a choice, the severity defined in the choice configuration is applied. However, since the introduction of specific norms for phone list, reports, severities in GLIMS 9.5.0 via GLIMS-06665, the severity defined in the choice configuration was no longer applied as the result's **Norm severity**. Instead, it was applied as the result's **Manual severity**.

## Solution

As this behavior was not backward compatible, the severity defined in the choice configuration is again applied as the result's **Norm severity**. Moreover, if a patient result is entered through a choice, the severity defined in the choice configuration is now also applied as the result's **Phone list severity**.

### Notes

If the patient result is entered through a **result code**, the severity defined in the result code configuration is now also applied as the **Norm severity** and **Phone list severity** of the result.

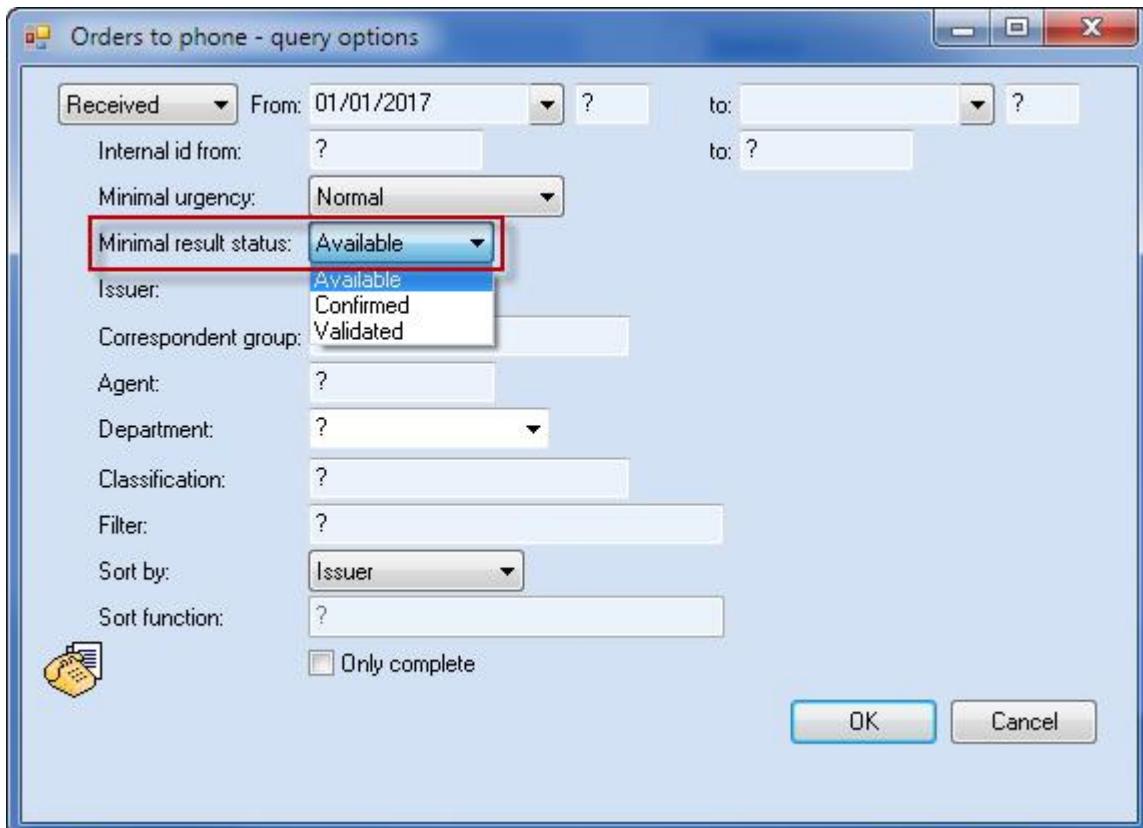
## Phone list should only select "phoneable" orders (GLIMS-08095)

### Background information

The phone list, when used in **Outline** mode, used to show all orders with results to be phoned even though no result value was available yet (nothing to be phoned yet). As most customers were not interested in those orders, MISPL filters were used to hide them, which had a negative effect on the performance of the phone list.

### New functionality

The phone list, when used in **Outline** mode, will now take into account the **Minimal result status** indicated in the order query options in order to decide which orders should be selected. An order will now only be selected if at least one of its results to be phoned has reached this minimal status.



#### Tip

Customers using a MISPL filter to hide orders without results ready to be phoned can now remove that filter. This should result in a faster phone list.

## Introduction of QC severity for non-numeric results (GLIMS\_QC-00684)

### QC severity for non-numeric results

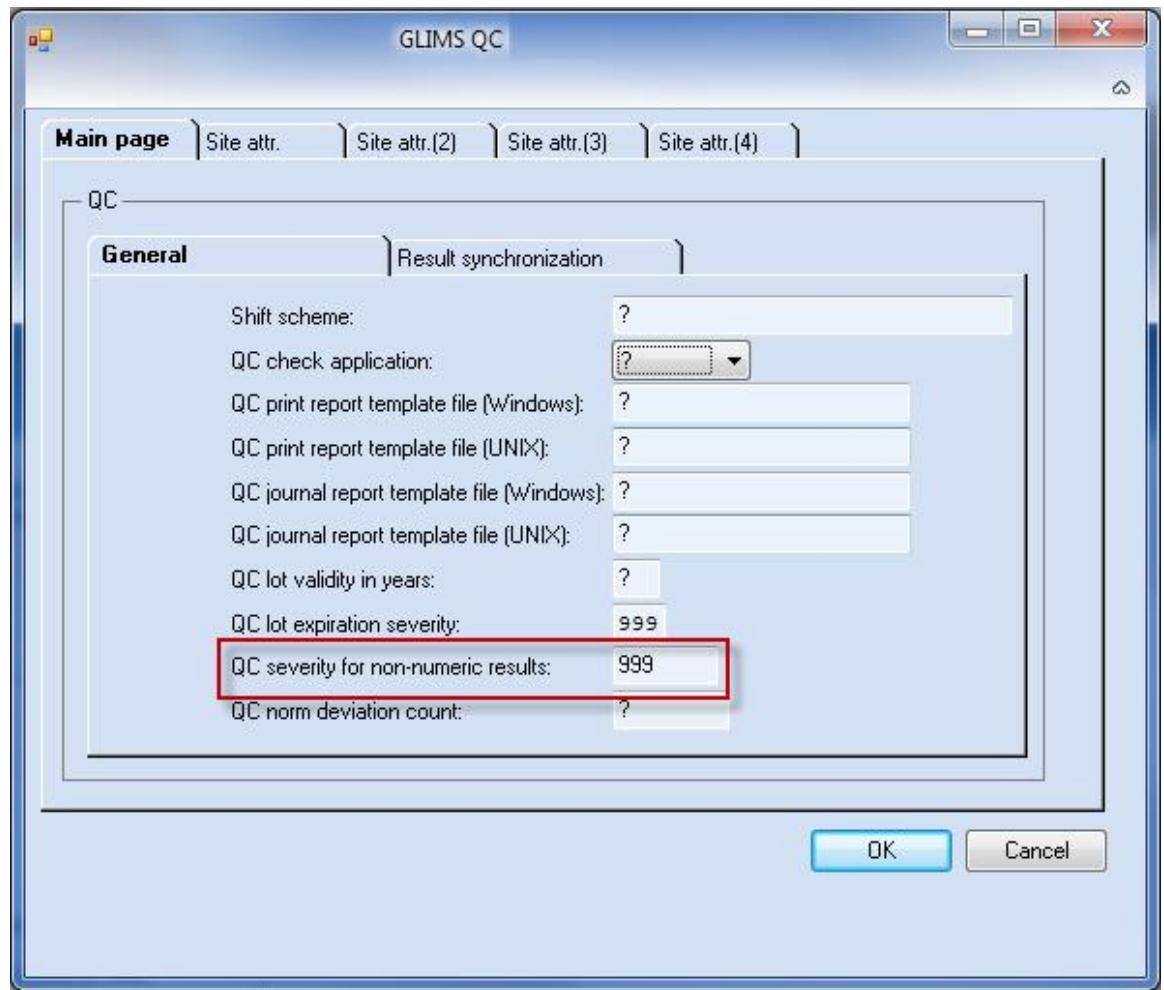
If a non-numeric QC result is entered for a QC population of type [Quantitative](#) or [Titer](#), a **QC severity** will now be applied to that QC result.

#### Default severity

By default a QC severity of **999** will be applied.

#### Custom severity

A custom QC severity to be applied can be specified in the option [QC severity for non-numeric results](#) of the general settings of the QC module.

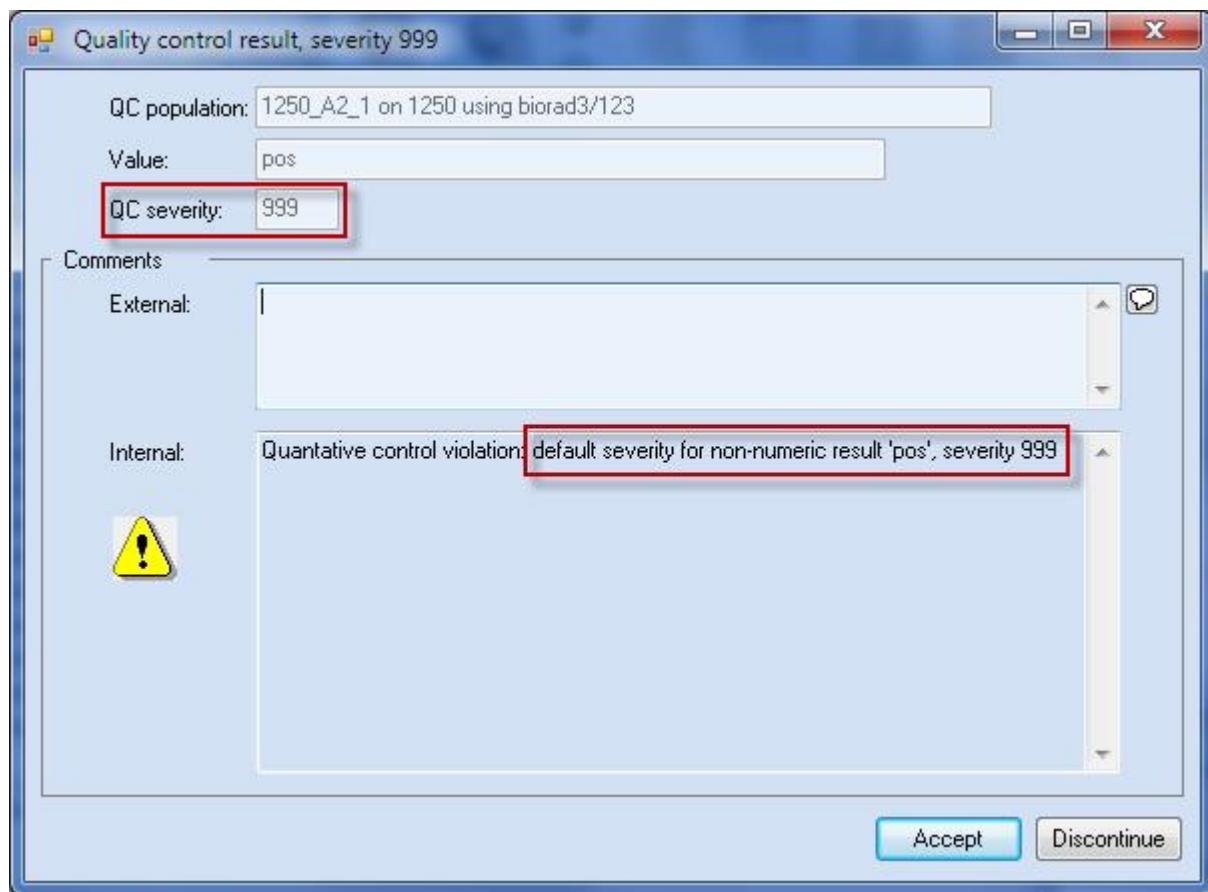


#### Note

Reverting to the pre-GLIMS 9.8 behaviour can be done by setting the **QC severity for non-numeric results** to "?". This ensures backward compatibility.

#### Log in internal comment

Additionally, a log will be added in the internal comment of the QC result, indicating the reason of the applied severity.



## Allow storing different serial numbers for one reagent lot (GLIMS\_QC-00725)

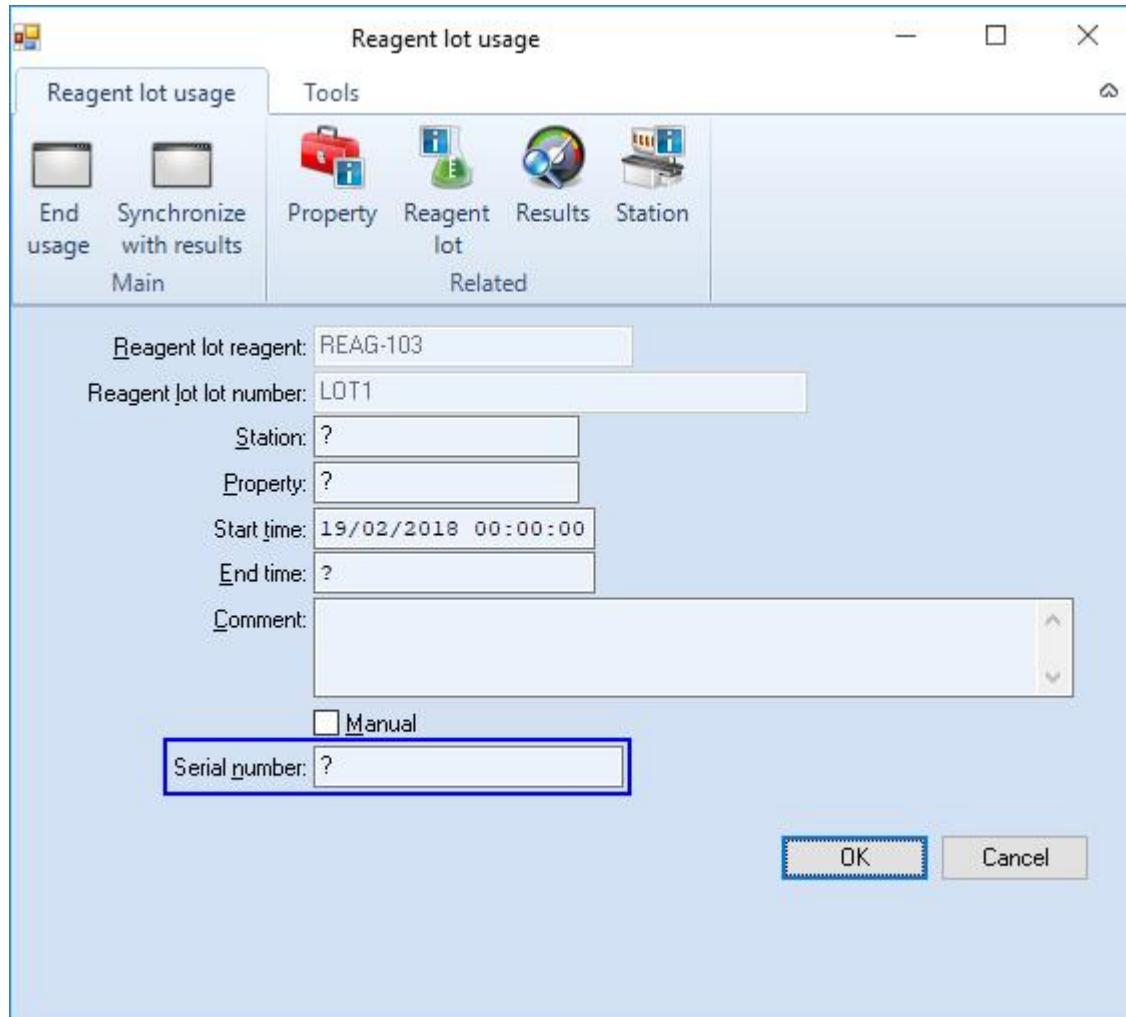
### Context

In previous versions, the reagent's serial number (number of the bottle) was stored in GLIMS on **Reagent lot** level. In order to allow using one reagent lot for multiple bottles with different serial numbers, the following changes have been implemented.

### What's new?

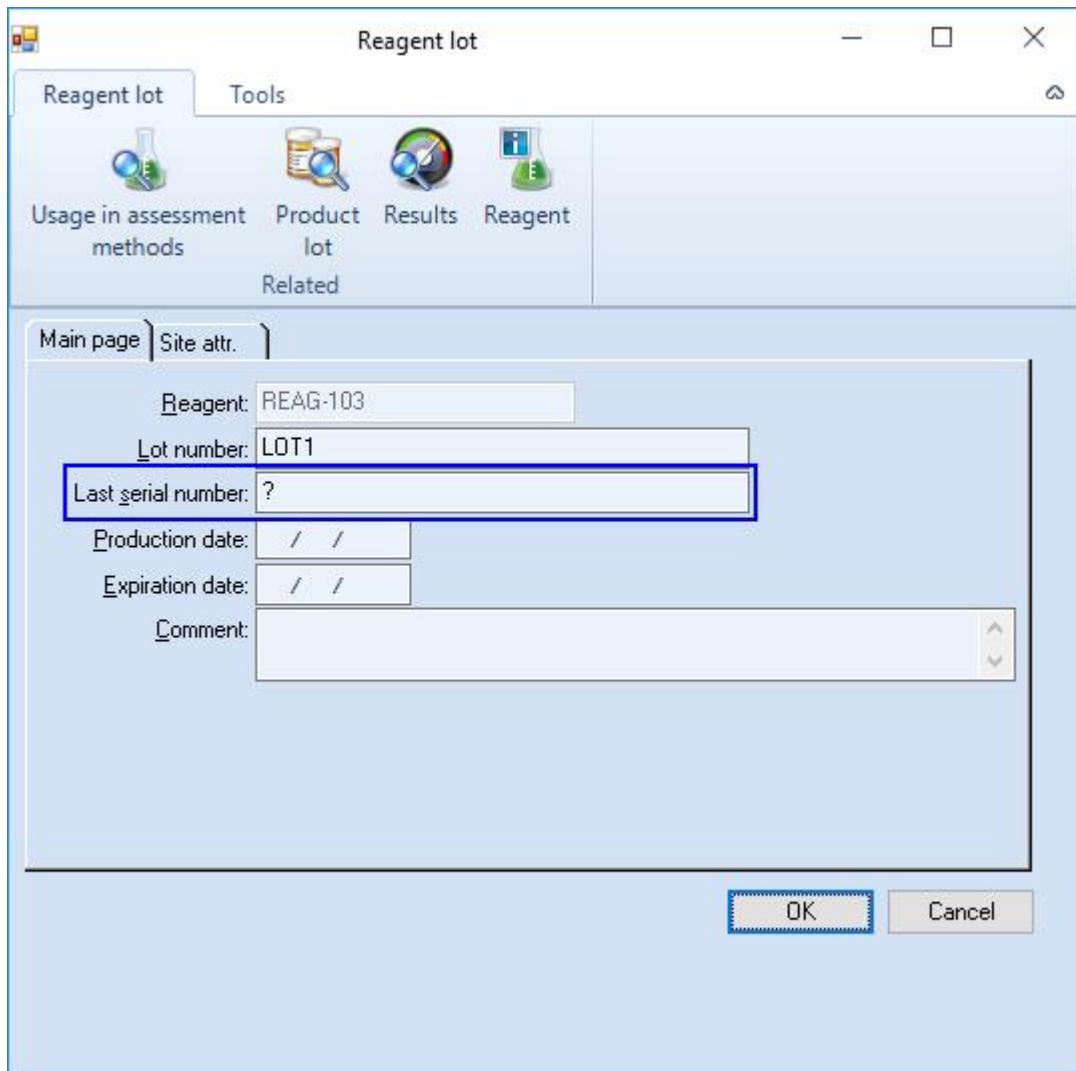
#### Serial number stored on Reagent usage

The **Serial number** is now stored on **Reagent lot usage** and **Result reagent usage** level.



### Last serial number stored on Reagent lot

The serial number field on **Reagent lot** has been renamed to **Last serial number**. It contains the last serial number used for the reagent lot.



#### Note

For customers using one serial number per reagent lot, the field will behave as before.

#### How does it work?

When GLIMS receives a result message from an instrument containing a reagent with a known lot number but an unknown serial number, then a new **Reagent lot usage** record will be created for the specified **Reagent lot** which contains the new serial number. The **Last serial number** of the **Reagent lot** will also be updated. The **Result reagent usage** record that will be created will also refer to the new serial number.

#### Note

Should the error "unique index violation" occur when multiple reagent usage records are created for the same reagent lot, it can be solved by changing the **Start time** of the reagent usage record by e.g. one minute.

#### Conversion procedure

When upgrading to GLIMS 9.8.0, the **Serial number** stored on the **Reagent lot** will be copied to the corresponding reagent usage records.

## **GLIMS 9.8 supports Oracle 12c (MATE-04290)**

GLIMS 9.8 supports Oracle 12c, i.e. version 12.1.0.2.0 and higher.

### **Warning**

Oracle 12c has dropped 32-bit support for the database on WINDOWS. Oracle 12c server is no longer available for 32-bit. Oracle 12 supports only a 32-bit product for the client. This means that OCI connections (on the database server via shared memory) are no longer possible and an SQL\*net connection is required to the Oracle 12c 64-bit database.

## **New version of Java Runtime Edition (MATE\_COMHL-00360)**

Since GLIMS 9.6.0 we use the Java Runtime Edition [JRE] bundled with OpenEdge 11.6 to run our Java-based services, including the Java Communication Engine.

It has recently come to light that some of our Java translator drivers may be affected by a bug in Java when parsing XML 1.1 documents - a bug which was fixed in Oracle's Java version 1.7.0\_71 update. Unfortunately, the JRE bundled with OpenEdge 11.6 is Java version 1.7.0\_48 update, which does not contain the fix for this bug.

Hence, it was decided to include our own copy of the JRE (Java version 1.7.0\_79 update), in the application folder, and use that when registering our Java-based Services (ReportBuilder/MessageQueue/JavaCommunicationEngine) and other application-supportive processes (QueueProcessor / WatchDog).

### **Warning**

After installation of the new application version, all aforementioned Java-based services and application supportive processes will need to be 'unregistered' and 'registered' again as Windows services for the change to take effect.

## **Report Builder: update JasperReports to version 6.4.1 and other enhancements (MATE\_RB-00136)**

[Update JasperReports to version 6.4.1](#)

MIPS Report Builder is now built on top of JasperReports version 6.4.1 (up from version 5.6.1).

### **Note**

- GLIMS will automatically check whether the Jasper templates have been compiled for the appropriate JasperReports version. If not, the templates will be recompiled automatically.
- If you want to edit the Jasper templates, you need to [download and install JasperSoft Studio 6.4.0](#).

## Remove transparent layers from charts for compliance with PDF/A

MIPS Report Builder can create PDF documents which conform to the PDF/A-1 standards for long-term archives.

An important limitation in the PDF/A-1 standard is that it prohibits the use of transparent layers. Unfortunately, the chart component used in Report Builder heavily used transparent layers for data visualization. This meant that it was not possible to create reports with charts conforming to the PDF/A-1 standard.

We have revised our chart customizer classes so that they no longer need transparent layers. In turn, this allows the inclusion of such charts in reports meant for archival conforming to the PDF/A-1 standard.

### Custom colors in ReferenceChartCustomizer

The ReferenceChartCustomizer allows you to graphically display the result value in terms of the property reference values (low and high limit).

As not all people appreciated the default colors for the ranges (pale green for the 'normal' range ; pale red for the 'abnormal' range) we have made these colors configurable via optional custom properties to be set in JasperSoft Studio:

- `be.mips.reports.chart.ReferenceChartCustomizer.abnormalrangecolor`
- `be.mips.reports.chart.ReferenceChartCustomizer.normalrangecolor`

For both these additional custom properties, we accept color definitions of the following formats:

- `#HHHHHH` (where each H is a hexadecimal digit)
- `N,N,N` (where each N is a positive integer value between 0 and 255)

## Enhancements and extensions for the generation of Primary Sample Collection Manuals (GLIMS\_PSCM-00028)

The system behind the generation of PSCM reports has been revised with the following aims in mind:

- improve performance by assembling the data on AppServer,
- ensure consistent content across report types, using XML serializers,
- limit the exported data to that which is actually used, using .jasper template XPath extraction.

Besides, the content of the XML export has been broadened with a.o. the entire Material and AssessmentMethod information.

### Warning

#### Warning

The XML structure has changed in comparison to previous versions. Users will need to revise existing .jasper templates to reflect these changes.

## Full recompilation for corrective versions and absence of corr.pl file

## Introduction

For corrective versions of GLIMS, only the corrected parts used to be recompiled. In order to eliminate dependency issues and reduce UI translation inconsistencies, corrective versions are now entire recompilations of the code. As a consequence, the complete source set is rebuilt and the standard libraries are updated.

### No more corr.pl file

This full recompilation brings an important change: there will not be any corr.pl file anymore.

In order to avoid issues, an empty corr.pl file is currently shipped. It is however highly recommended to delete this file from the PROPATH (see chapter "Progress documentation files" in the System manual) on all 9.8 installations, as it will disappear in the future.

### Current 9.8 UNIX installation packages

In the current 9.8 **UNIX** installation packages, the empty corr.pl file is missing (there is no such issue with Windows). You might therefore find the corr.pl file of an earlier GLIMS version in its place. This file must be deleted from the library directories and/or PROPATH.

New UNIX installation packages, with an empty corr.pl file, will be provided in the near future.

## Usage of MISPL function Order.Attribute("RequestList") (GLIMS-08144)

### Scenarios

There are several scenarios in which customers want to check which tests have already been requested in order to make a MISPL-based decision.

#### Checking the requested tests to decide if an order should be created in status Pending

The general options for EOS (SpecificSite) **On electronic order entry** and **On manual order entry** can be used to decide whether or not an order should be created in status **Pending**.

#### Checking the requested tests to decide if an order should be saved or not

The order entry option **Triggers before creation or update** is evaluated BEFORE the order and its requests are saved in the database. Its main purpose is to check the mandatory fields and the global correctness of the order. It allows to prevent the creation of the order.

#### Checking the requested tests to apply further actions to the order (e.g. adding extra tests)

The order entry option **Triggers after creation or update** is evaluated AFTER the order and its requests are saved in the database and BEFORE action scheduling. It allows to execute further actions on the order such as adding extra tests.

PeekCharacter("s\_UnstoredRequestables")

In the past, it was advised to use the MISPL function **PeekCharacter("s\_UnstoredRequestables")** for certain scenarios. However, it is now no longer recommended to use this MISPL function.

**Tip**

Instead, it is recommended to use the MISPL function **Order.Attribute("RequestList")**. In all of the above scenarios, the MISPL function **Order.Attribute("RequestList")** can now be used, both for manually created and electronically received orders.

**Order.Attribute("OrderEntryRequests[:Type]") and Order.Attribute("NewOrderEntryRequests[:Type]")**

These MISPL functions were once introduced to replace the **PeekCharacter("s\_UnstoredRequestables")** MISPL function. However, they are not supported for electronic order entry.

# Application management

## New tools to export and import configuration data (GLIMS-07742)

Two new export and import functions have been introduced on gp\_site: [Export configuration data](#) and [Import configuration data](#). They make it possible

- for system managers to export configuration and related routine data,
- for MIPS to import this data in a database for analysis.

These tools are described in details in the documentation.

## Correction for result import program (GLIMS-07849)

### Problem description

In certain cases, the GLIMS session was ended when importing results via the result import program ([Start > System management > Database > Specific import > Results](#)).

This happened e.g. when the error [Cannot use requestable as default requestable, because it has a discriminator](#) occurred.

#### Note

Problem occurred since GLIMS 9.5.

### Solution

This has been corrected. An error message will now be written in the .rslt file and the import program will continue with the next line.

## Function "Clean routine data" updated to take into account recently added tables (GLIMS-08417)

The tool to clean up routine data ([Start > System management > Tools > Clean routine data](#)) did not take into account the data of tables added in recent versions:

- AssessmentMethodStatus
- AssessmentMethodValueList
- BAMAction
- BAMOrder
- BAMResult
- BAMRun
- BAMTat
- BankAccount
- CashRegisterMovement

- CashRegisterSession
- Consult
- HCProviderAvailability
- IsolationSequence
- PersonLab
- RouteProcedure (but see GLIMS-11186)
- SpecimenSortAudit
- SpecimenSortEvent
- StationLog
- StationStatus

As a consequence, the data of the tables listed above was not deleted. This has been corrected.

## **No logging of log fields changes anymore (GLIMS-10560)**

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### **Issue**

In the audit loggings of certain tables, long log entries were occasionally found. The reason was that the changes applied to the log fields of the tables themselves were logged. Logging these changes is however not useful.

### **Solution**

The log fields are now excluded from logging actions. That way, log field changes will not appear in audit loggings anymore.

## **Reviewed procedure to anonymize GLIMS database (GLIMS\_ANO-00007)**

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The procedure to anonymize the GLIMS database has been reviewed. For more information, see Database anonymizer.

## **Task Scheduler enhancement: possibility to cancel tasks (MATE-04068)**

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Once the execution of a scheduled task had started, it could not be interrupted safely. This has been rectified:

- It is now possible to interrupt the ongoing execution of a task, using the new context function **Interrupt** that is available on the Task table.

This works in the following way: during the execution of a task, the task scheduler checks if this task has been interrupted. If so, the scheduler safely halts the execution of the task and moves on to the next available task.

After clicking on **Interrupt**, the user can also disable the task using the option of the Interrupt function, **Disable the task after it has been interrupted**.

- It is now also possible to momentarily prevent scheduled tasks from being executed

automatically. To do so, it suffices to leave the new option **Enabled** on the Task record deactivated.

This allows disabling a task in order to modify a part of its configuration, without changing the task's planned execution time and recurrence pattern.

Additionally, when converting a database to test database, all the tasks in the test database are disabled and their execution status information is cleared.

## **Enhancements for "Database statistics" function (MATE-04154)**

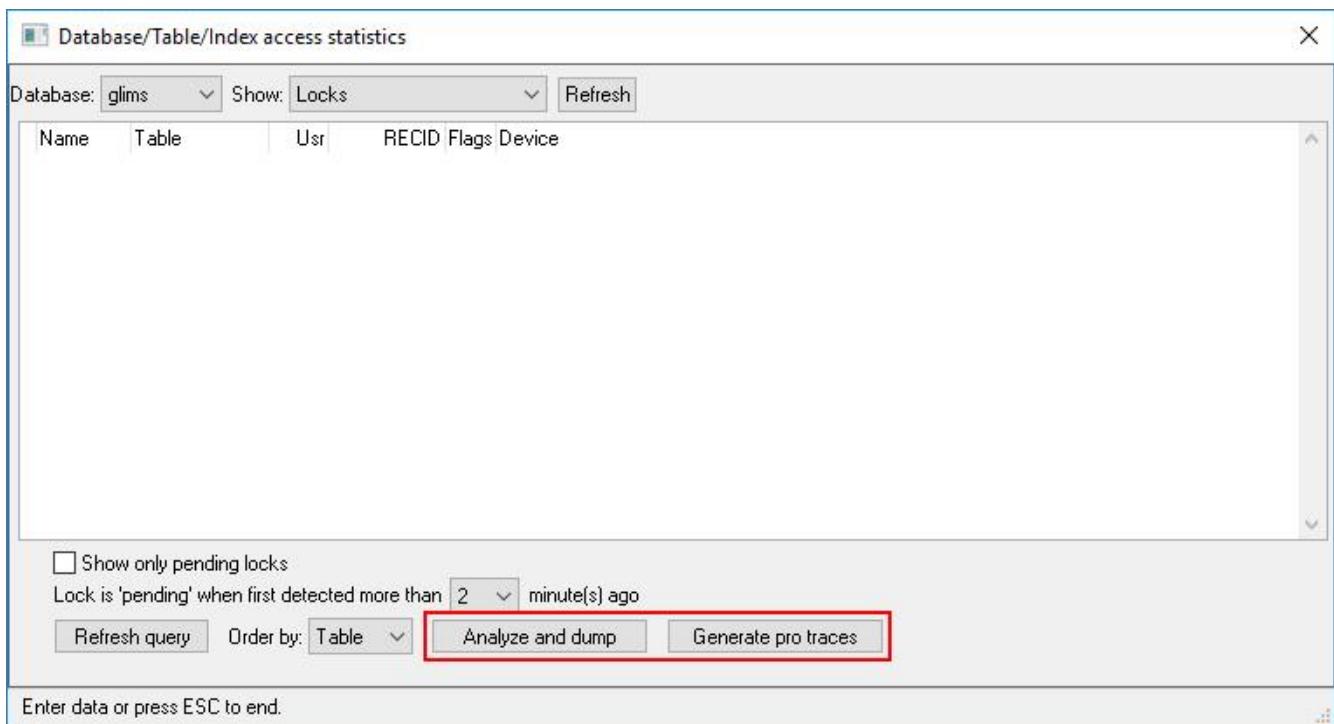
Some enhancements were made to the Database statistics function (for Progress databases only). To be more specific, if the **Show** option is set to **Locks**, two new buttons **Analyze and dump** and **Generate pro traces** are now available.

### **Analyze and dump**

Allows to dump lock information to a text file.

### **Generate pro traces**

Allows to generate protrace files for locked/locking processes (for local processes only).



## **New tool: Lock monitor (MATE-04336)**

A new tool, the Lock monitor, is available under **Start -> System management ->Database-> Lock monitor**.



The purpose, features and settings of this tool are described below.

### Purpose

The Lock monitor allows you to

- detect deadlocks
- detect long held locks (i.e. a lock remains too long on a record)
- detect long lock waiting situations (i.e. a process has to wait too long before being allowed to set a lock on a record)
- create a report and optionally send it via e-mail (to system managers, for instance)
- log the report.

### Features

The features of the Lock monitor are the following ones:

- for Oracle and Progress databases
- regarding Progress databases: both genrw and glims databases are monitored, and cross-data-base deadlock situations are detected.
- intended to work in batch, executed repeatedly as a cron job. The command should preferably be linked to a cron service to which no other task is assigned.
- can also be run as a one-shot task interactively (similarly to the Check storage tool).
- intended for diagnostic purposes only. The Lock monitor should only be running when lock contention situations are experienced, seen or reported.

### Settings

#### Minimum lock wait time

Indicates the minimum number of seconds during which a lock request should be queued before being reported via e-mail and logged.

#### Minimum lock held time

Indicates the minimum number of seconds during which a lock should be held before being reported and logged.

## **Report deadlocks**

Indicates whether the lock monitor should detect and report deadlock situations.

## **Generate trace files**

When checked, the lock monitor will attempt to generate ABL stacktraces for blocking and blocked sessions (protrace files, local processes only).

## **E-mail system managers**

When checked, a report will be sent by e-mail to all users who have a 'system manager' role.

## **Send e-mail to**

Additional list of e-mail addresses to which the report should also be sent. The addresses should be separated by a semi-colon ';' .

## **Buttons**

After setting the parameters described above, you might want to save them for future reuse. If that is the case, click on **Store** to save your configuration as a function parameter set. In order to reuse a stored configuration, click on **Load**.

## **Logging**

The report is logged in the directory "log/svc/LockMonitor" at the rate of one log file per day. The file-name is composed of the following elements:

'LockMonitor'-<year9999><month99><day99>.log

Example: LockMonitor-20170203.log

## **Correction for "Database statistics" function (MATE-04480)**

When using the Database statistics function, a separate window opened with the message "No area info for read-only db's". This has been corrected.

## **New tool: Infrastructure test (MATE-04580)**

GLIMS now features an Infrastructure test tool. This tool measures the performance of some basic database operations.

You will find more information in the documentation.

## **Missing menu items after upgrade (MATE-05605)**

An issue was reported where after the upgrade to GLIMS 9.8 some menu items had been deleted. This has been corrected.

# Billing

## Financial export in "CPOWISH IHPREST" format (BILX\_CPOWISH-00014)

Error logging has been improved when exporting financial data in the **CPOWISH IHPREST** format via the FinancialShipment.Send function. The context (e.g. order internal id, blood bag number, nomenclature code) of the error will now be clearly indicated.

## Financial export in "CPOWISH ITPLAT" format (BILX\_CPOWISH-00028)

When exporting financial data in the **CPOWISH ITPLAT** format via the FinancialShipment.Send function, it happened that the exported "Flag attestation imprimée" was not correct. This happened when multiple billing document templates were configured marked as **CertificateTypeD**.

This has been corrected.

## Financial export in "CPOWISH ITPLAT" format (BILX\_CPOWISH-00029)

### Problem description

When exporting financial data in the CPOWISH ITPLAT format, the PIN provider defined in GLIMS general settings was erroneously used to find the patient identification. When this PIN provider was not specified, the first identification of the patient was taken.

### Solution

This has been corrected. The destination (Correspondent) of the financial shipment is now used as PIN provider.

## Financial export in "CPOWISH" format (BILX\_CPOWISH-00032)

When exporting financial data in the **CPOWISH** format, the following issues were detected in the pre-payment record:

1. The nomenclature code was not correct.
2. Field 44 did not have a value.

This has been corrected.

## Correction for financial export in "CPOW-ITP400" format (BILX\_CPOWISH-00037)

An issue was detected when exporting financial data in the **CPOW-ITP400** format via the FinancialShipment.Send function. It could happen that the wrong order was exported for the payment record type. This only happened in case of an empty invoice (i.e. without invoice items) with a payment while a MISPL was defined on the BillingItem table.

This has been corrected.

## **Financial export in "PAD" format: export additional records of type 700 (BILX\_DISKPVS-00002)**

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### **Background**

When exporting financial data in the "PAD" format via the FinancialShipment.Send function, field 17 of record 700 contains the description of the billing code (i.e. normally the "External description" but if not available the "Internal description" is used). The maximum length of field 17 is 40 characters. If the billing code's description is longer, it is automatically truncated to the maximum length. As a result, only the truncated description was exported in previous versions.

### **Solution**

If the billing code's description is longer than 40 characters, additional records of type 700 will now be exported containing the remainder of the billing code's description (i.e. the next 40 characters):

#### **Fields 1-4**

Fields 1-4 will be filled as for regular records of type 700.

#### **Field 5**

If field 5 of the additional record has the value "T", this means that field 17 contains the next 40 characters of the billing code's description.

#### **Field 6**

Field 6 will be filled with spaces.

#### **Field 17**

Field 17 contains the next 40 characters of the billing code's description.

#### **Other**

Other numeric fields will be filled with "0" and other alphanumeric fields will be filled with spaces.

### **Note**

Please note that if MISPL is used to enlarge the length of field 17 to more than 40 characters, no additional records will be created, it will simply be truncated to 40 characters as in previous versions. Moreover, customization with MISPL is not supported for the additional records of type 700.

## **Correction for exporting financial data in GEMA Actes format (BILX\_GEMA-00001)**

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An issue was reported where the following errors occurred when exporting financial data in the **GEMA Actes** format.

- \*\*No Demande record is available. (91)
- Record type UNH failed: Field 11 "Rubrique libre" = \*value is empty

This has been corrected.

### **Financial export in "German KVDT" format: RVSA Satz should ignore information of inactive QC lots (BILX\_GKVDT-00062)**

When exporting financial data in the German **KVDT** format (via the `FinancialShipment.Send` function), only active QC lots are now taken into account to build the RVSA Satz.

### **Financial export in "German KVDT" format (BILX\_GKVDT-00092)**

The export of financial data in the **German KVDT** format (using the `FinancialShipment.Send` function) has been updated to support the changes (quarter 4, 2016) in KBV regulation.

### **Correction for completeness check when performed before tariffication (Germany only) (BILX\_GKVDT-00094)**

When performing the completeness check defined in the **Policy** (using the `CheckKVDT MISPL`), i.e. before tariffication, errors could occur relating to the rules 720 and 721 for orders with **Referral sub group** set to **LG Direktabrechnung**.

This has been corrected.

### **Financial export in "German KVDT" format (BILX\_GKVDT-00099)**

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, 2017) in KBV regulation.

### **Correction for KostenTräger-Stammdaten import (Germany only) (BILX\_GKVDT-00103)**

An issue was detected where the KBV KostenTräger-Stammdaten import (German billing) did not always set the end date of the insurance product in GLIMS. This has been corrected.

**Note**

Problem occurred since GLIMS 9.6.0.

### **Financial export in "German KVDT" format (BILX\_GKVDT-00105)**

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, 2017) in KBV regulation.

### **Correction for KostenTräger-Stammdaten import (Germany only) (BILX\_GKVDT-00112)**

An issue was detected where the KBV KostenTräger-Stammdaten import (German billing) did not create the new funds and the linked insurance products. In addition, if the option **Full logging** was enabled, the error **No w\_Abrechnung record is available** could occur.

This has been corrected.

## Support for usage of OMIM-Stammdaten .csv file (**BILX\_GKVDT-00121**)

### Introduction

GLIMS now supports using the OMIM-Stammdaten .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.

### Location of the .csv file

At the beginning of a new quarter, the .csv file should be copied in the GLIMSBILLDAT directory. The most recent .csv file is automatically loaded when starting GLIMS.

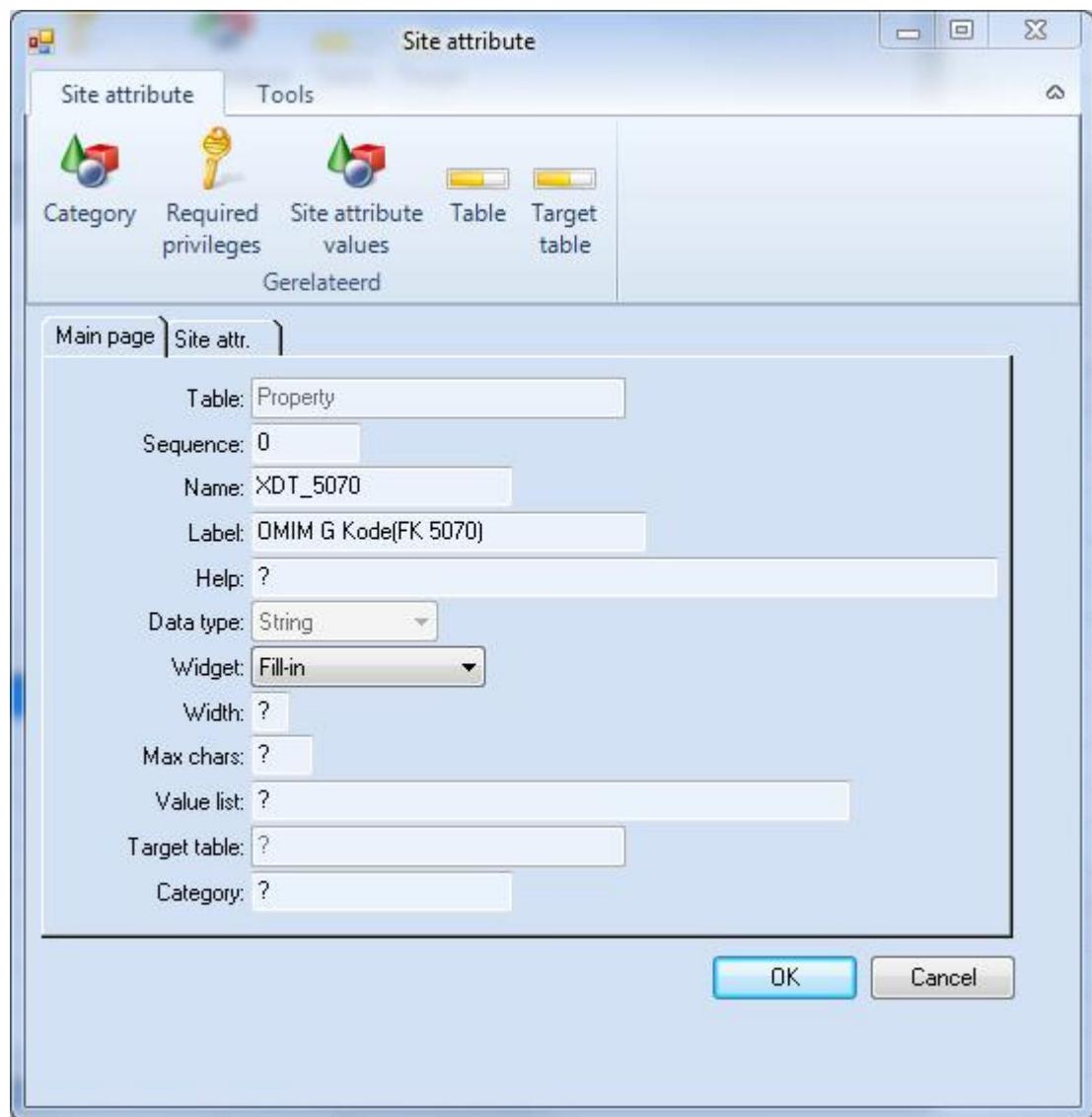
#### Note

Logging is created in the log type **KBV OMIM import** and indicates the processed file and the errors that have occurred.

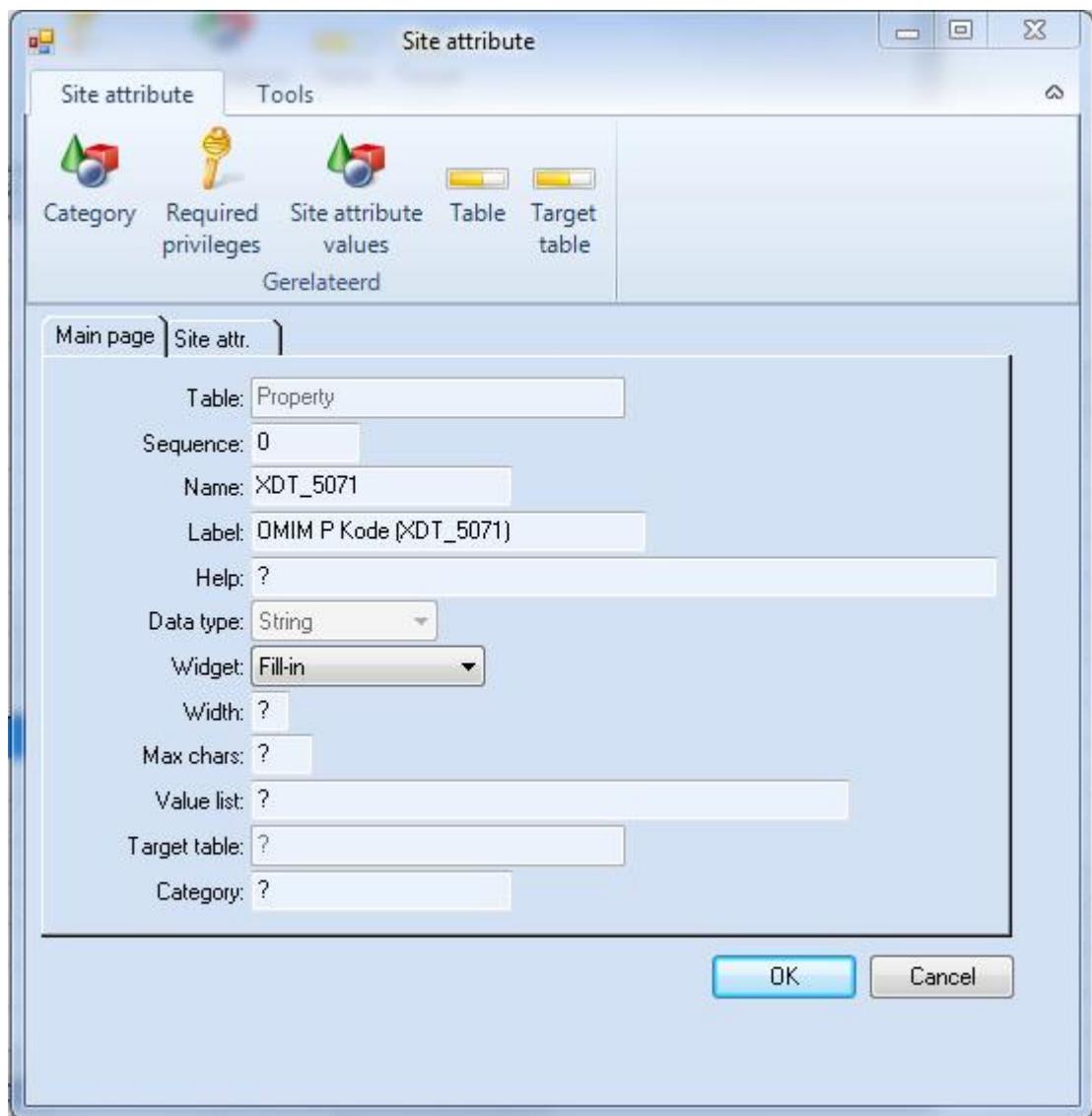
### Site attributes on Property table

The following site attributes need to be configured on the **Property** table:

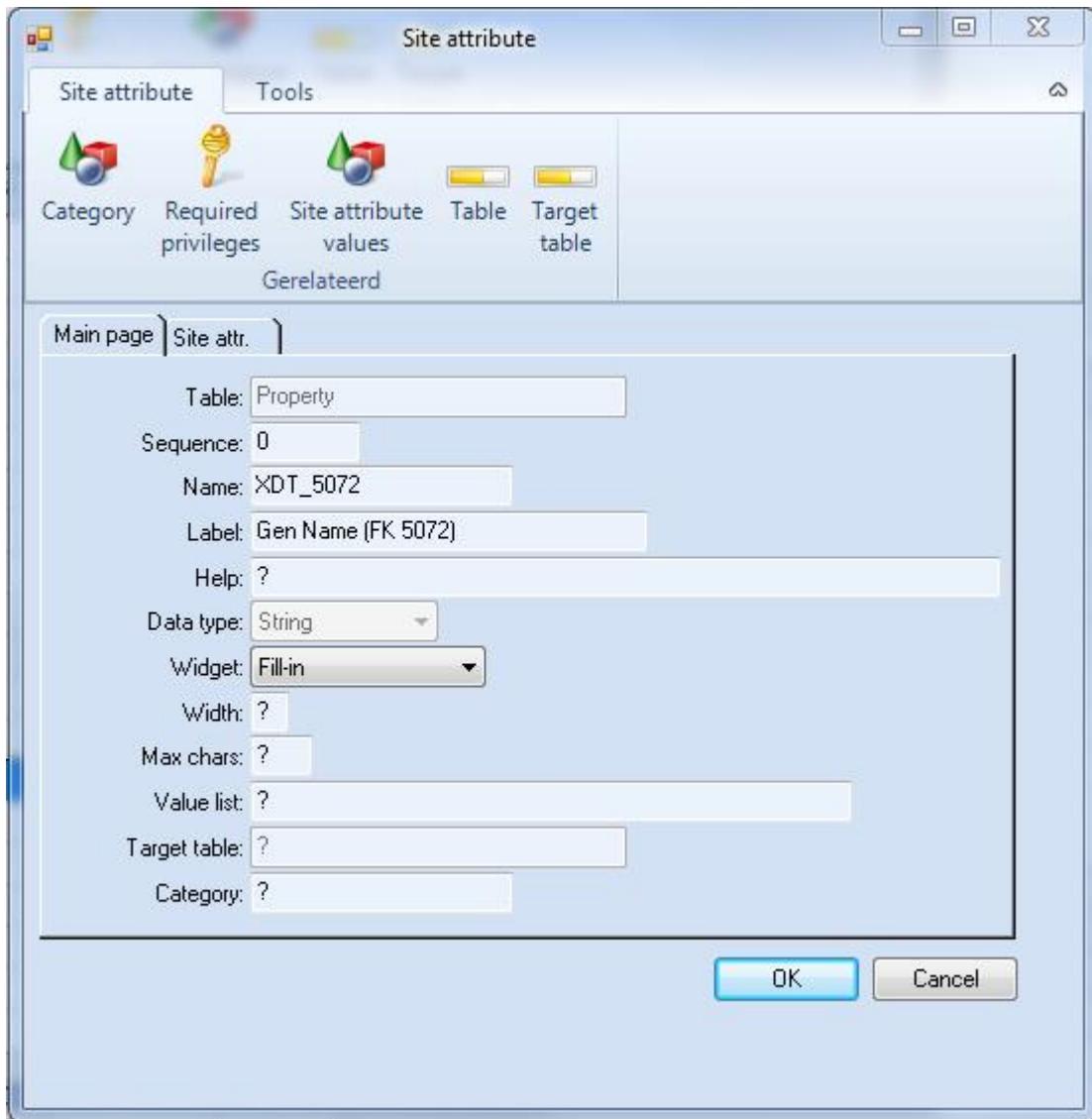
#### OMIM-G Kode



## OMIM-P Kode

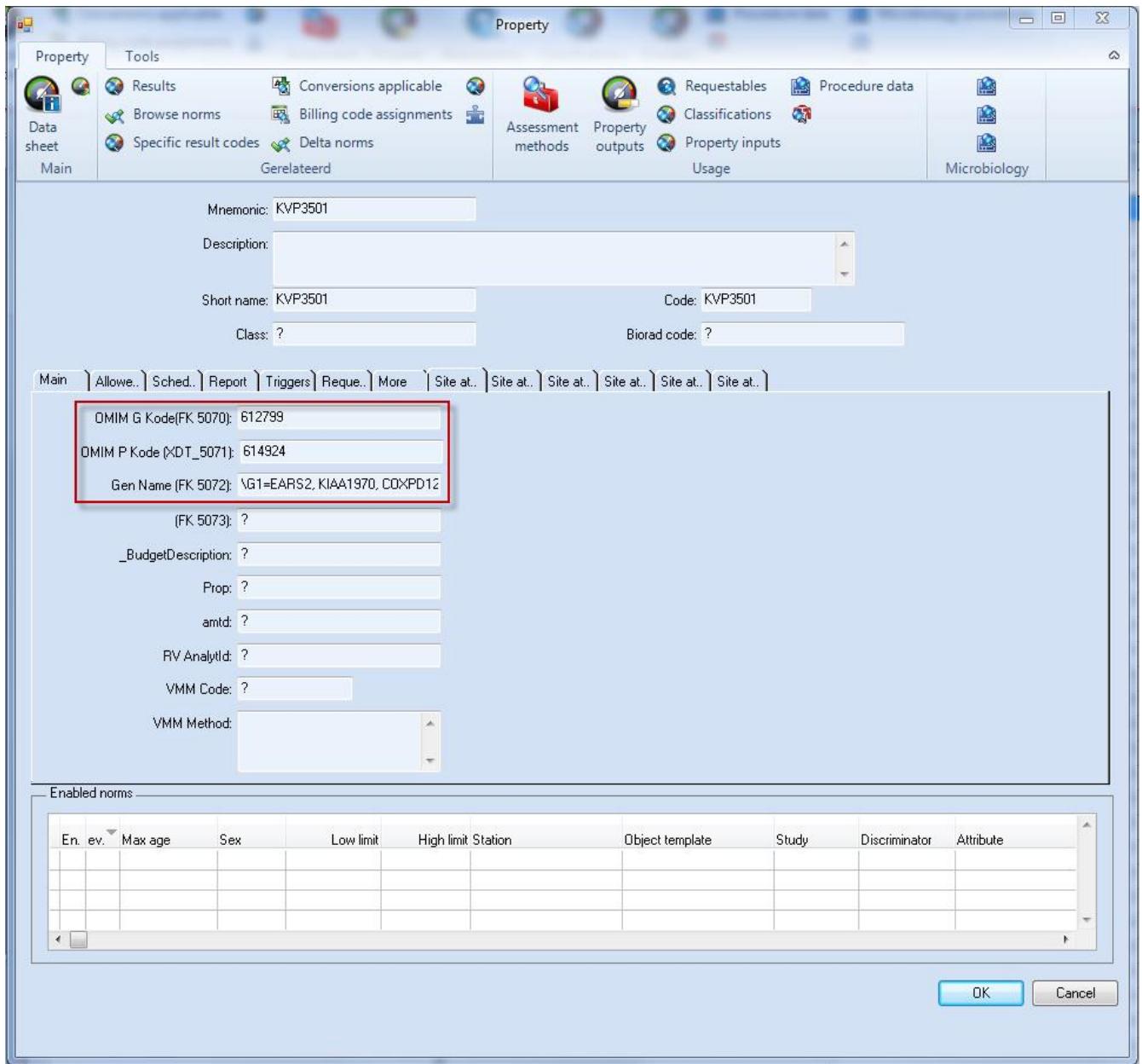


## Genname



### Entering the OMIM-G / OMIM-P code for a property

It is required to enter a valid combination of OMIM-G / OMIM-P code and "genname".



This can be done:

### Manually

The entered codes are checked against the ones in the OMIM-Stammdatei file. It is also checked whether the combination of OMIM-G / OMIM-P code is valid.

When entering a valid OMIM-G code, the "Genname" will be retrieved from the .csv file and will be displayed read-only.

If the entered code is invalid, an error is displayed and the invalid code is replaced by "999999". If this is the case for the OMIM-G code, the user is required to manually enter the "Genname".

### Using a browser

Entering the OMIM-G / OMIM-P code for a property can also be done by double clicking /

using CTRL-F in the site attribute field. Via a browser, a code can then be chosen from the official list of the KBV. The user can select one (by double-clicking on the browser line) or more (by using the space bar and clicking OK) codes. It is possible to sort on the columns **Omim G** and **Omim P** and to use fast-positioning in the sort column. Upon selection of a code in the browser, the OMIM-G code, OMIM-P code and "Genname" will be filled for the property. The entered "Genname" is read-only.

Note: if an OMIM-G code is selected for which no OMIM-P code is available, "999999" is entered as OMIM-P code. If an OMIM-P code is selected for which no OMIM-G code is available, "999999" is entered as OMIM-G code. In the latter case, the automatically entered "Genname" is not read-only and needs to be changed.

#### [Financial export in "KVDT" format](#)

During the export of financial data in the **KVDT** format, the exported OMIM-G (FK 5070) and OMIM-P (FK 5071) codes are checked against the ones in the official .csv file. Errors will be logged.

#### ["Reevaluate OMIM codes" function](#)

#### **Main menu**

The **Reevaluate OMIM codes** function can be added as a menu option using a Tool with:

- Function table: gp\_Site
- Function mnemonic: ReevaluateOMIMCodes

#### **Usage**

This function will check all OMIM-G and OMIM-P codes and their combination in the **Property** table against the most recent .csv file. An error will be logged when an invalid code is detected. The log type used is **KBV Reevaluate OMIM Codes**.

A request definition of type panel, named **OMIM-G-KETTE**, will be created / updated containing all the properties with a valid OMIM-G code as panel members.

## **KostenTräger-Stammdaten import: default alternate id of fund (BILX\_GKVDT-00125)**

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#### [Background](#)

GLIMS allows to import KostenTräger-Stammdaten (German billing) via **Start > Billing > Configuration > Funds > Import 'KostenTräger-Stammdaten'**. The import file contains per fund a list of alternate identifications. If one of these alternate identifications is tagged with the attribute "abrechnungs\_ik", it should be considered as the default alternate identification.

#### [Issue](#)

GLIMS used the first alternate identification found in the list of alternate identifications in the import file to fill the **Default alternate id code** of the fund.

#### [Solution](#)

GLIMS will now use the alternate identification marked as "abrechnungs\_ik" in the import file to set the **Default alternate id code** of the fund. Should there be no "abrechnungs\_ik" tag in the import file, then the first alternate identification in the list will be used.

For existing funds, GLIMS will check the **Default alternate id code** available in GLIMS, if different from the default alternate identification in the import file, the **Default alternate id code** in GLIMS will be updated.

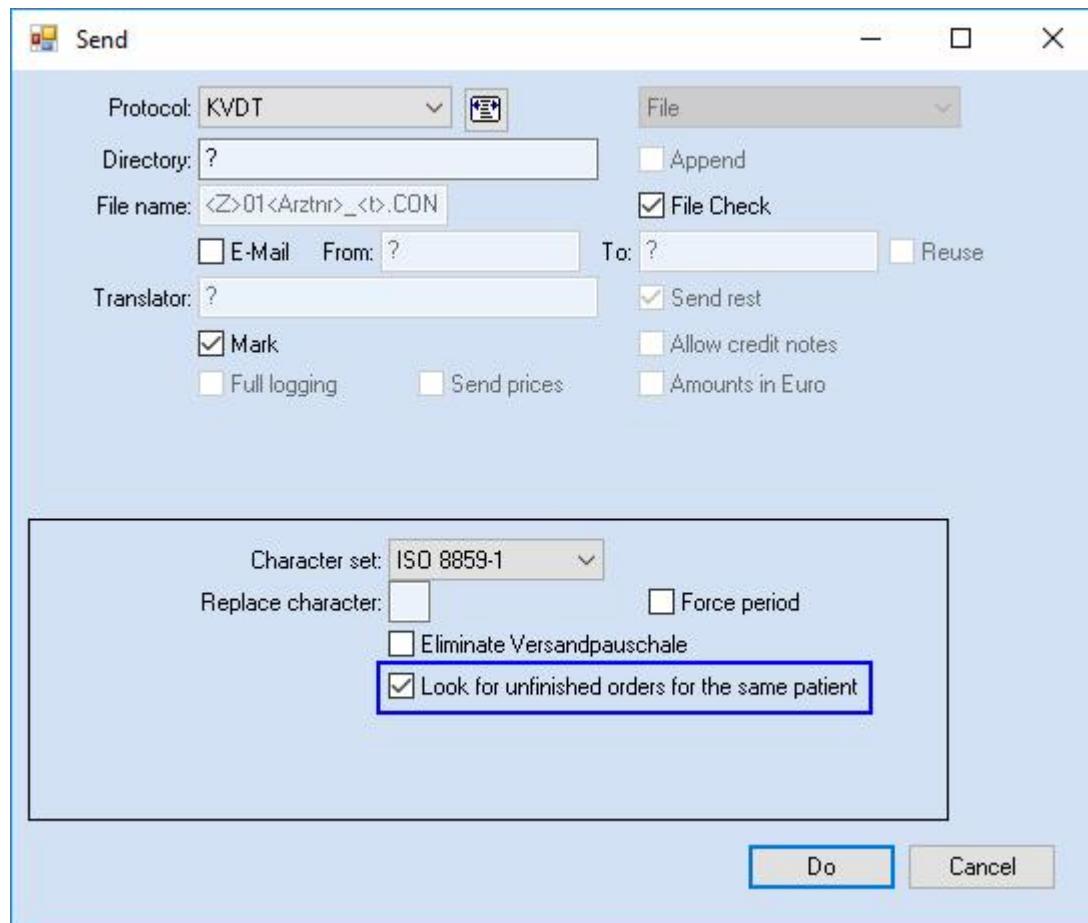
## KVDT export: option to remove open orders for a patient from the shipment (BILX\_GKVDT-00126)

### Context

To comply with German legislation, the quarterly export of financial data in the German **KVDT** format cannot contain invoices for a patient with open orders within the same quarter.

### New option "Look for unfinished orders for the same patient"

The new option **Look for unfinished orders for the same patient** is now available when exporting a financial shipment in the **KVDT** format via the **FinancialShipment.Send** function.



If enabled, before the actual export, the invoices for a patient with (an) open order(s) within the same quarter (order lowest object date lies within the same quarter as the invoice of that patient on the shipment) and with the same billing mark will be removed from the shipment (i.e. the link between the invoice and the invoice summary is removed). To allow reassigning those invoices to an invoice

summary and a financial shipment later on, the removed invoice's status is lowered from **Fixed** to **Numbered**.

## Logging

Logging is added via the Log type "KBV Checking for open orders of same 'Fall'".



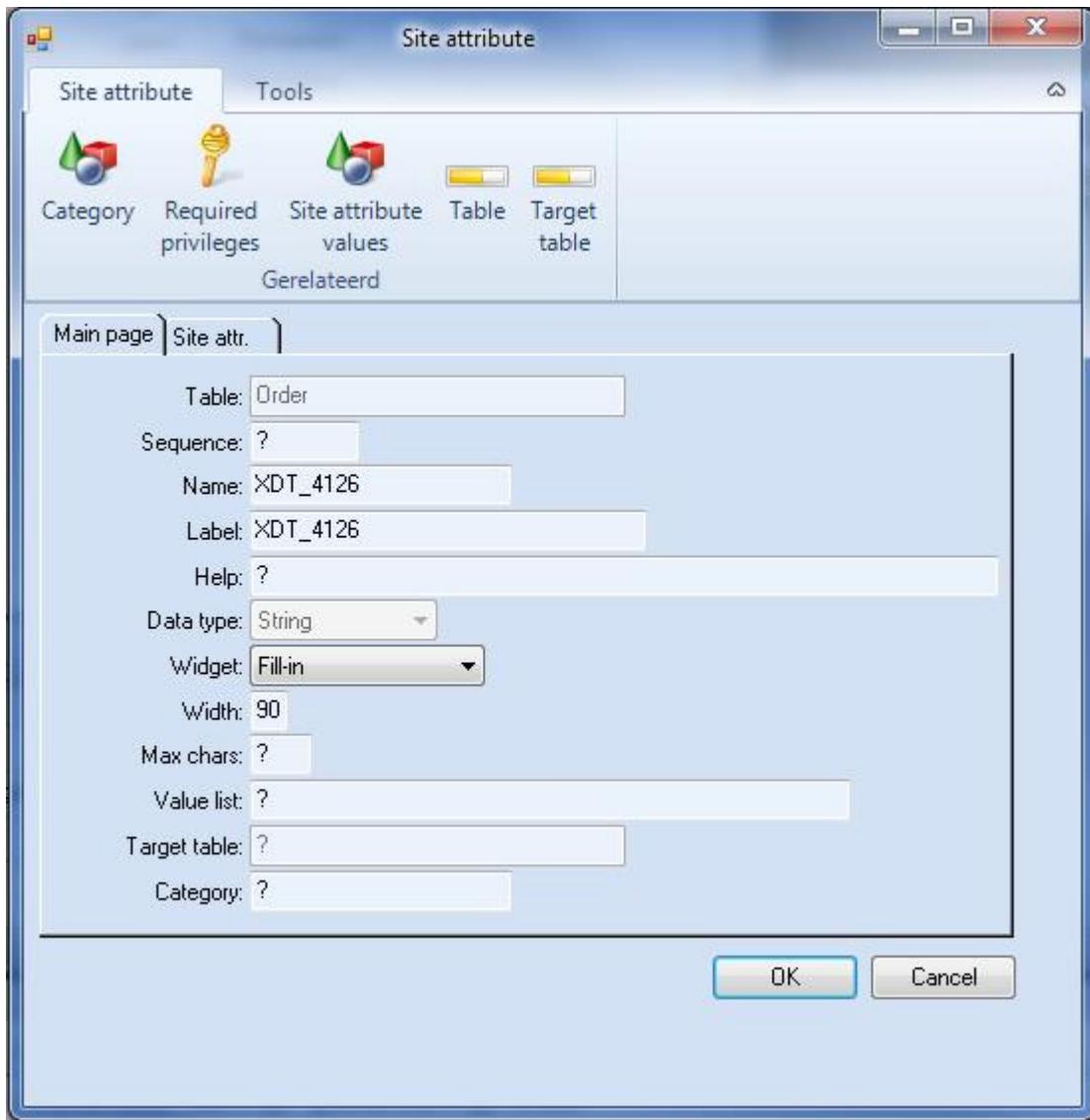
## Known restriction

Some customers have multiple LG shipments for KVDT but use the same billing mark. Since we are looking for orders of the same patient for the same quarter and billing mark and we cannot distinguish between the different LG groups, it is possible that too many invoices are removed (which can still be placed manually on a shipment again).

## Changes for KVDT (SKT-Bemerkungen / ICD-Stammdaten import) (BILX\_GKVDT-00129)

### Support for "SKT-Bemerkungen" (FK 4126)

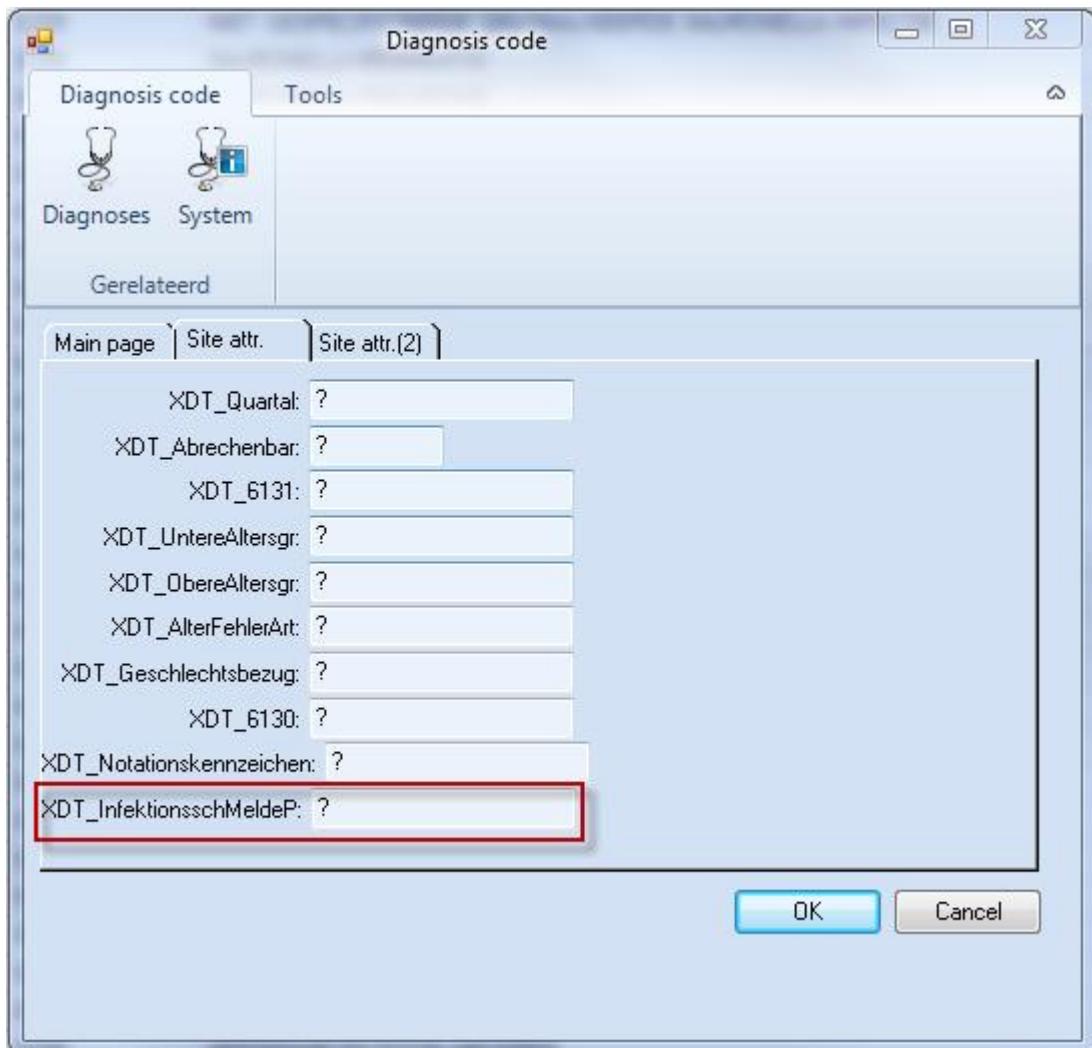
Define a site attribute named "XDT\_4126" on the Order table. This way, values for "SKT-Bemerkungen" can now be entered and will be exported during the export of financial data in the **KVDT** format (FK 4126). Should the value exceed the maximum field length of 60 characters, then the field will be repeated.

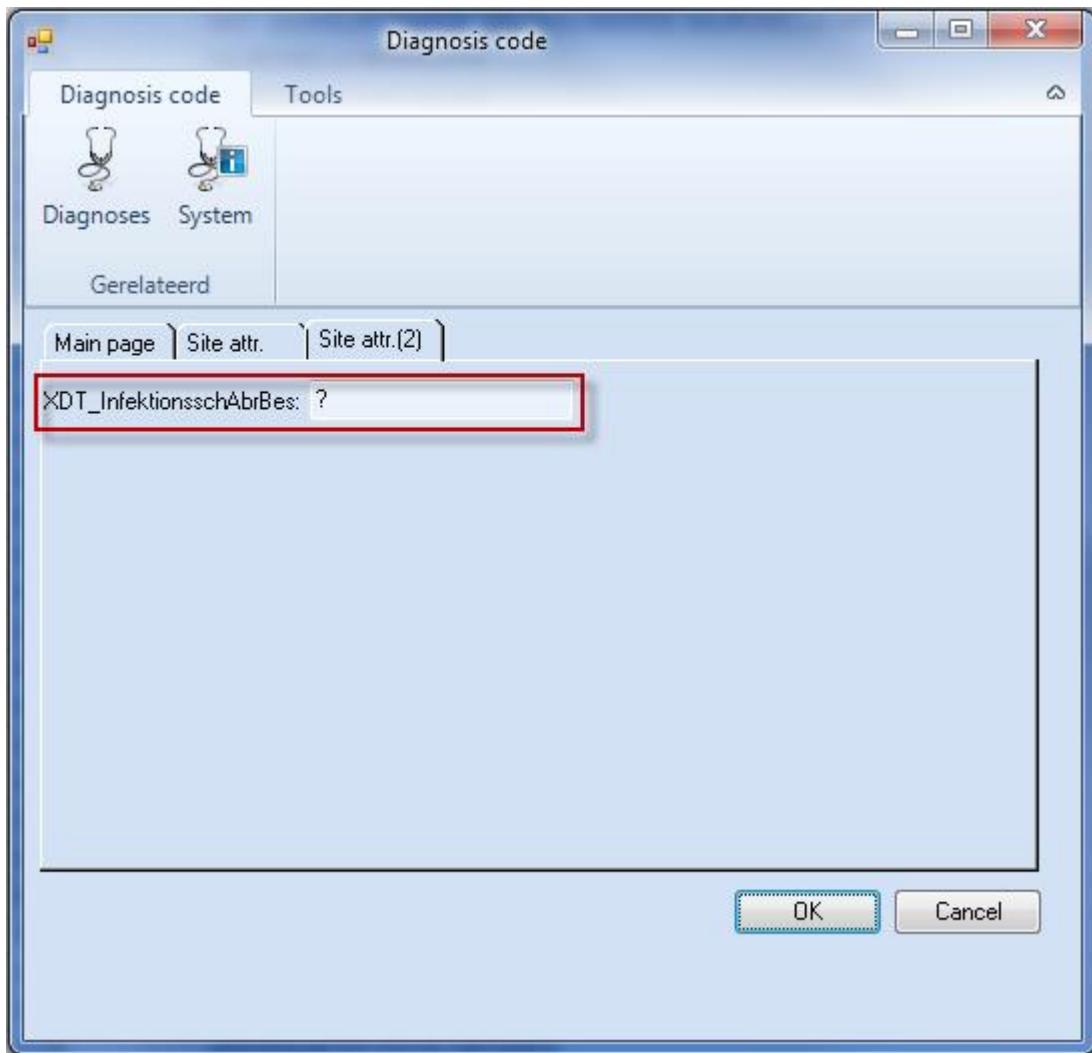


### ICD-Stammdaten import

When importing ICD-Stammdaten, the automatically created site attributes "XDT\_InfektionsschMeldeP" (infektionsschutzgesetz\_meldepflicht) and "XDT\_InfektionsschAbrBes" (infektionsschutzgesetz\_abrechnungsbesonderheit) in the **Diagnosis code** configuration screen will now be filled (j/n).

During KVDT check, a warning will be issued if the diagnosis code has infektionsschutzgesetz\_meldepflicht = j.





#### New KBV-Prüfnummer

The new KBV-Prüfnummer "Y/201/1707/36/729" which is valid for GLIMS as of 1/7/2017 is now exported (FK 0105) when exporting financial data in the "KVDT" format.

#### **Financial export in "German KVDT" format (BILX\_GKVDT-00130)**

The export of financial data in the German KVDT format (using the FinancialShipment.Send function) has been updated to support the changes (quarter 3, 2017) in KBV regulation.

#### **KostenTräger-Stammdaten import: update fund name of insurance product (BILX\_GKVDT-00131)**

When importing KostenTräger-Stammdaten via [Start > Billing > Configuration > Funds > Import 'KostenTräger-Stammdaten'](#), the fund name of the insurance product is set on creation of the insurance product but it was not updated anymore.

The import will now update the fund name of the insurance product (if it has been changed) for all active insurance products. Inactive insurance products are not updated.

## **Financial export in "German KVDT" format (BILX\_GKVDT-00328)**

The export of financial data in the **German KVDT** format (using the `FinancialShipment.Send` function) has been updated to support the changes (quarter 4, 2017) in KBV regulation.

In addition, FK 3115 ("Anschriftenzusatz") will now be filled with the (first 40 characters of) **Address line 2** of the **Person** record in GLIMS.

## **Correction for financial export in KVDT format (BILX\_GKVDT-00332)**

An issue was detected where the error **\*\*No b\_BillingItem record is available. (91)** could occur when exporting financial data in the **German KVDT** format (via the `FinancialShipment.Send` function). The error only occurred for shipments where the **Firm** site attribute **XDT\_LGDirektabrechnung** was enabled and for orders with an ASV-Teamnummer.

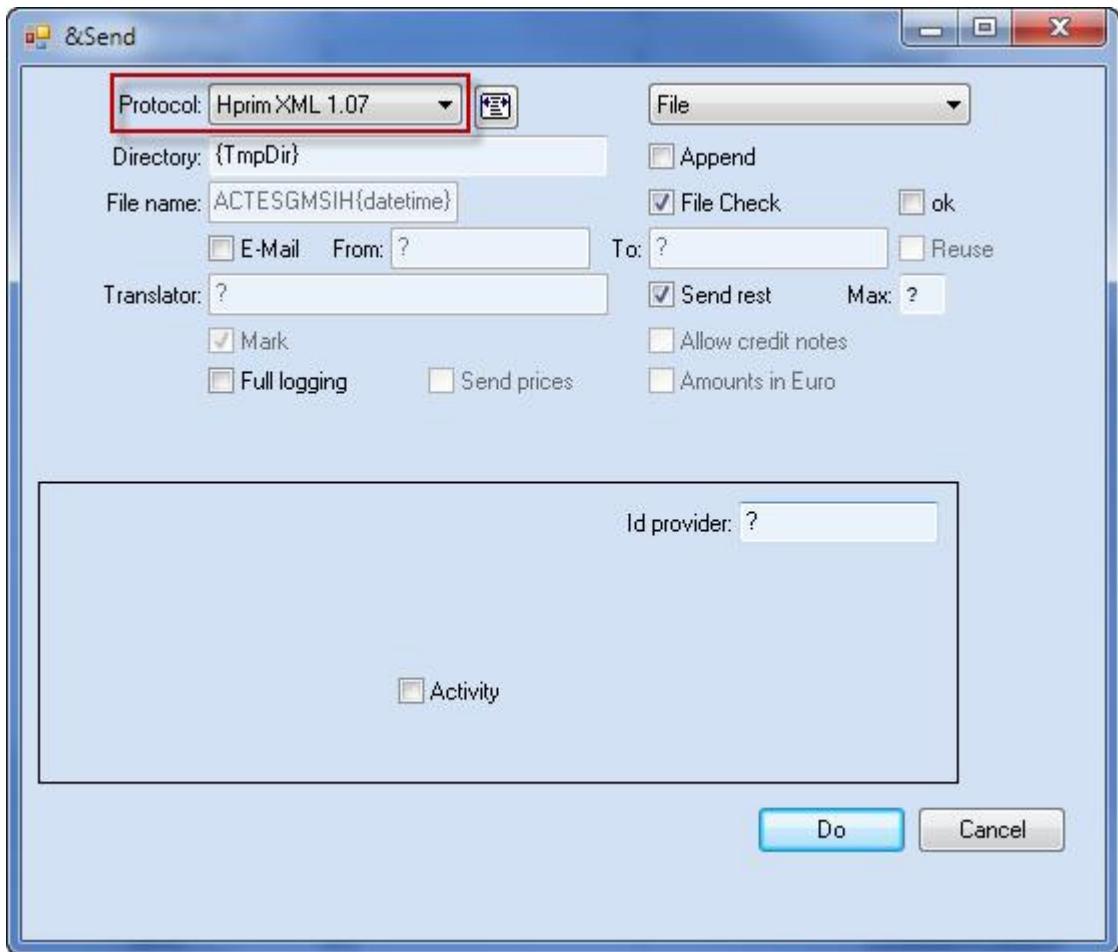
Even if the error did not occur, the FK 5098 field ((N)BSNR des Ortes der Leistung) could contain an incorrect value (in case the order contained billing items with different executing departments).

This has been corrected.

## **Financial export in "HPRIM XML 1.07" format (BILX\_HPRIMXML-00008)**

### **Introduction**

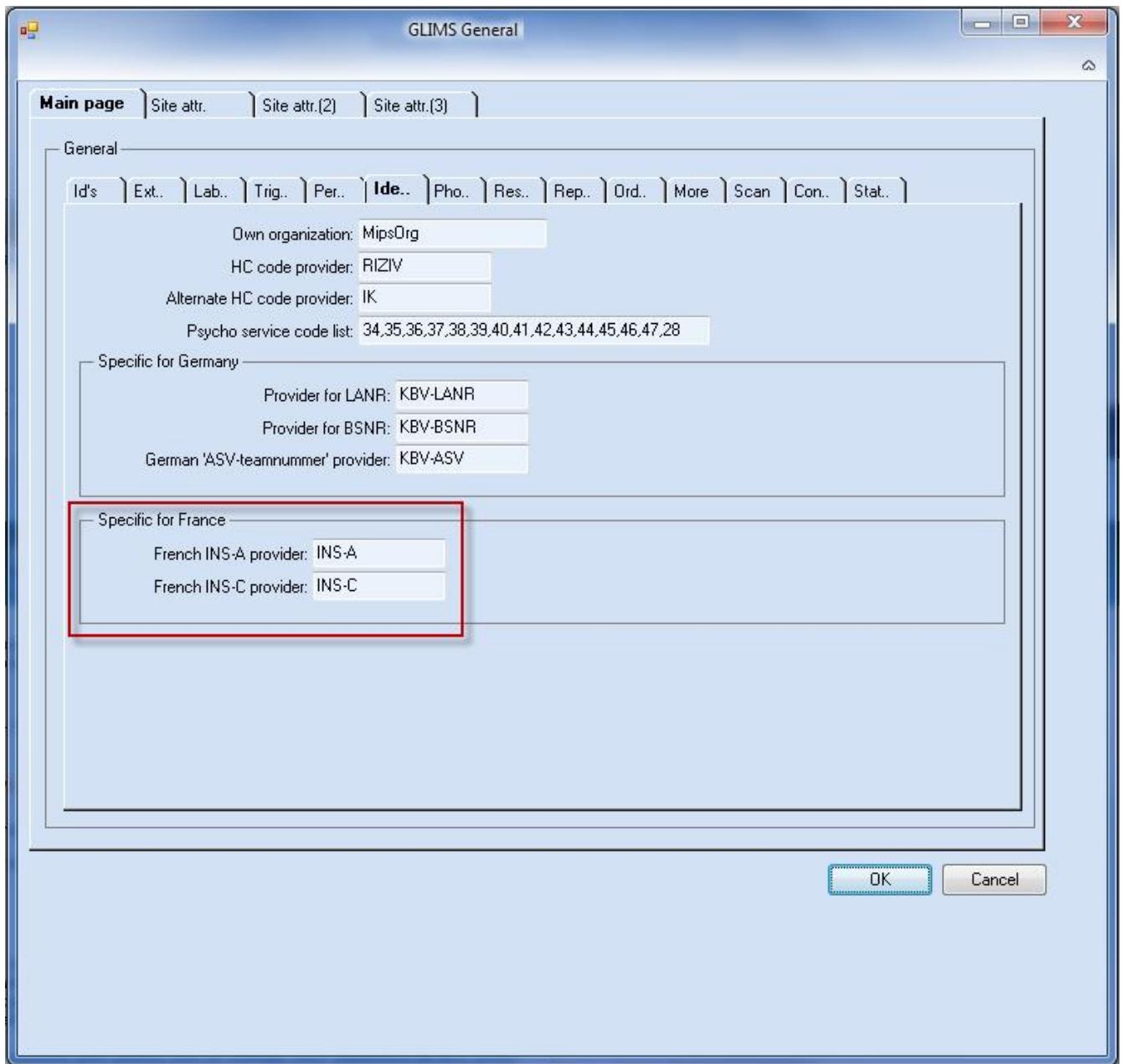
GLIMS now supports exporting financial data (using the `FinancialShipment.Send` function) in **HPRIM XML 1.07** format. This new version replaces version 1.04.



### Ins-A / Ins-C provider

In the GLIMS general settings (**Start > System management > Customize > GLIMS General**), two new fields are available:

- French Ins-A provider
- French Ins-C provider



The patient identifications assigned by the specified Ins-C / Ins-A providers will be exported in the "insC" / "insA" tags of the "numeroidentifiantSante" tag.

```
<numeroIdentifiantSante>
    <identifiant>#3333333333</identifiant>
    <insC>
        <valeur>#3333333333</valeur>
        <dateEffet>2001-01-01</dateEffet>
    </insC>
    <insA>#3333333333</insA>
</numeroIdentifiantSante>
```

#### Note

- If not specified, the patient identifications assigned by the Ins-C / Ins-A providers will not be exported.
- The patient identification assigned by the **National pin provider** (as specified in the GLIMS general settings via **Start > System management > Customize > GLIMS General**) is still exported (in the "identifiant" tag of the "numer-  
oldentifiantSante" tag). If no national pin provider is found, the provider specified in the FinancialShipment.Send screen will be used or, if not found, the financial shipment's destination (Correspondent). This was already the case prior to HPRIM XML 1.07.

## Export of the exoneration code "ALD"

When the **Person data reader** option in the GLIMS general settings is set to **Carte Vitale**, the field **Exoneration code** ("Code exo") is available in the **FS** tab page of the order entry screen.

When **Exoneration code** is set to **4 - ALD**, it will be exported (in the attribute "rapportExoneration" of the "acteNGAP" tag).

```
<actesNGAP>
  <acteNGAP acteHorsNomenclature="non" action="création" facturable="oui" gratuit="oui" rapportExoneration="4">
```

### Note

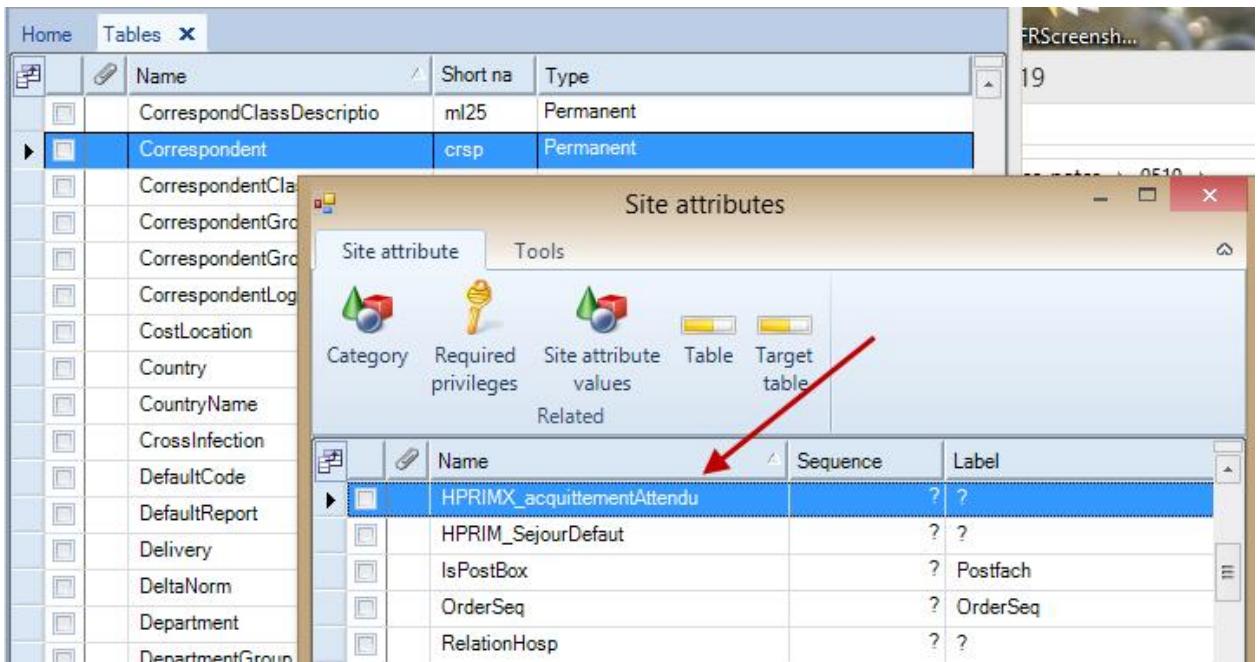
- For specimen requests, no exoneration code is exported.
- It is possible to overrule - for a request - the exoneration code specified in the order by setting the request's billing mark to
  - "0": no exoneration code will be exported for this request.
  - "4": exoneration code "4" will be exported for this request, even if the exoneration code of the order is not set to "4".

## HPRIM FAC XML: support for **acquittementAttendu="oui"** (**BILX\_HPRIMXML-00011**)

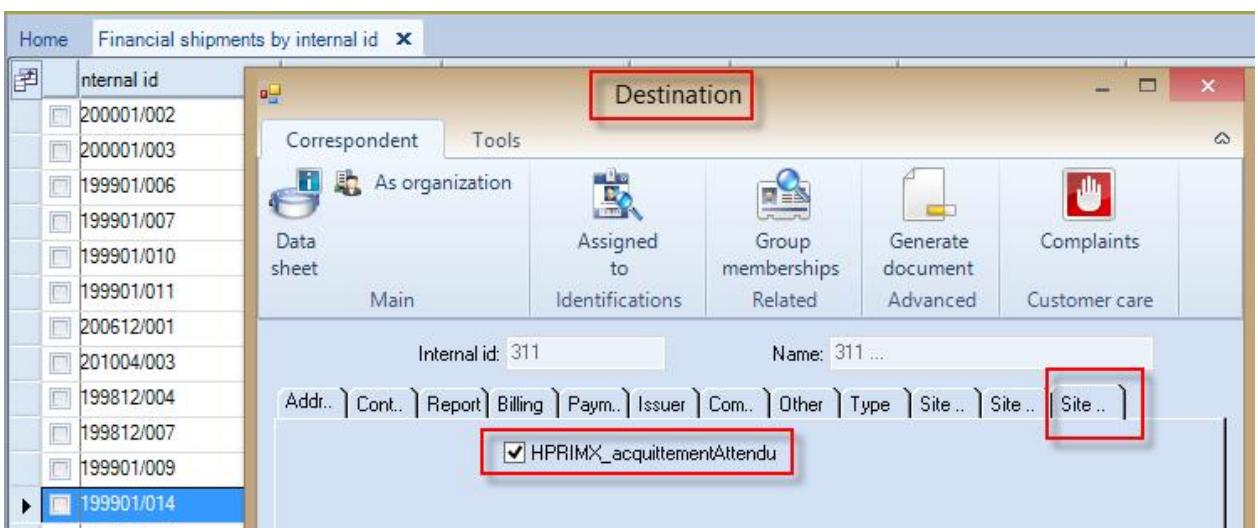
In the header of HPRIM FAC xml files, the attribute **acquittementAttendu** is set to **non** by default. From now on, it is possible to set it to **oui**.

This can be configured per financial shipment destination. To do so,

1. Make sure that the following site attribute is available (Data type: Logical, Table: Correspondent):



2. Enable the site attribute **HPRIMX\_acquittementAttendu** in the **Destination** editor. This editor can be opened using the contextual function **Destination** on a financial shipment.



## Note

### Note

When the site attribute **HPRIMX\_acquittementAttendu** is activated, the attribute **acquittementAttendu="oui"** is sent. However, this does not have any effect on the way GLIMS handles rejections/acknowledgments (ACK).

## Improvement for the French billing module "FSE": export of MAU (BILX\_IRISLB2-00002)

For the French invoicing module FSE, GLIMS now supports exporting MAU ("Majoration Acte Unique") and AMI billing items via Pyxbio.

## Financial export in "TripleP" format (Xtenso) (BILX\_TRIPLEP-00028)

### Context

When exporting financial data in the **TripleP** format (Xtenso) using the `FinancialShipment.Send` function, GLIMS also exports price information for 'pseudo' billing codes.

So-called 'pseudo' billing codes are billing codes for which the reimbursement class type is set to **Cost** or for which the reimbursement class option **Hors nomenclature** is enabled.

### Problem description

An issue was reported where, in a particular case, the exported price information (amount for fund and total amount) was not correct. This has been corrected.

## Error when sending financial shipment in Ubis / UCM XML format (BILX\_UBIS-00015)

When sending a **Financial shipment** in the **UBIS** or **UCM XML** format by means of a task scheduler, an error occurred and no files were created.

This has been corrected.

### Note

Problem occurred since GLIMS 9.5.17.

## Export of financial data in "UCM XML" format (BILX\_UCMXML-00013)

The following improvements have been implemented for the export of financial data in the UCM XML format:

- When an invoice contains requests that are linked to the same billing code, these are exported in one `<prestation>` node. The quantity (`<nombrec>`) is exported as the number of occurrences. The **gross** (`<brut>`) and **net amounts** (`<net>`) are now exported as: **unit price x quantity**.

### Example

```
<demandePrestation>
  <nombrec>2</nombrec>
  <brut>17.36</brut> --> 8.68 (unit price) X 2
  <net>17.36</net> --> 8.68 (unit price) X 2
  <participation>0.00</participation>
  <devise>EUR</devise>
```

```
</demandePrestation>
```

- The <prestataire> fields in the export are numerical. During the export, non numerical characters in the identifications exported from GLIMS will now be filtered out. This will reduce the need for MISPL.

## Tarification of tests on paired specimen (GLIMS-07863)

An issue was detected in the tariffication of tests executed on a paired specimen.

Assume the following situation: a new order is created in GLIMS and using the F9 key an existing specimen is reused (paired specimen). New tests are requested on that paired specimen.

1. In the new order, the same test (as in the original order) is requested on the paired specimen.
  - The specimen will not be charged.
  - The test will not be charged if the result is reused (see Order entry option **Allow result re-use**).
2. In the new order, another test is requested on the paired specimen.
  - The specimen will not be charged.
  - The test will be charged.

## Correction for locking issue when tariffing orders (GLIMS-08032)

An issue was reported where the error **Sequence 'TmplInvDocNo' is in use by another user** occurred when multiple users were simultaneously tariffing orders. This was due to the temporary document number (of invoices and invoice summaries) being locked by another user.

This has been corrected.

## New functionality to email billing documents (GLIMS-08453)

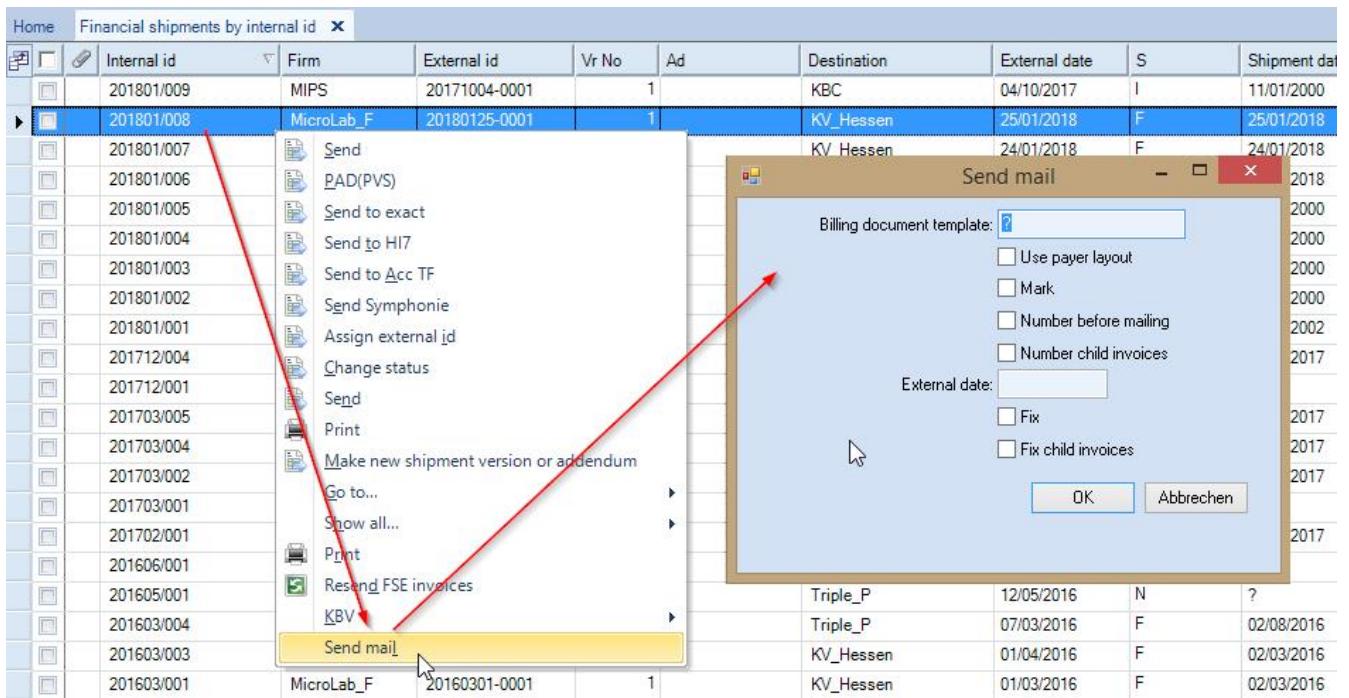
### Introduction

GLIMS allows printing billing documents, such as invoice summaries. The present modification makes it possible to also easily email these documents: GLIMS can now create files (in PDF format for instance) from billing documents and send them as attachments in emails.

### Configuration

#### New Send mail function

A new contextual menu function on Invoice, Invoice summary, Financial shipment, Financial transaction and Billing document printout records is available: Send mail. A click on the option label opens a window in which the sending can be configured:



## Billing document template

Double-clicking in this field opens a list of customizable billing document templates to choose from.

### Note

When using the function **Send mail** on a Billing document printout record, the billing document template used the last time the document was printed/mailed is used by default. If another billing document template should be used, indicate it in the present field.

## Use payer layout

This option only applies to invoice summaries. If it is activated, the billing document template of the invoice summary payer will be used.

## Mark

Indicates whether a billing document printout record should be created when the document is emailed.

### Note

The billing document printout record will not indicate whether it was created upon printing or emailing of a billing document. In order to find out whether the document in question was printed or emailed, users need to consult the [logs or attachment records](#).

## Number before emailing

Indicates whether the document should be numbered before the email is sent.

## Number child invoices

Indicates whether the child invoices should be numbered before the email is sent.

#### External date

This field only applies to invoice summaries. If this field is not filled in, the date of the day is used.

#### Fix

Indicates if the document should be fixed.

##### Note

If this option is activated, the document should also be numbered. If the document has not been numbered yet, activate the option [Number before emailing](#) mentioned above.

#### Fix child invoices

Indicates if the child invoices should be fixed.

### New fields in the editor of billing document templates

A section, [Email](#), has been added to the [Texts](#) tab of the Billing document template editor. It contains the following mandatory fields:

#### Subject

Double clicking in this field opens a list of customizable texts that can be used as email subjects.

These texts can be entered in several languages: GLIMS will select the text version on the basis of the [addressee](#)'s language.

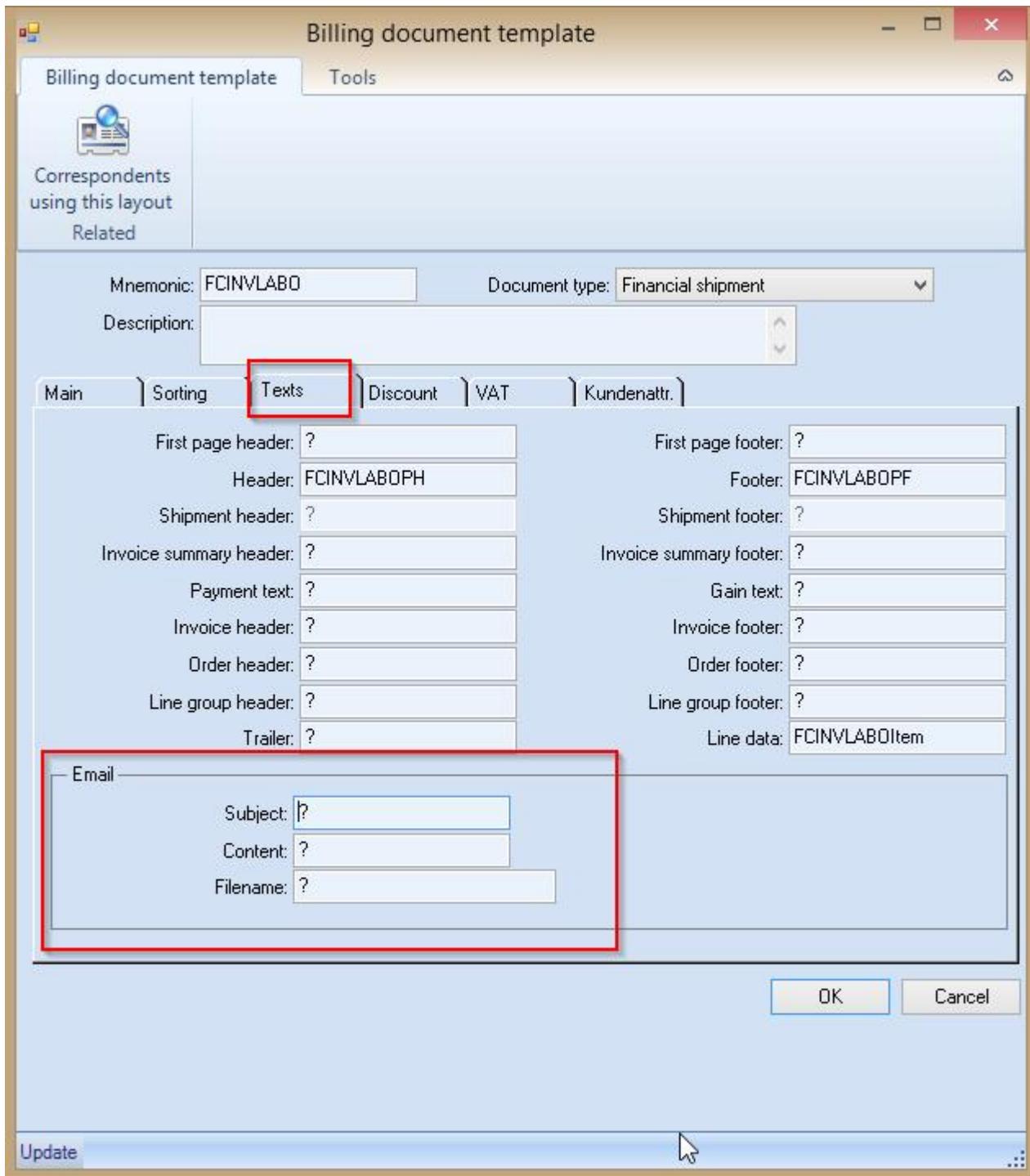
#### Content

Double clicking in this field opens a list of customizable texts that can be used as email bodies.

These texts can be entered in several languages: GLIMS will select the text version on the basis of the [addressee](#)'s language.

#### Filename

Name of the file that will be attached to the email. You can enter a fixed name or a MISPL expression.



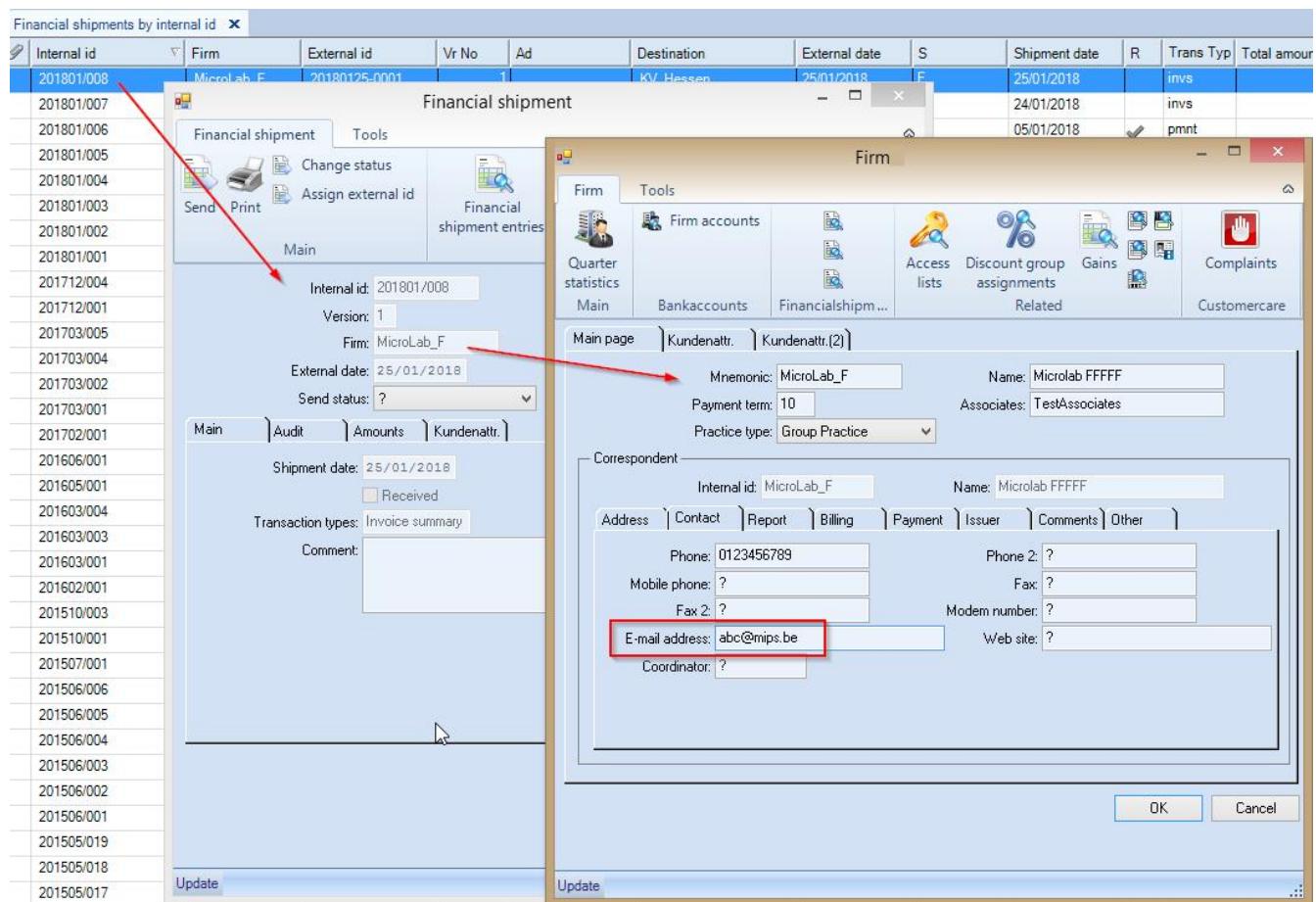
#### Notes

- If these fields are not filled in, GLIMS displays an error message when the [Send mail](#) function is used.
- The MISPL functions for invoice summaries and financial transactions are different. Distinct billing document templates must therefore be used: specify ".docno" in MISPLs for invoice summaries and ".invoicesummary().docno" in MISPLs for financial transactions.

#### Email source and target

GLIMS fetches the addresses of the email addressor and addressee automatically.

The addressee's email address is the email address of the firm indicated in the invoice/invoice summary/financial shipment/... editor:



The addressee's email address depends on the type of the sent document:

- invoice: email address of invoice payer
- invoice summary: email address of invoice summary payer
- financial shipment: email address of destination indicated in the financial shipment editor
- financial transaction: email address of invoice summary payer
- billing document printout: depends on the type of document initially printed/mailed.

## File storage and deletion

The created files are saved on the temp directory. Once the emails are sent, the files are deleted.

## Selection of multiple records

It is possible to select several invoice/invoice summary/... records and use the function **Send mail** on the entire selection. However, one file will be created and one email will be sent for each record.

## Traceability

## Logging

Every time an email is sent, a log is added under the (automatically created) log type "Billing document sendmail".

The following information is logged:

- sent file
- sending date
- document (i.e which invoice, invoice summary, ...)
- document number
- addressor
- addressee

This information can be consulted via [Log entries -> Open subject](#) and [Log -> View](#).

### Attachment records

The file sent by email is added as attachment to the invoice / invoice summary / ... record. Addressor and addressee are mentioned in the attachment description.

### Email communication information

Information regarding the email communication is stored in logs under the log type "Emails from *username*" which is automatically created when a user sends an email. The contextual menu function [View](#) on the logs allows to display the details of the email communication.

## Allow defining a print job for billing document generation via GLIMS Report Builder (GLIMS-10429)

When generating billing documents for invoices and invoice summaries using GLIMS Report Builder (via the contextual function [Print](#)), it is now possible to generate an invoice (summary) and an invoice (summary) duplicate in one action using a MISPL expression specified in the [Jobs](#) field of the [Billing document printing](#) window.

### Example

MISPL expression for a print job using two Jasper templates:

```
STRING PrintJobs;
PrintJobs := "\Layout=GRB-Invoice-1" +
            "\Copies=1";
PrintJobs := PrintJobs + "," +
            "\Layout=GRB-InvoiceDup" +
            "\Copies=1";
RETURN PrintJobs;
```

### Notes

- This also works for financial shipments and financial transactions.
- If the option [Default file name](#) is disabled and a fixed file name is used (no "{##}" is used in the file name), only the last file will be available as the first one will be overwritten during the generation of the second one.

## **Correction for context function "Refund the unbalanced amount" (GLIMS\_BILL-03262)**

---

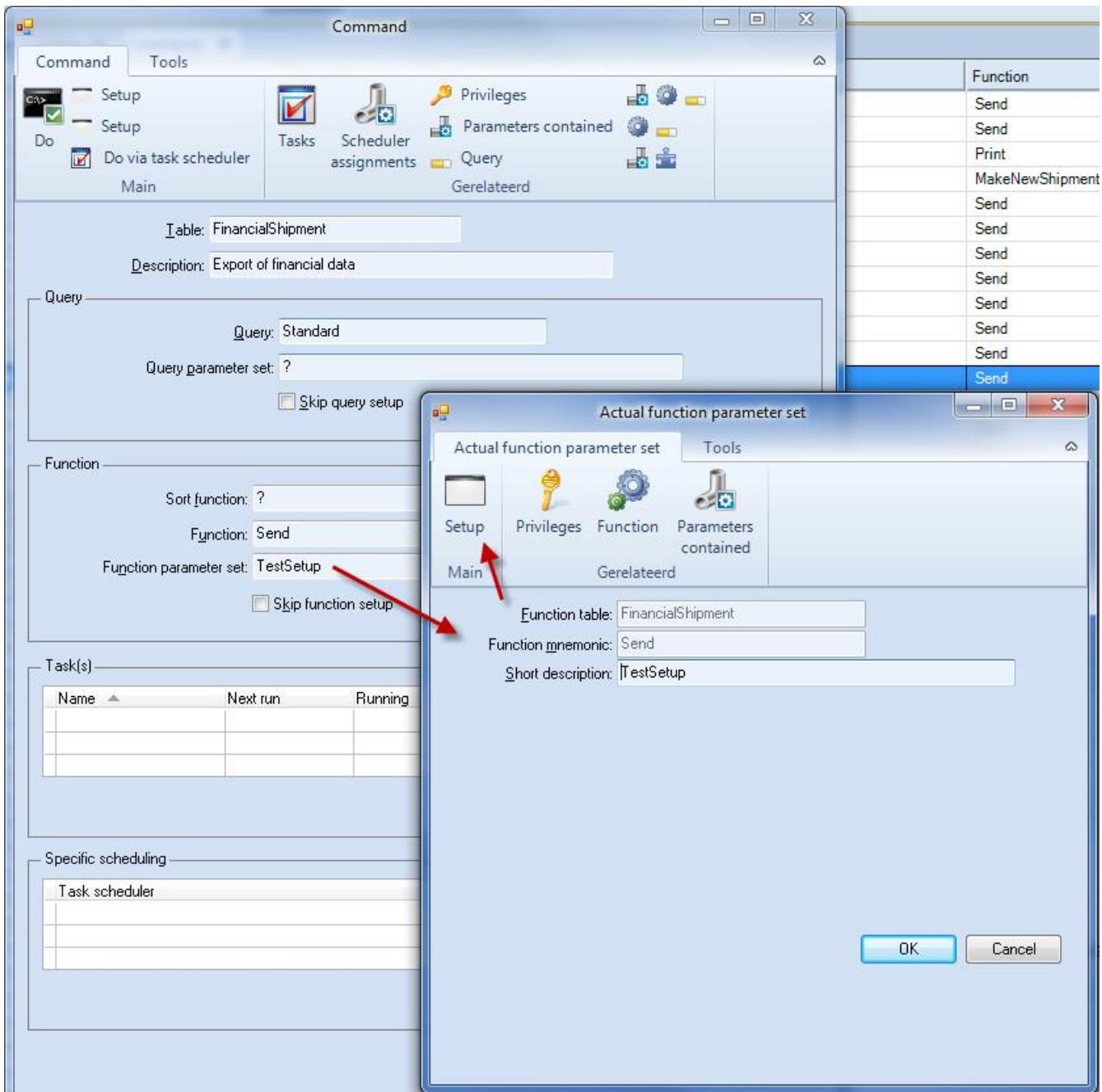
An issue was reported when using the context function **Refund the unbalanced amount** for a payment and changing the **Date** in the payment window that subsequently appears. After closing the window by means of the **OK** button, the **Status** of the payment was not updated (still **Initial**) and the transaction was not saved.

This has been corrected.

## **Correction for parameter "Execution time" in predefined FinancialShipment.Send function (GLIMS\_BILL-03266)**

---

When the **FinancialShipment.Send** function is configured with predefined settings (e.g. for the function to be used as a menu item or in a command), the parameter **Execution time** (used in protocols HL7 DFT, CPOWISH IHPREST,...) was reset to its default value when reopening the setup window by choosing **Setup** from the **Actual function parameter set**.



This has been corrected.

## Corrections for financial export in "RIZIV" format (GLIMS\_BILL-03269)

The following corrections have been implemented for exporting financial data in the RIZIV format:

1. For additional invoices, record type 20, zone 11 ("type facturering") will now have "2" as value ("complementaire factuur").  
In previous versions, value "0" was used. As a result, additional invoices were not sent as such.
2. Record type 50, zone 27 ("persoonlijk aandeel patiënt") will now contain the amount to be paid by the patient in case of articles 33 bis - "Moleculaire biologische testen op menselijk genetisch

materiaal bij verworven aandoeningen", 24 bis - "Moleculaire biologische onderzoeken op genetisch materiaal van micro-organismen" and 32 - "Pathologische anatomie" of the nomenclature.

In previous versions, the amount to be paid by the patient was incorrectly sent in zone 33 ("supplement bedrag").

## Tool to audit configuration for invoicing panels (GLIMS\_BILL-03274)

### Auditing configuration for invoicing panels

A new tool is available to audit how panel invoicing is configured at customer sites. More specifically, information is required on the use of the following options:

Start > System management > Customize > GLIMS Billing

- Panel price check (= Completeness)

### Request definition of type "Panel"

- Accept shared members
- Charge <> Member (use of panel specific billing codes)

### Starting the tool

Click Start > Billing > Configuration > Check panel billing configuration.

A report of the configuration information is written to file. This file is previewed after the tool has run. Its location is indicated in the title bar of the preview window.

Panel Mnemonic	Configuration Details
09A16Urinalysis	: charged=yes, charge='Members or panel'
1066	: charged=yes, charge='Members or panel'
112	: charged=yes, charge='Panel only', Confirm=YES
4	Warning: this Panel with Confirm=YES (will be 'tempered') should not be charged as panel (o
999	: charged=yes, charge='Panel only'
ALIQPANEL	: charged=yes, charge='Panel only', AcceptShar
AlPanel	: charged=yes, charge='Panel only'

## Extra logging when order set status changes (GLIMS\_BILL-03275)

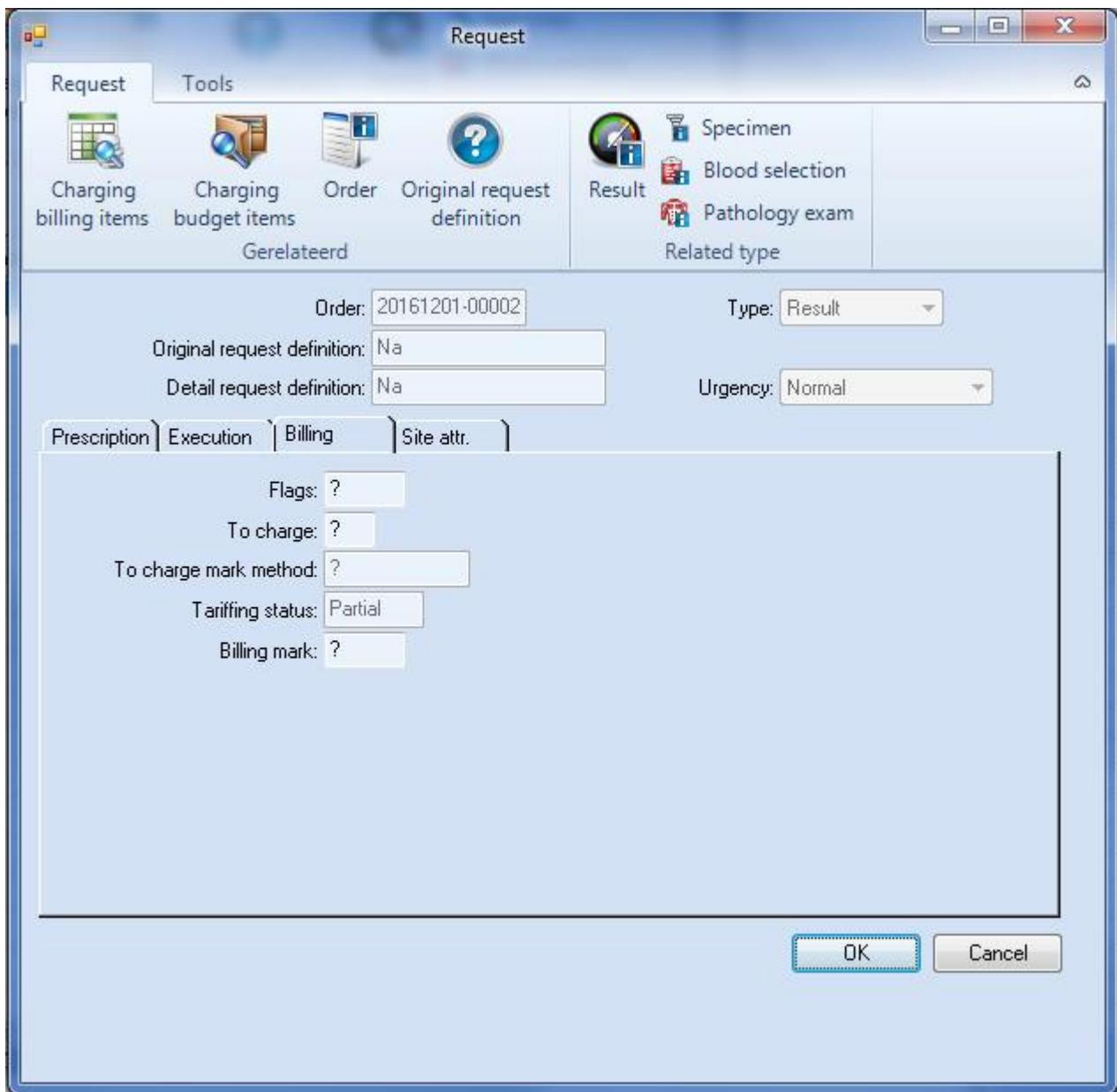
Whenever the status of an order set changes, GLIMS will now provide extra logging. A Log type with name **Change OrderSet status** will be created automatically.

**Tip**

To avoid that the logs are deleted too soon, we recommend to set the [Expire period](#) to 70 (instead of the default value 7) in the automatically created log type [Change OrderSet status](#).

## Allow update of Billing mark in Request editor for partially tariffed requests (GLIMS\_BILL-03276)

It is now possible to update the **Billing mark** field in the **Request** editor for requests with **Tariffing status** set to **Initial** or **Partial**.



## Panels incorrectly considered as incomplete during tariffication (GLIMS\_BILL-03280)

When the following configuration was present, errors could occur during panel tariffication due to panels being incorrectly considered as incomplete.

- The panel's request definition has the **Charge** option set to **Panel only**.
- The panel members' request definitions have the **To charge** option disabled.
- All requests for these panel members have the **To charge** option set to **Yes**.
- The general option **Panel price check** (Start > System management > Customize > GLIMS billing) is set to **Completeness**.

This has been corrected.

## **Correction for saving manually changed party type in Order entry (GLIMS\_BILL-03284)**

An issue was reported where the **Party type** in the **Billing** page of the **Order entry** screen was not saved when changed manually after having been set automatically by the **Order set defaults** MISPL.

This has been corrected.

## **Error when saving payment agreement without fund (GLIMS\_BILL-03287)**

When entering or updating a payment agreement without a fund, an error message saying **Object not loaded** was shown when saving the payment agreement.

This has been corrected.

### **Note**

Problem occurred since GLIMS 9.6.0.

## **Correction for tariffication of panels (GLIMS\_BILL-03291)**

An issue was reported where requesting a panel twice (sharing the same result,...) in an order (e.g. a panel with **Charge = Panel only** and a larger panel with **Charge = Members only** also containing the first panel) caused the billing code linked to this panel's request definition to be charged twice.

This has been corrected.

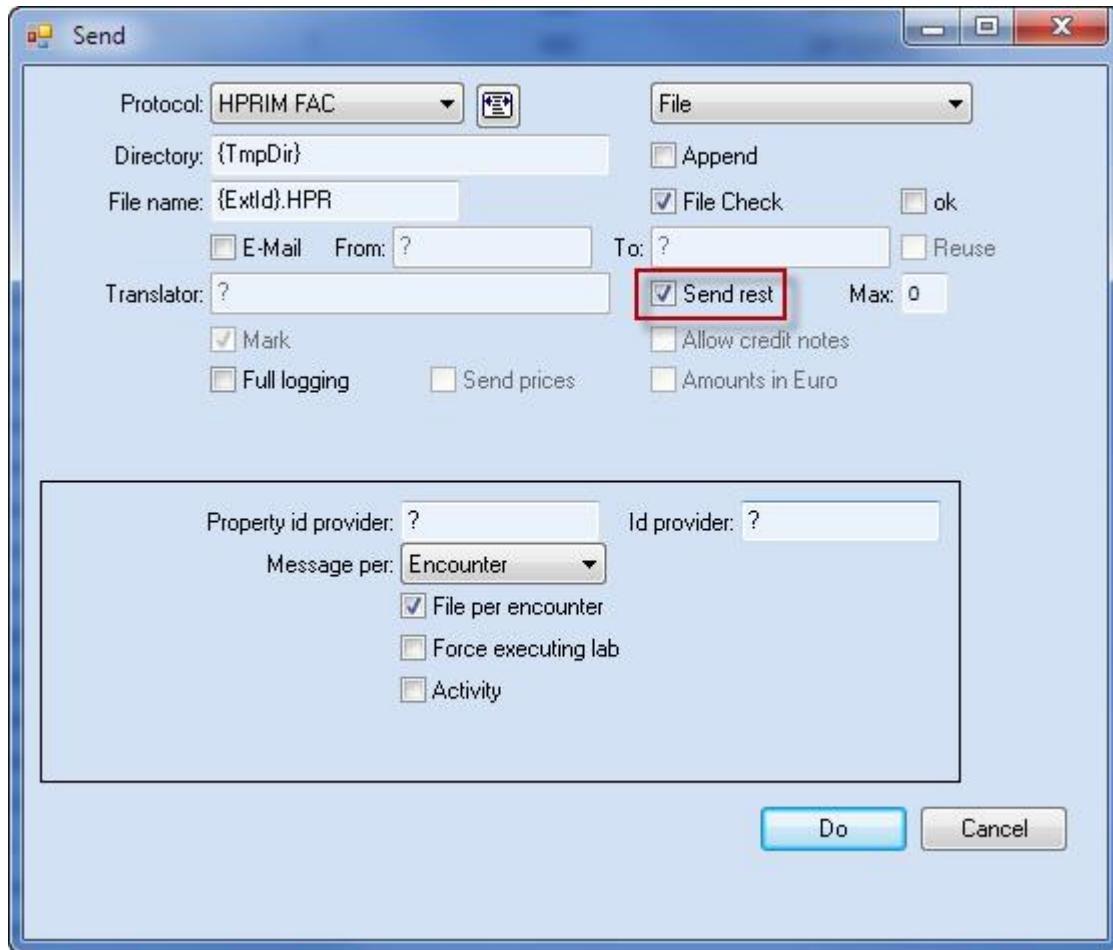
### **Example**

- Panel P1 (containing properties p1 and p2) is requested.
- Panel P2 (containing panel P1 and property p3) is requested.

The billing code of panel P1 should be charged only once. When tariffing the order, a warning will be added in the logging for the duplicate panel members that have been skipped.

## **Correction for financial export in "HPRIM" format (GLIMS\_BILL-03293)**

An issue was reported where the following error occurred when exporting financial data in the HPRIM format: **Shipment is already partially sent; please correct errors and restart with Send option 'send rest'.** This happened when exporting multiple shipments at once and the **Send rest** option was already enabled.



This has been corrected.

### **Correction for error in "Price consultation" (GLIMS\_BILL-03299)**

An issue was reported where an error occurred when using the Price consultation function (**Start > Routine > Orders > Price consultation**).

This has been corrected.

### **Include carriage return / line feed in output when printing invoice summary (GLIMS\_BILL-03304)**

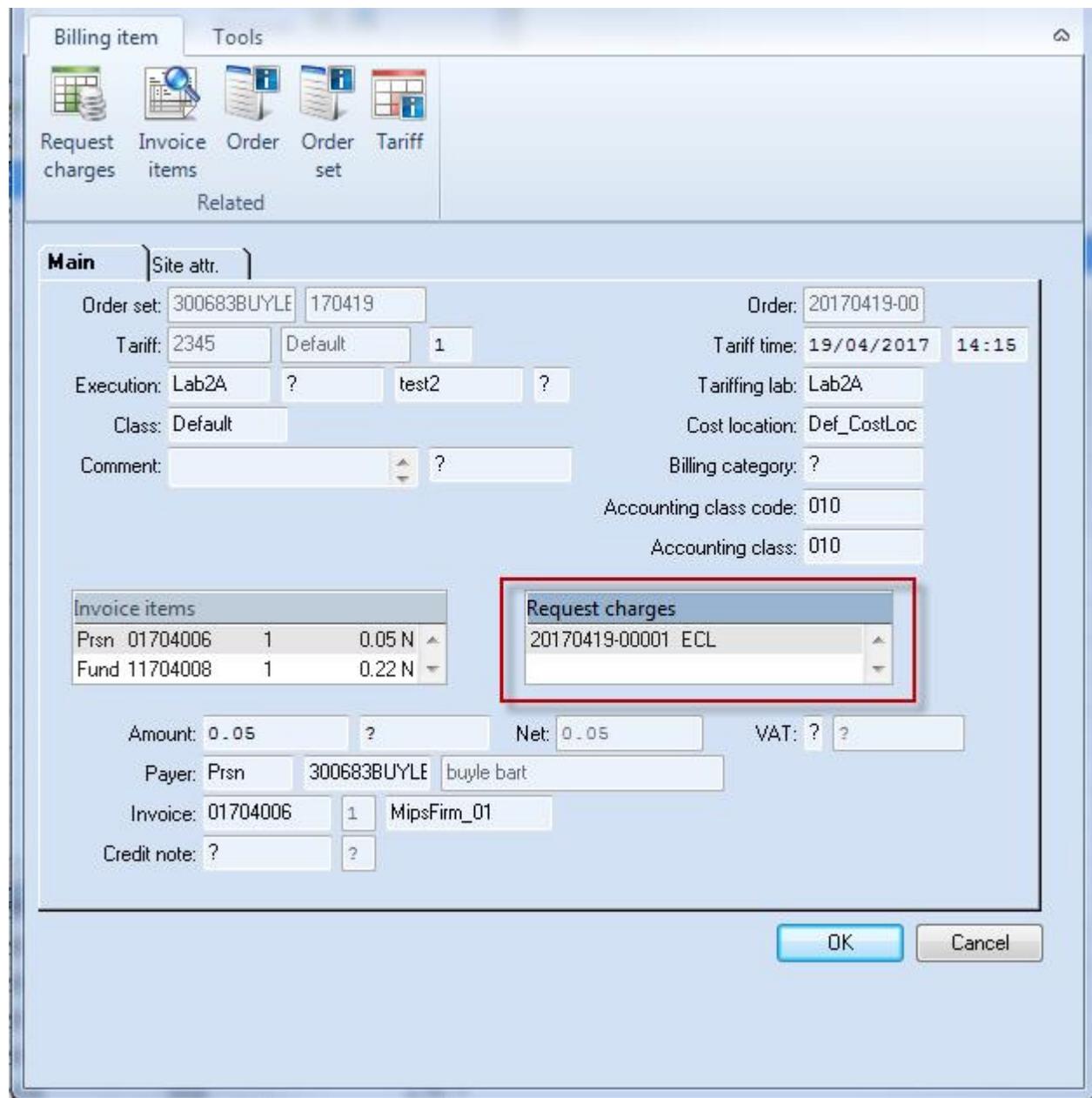
When printing an invoice summary and selecting a template referring a Text with carriage returns or line feeds, the output generated by GLIMS Report Builder did not contain those carriage returns or line feeds.

This has been corrected.

## Adding request charges in billing item configuration editor (GLIMS\_BILL-03309)

### Problem description

When using the **Insert** key in the **Request charges** browser of the **Billing item** configuration editor, an error occurred.



### Solution

This has been corrected. Pressing **Insert** in the **Request charges** browser will now allow you to select a request from a browser and add it as **Request charge**. Click **OK** in the **Billing item** configuration editor to save your changes.

## No error anymore when financial shipment status is advanced (GLIMS\_BILL-03313)

An error message was displayed in the following situation:

- a financial shipment contains a purged (archived) invoice summary, and
- the status of this financial shipment is advanced to **Fixed**, or
- the Send function, which advances the financial shipment status, is used.

The issue has been solved, the error message is not displayed anymore.

### Notes

#### Notes

- Shipments containing a purged invoice summary should not be sent if the invoice summary contains no invoice, item or billing item.
- The problem occurred since version 9.5.

## PAD export of financial shipments: empty field 5 ('Behandelter') sent without error (GLIMS\_BILL-03319)

### Background

GLIMS supports the protocol "Privatabrechnung mittels Datenträger" (PAD) for billing export. For this protocol, field 5 of record 300 indicates the "Behandelter". This field is not mandatory, it is only filled in if the Object of the order is different from the invoice payer. If the Object and the payer are identical, the field is exported empty.

### Issue

Though it should be possible to export an empty field 5 for record 300 (when Object = payer), an error message wrongly appeared when the field was exported without value.

### Solution

This has been corrected: an empty field 5 of record 300 can again be exported without triggering any error.

## Fast-positioning possible in the Assigned billing codes browser (GLIMS\_BILL-03324)

The fast-positioning function did not work in the .NET browser of assigned billing codes (**Start** -> **Billing** -> **Configuration** -> **Discount** -> **Discount classes** -> right-click on a **discount class** -> **Show all** -> **Assigned billing codes**).

This has been corrected.

### Note

#### Note

The problem occurred since version 9.0.

## Price consultation: quick invoice generated without error message (GLIMS\_BILL-03327)

### Background

The price consultation function allows the creation of a dummy order in the order entry screen and the generation of a quick invoice. It suffices to enter the order information and to then click **OK**.

### Issue and solution

After users had filled in the order entry fields and clicked **OK**, an error message was displayed and the quick invoice could not be generated.

This has been corrected.

### Notes

#### Notes

- The error message was not displayed when using the **Billing** tab page of the order entry screen. Using the billing tab page was thus a workaround for the problem described above. This workaround is not relevant anymore.
- The problem occurred since version 9.

## Correction for BTM encounter numbers in financial shipments (GLIMS\_BILL-03331)

### Issue

When exporting financial shipments for orders dealing with a blood bag transfusion, errors sometimes occur:

- the export file is not created.
- the export file is created but does not contain the correct encounter number.
- the export file is rejected by the receiving external software. This happens when the blood transfusion date in GLIMS does not lie between the start and end date of the encounter in the external system.

### Cause

When a financial shipment is sent, a site function is automatically run to find the encounter number. Additionally, the billing protocols (Xtenso, Infohos, Medsoc and Ubis) also look for the encounter number. Depending on their internal logics, these two processes do not always return the same encounter number.

## Solution

### Improved protocol logic

The protocol logic has been improved and works in the following way:

1. The transfusion time of the blood bag is retrieved: the starting time of the transfusion is taken, if available. Else, the end time is taken.
2. GLIMS then looks for a matching encounter among the patient's encounters:
  - a. Encounters without start time are skipped.
  - b. initially, only encounters with type Hospitalized and with an external id are taken in consideration.
  - c. Only encounters during which the transfusion can have taken place (transfusion time lies between the start and end times of the encounter) are taken in consideration.
  - d. If there is more than one match, the most recent encounter is taken.
  - e. If no encounter with type Hospitalized and an external id matches the transfusion time, GLIMS looks for encounters with an external id and type Ambulatory. As above, only encounters whose dates match the transfusion time are taken in consideration. If there is more than one match, the most recent encounter is taken.

Given that the logic of the site function overrules the protocol logic, improving the latter does not entirely solve the issue: even if the protocol logic returns the correct encounter number, it might be overridden by an erroneous number returned by the site function. The workaround is then to log the discrepancy between the two returned encounter numbers.

### Logging the differences between the returned encounter numbers

#### New log type

If the Xtenso, Medsoc or Infohos protocol logic and the logic of the site function return different encounter numbers, this is logged during the export: upon the first export containing a difference, a log type is automatically created. Afterwards a log entry is added to this log type every time the same situation comes up.

The name of the log type is "<Protocol name> billing communication encounter diff".

#### Notes

##### Notes

- The protocol name for Xtenso is "Triple-P".
- This logging does not take place if the Ubis protocol is used.

If the logging reveals that the protocol logic always returns the correct encounter number, the MIPS support or customer services can advise deleting the part of the site function that returns the encounter number.

#### Properties of the new log type

The logging of the difference occurs during the export of the financial shipment file.

The default validity period of the log type is 7 days. We advise increasing this number. When the validity has expired, the log type still exists and its validity period can be extended.

The log type can also be disabled.

If the log type is deleted, it will be created again automatically the next time the export program is run and a difference between the two returned encounter numbers is observed.

#### No encounter found

If no encounter at all is found, neither by the protocol logic nor by the logic of the site function, an error message is displayed and the financial export file is not created.

### **Round InvoiceSummary.TotalAmount to the nearest multiple of 0.05 (GLIMS\_BILL-03335)**

#### New functionality

GLIMS now allows rounding the InvoiceSummary.TotalAmount to the nearest multiple of 0.05:

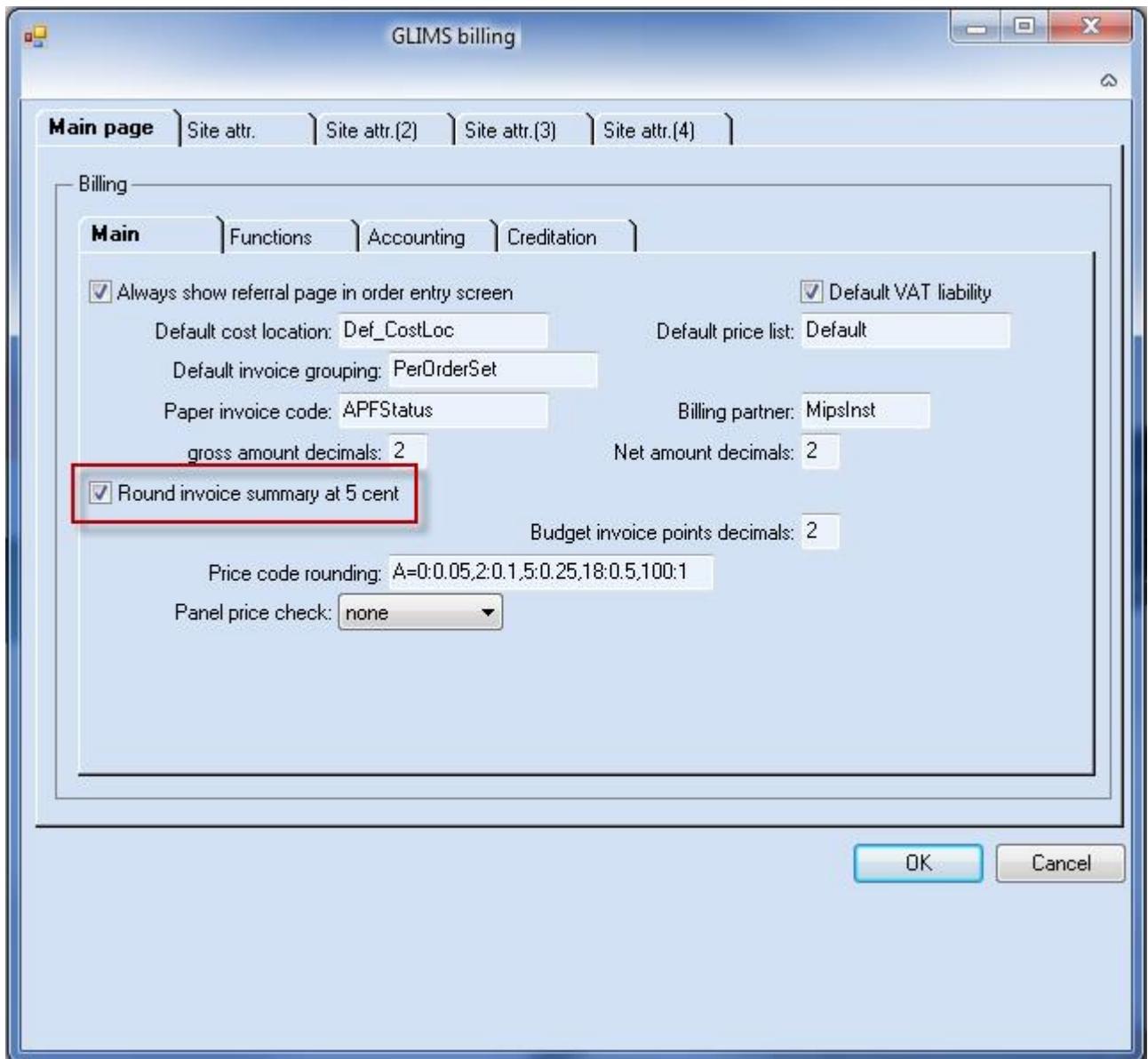
- Total amounts ending in 0.01 or 0.02 will be rounded down to 0.00.
- Total amounts ending in 0.03, 0.04, 0.06 or 0.07 will be rounded up or down to 0.05.
- Total amounts ending in 0.08 or 0.09 will be rounded up to 0.10.

#### Examples

- 12.91 becomes 12.90
- 12.92 becomes 12.90
- 12.93 becomes 12.95
- 12.94 becomes 12.95
- 12.95 remains 12.95
- 12.96 becomes 12.95
- 12.97 becomes 12.95
- 12.98 becomes 13.00
- 12.99 becomes 13.00

#### Activation

This behavior can be activated by enabling the field **Round invoice summary at 5 cent** in the GLIMS general settings, which can be accessed via **Start > System management > Customize > GLIMS billing**:



#### Notes

- When printing an invoice summary and using dynamic text in the template, the `InvoiceSummary.TotalAmount` should be used, as the `Invoice.Amount` or `InvoiceSummary.Amount` are not rounded to the nearest multiple of 0.05.
- If the **Gross amount decimals / Net amount decimals** options in the GLIMS general settings ([Start > System management > Customize > GLIMS billing](#)) are set to a value lower than 2 (decimals), the `InvoiceSummary.TotalAmount` will not be rounded to the nearest multiple of 0.05 as the rounding of the gross / net amount is applied first.

#### Severity of "SkipDoublePanelMember" log entry changed to "Info" ([GLIMS\\_BILL-03336](#))

#### Context

The log verification program selects all log entries of which the **Needs checking** toggle box is enabled (typically log entries with severity **Error** or **Warning**).

#### **Issue + solution**

In order to reduce the number of warnings displayed, it was no longer desirable to have the log verification program display the **Tarification** related warning **SkipDoublePanelMember**. Therefore, the severity of this log entry has been changed from **Warning** to **Info**.

#### **Sample templates for billing documents (GLIMS\_BILL-03565)**

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GLIMS 9.8.0 ships with sample Jasper templates for invoice, invoice summary and financial shipment.

# Blood transfusion

## Export transfusion data to "Rode Kruis" (BILX\_UBIS-00002)

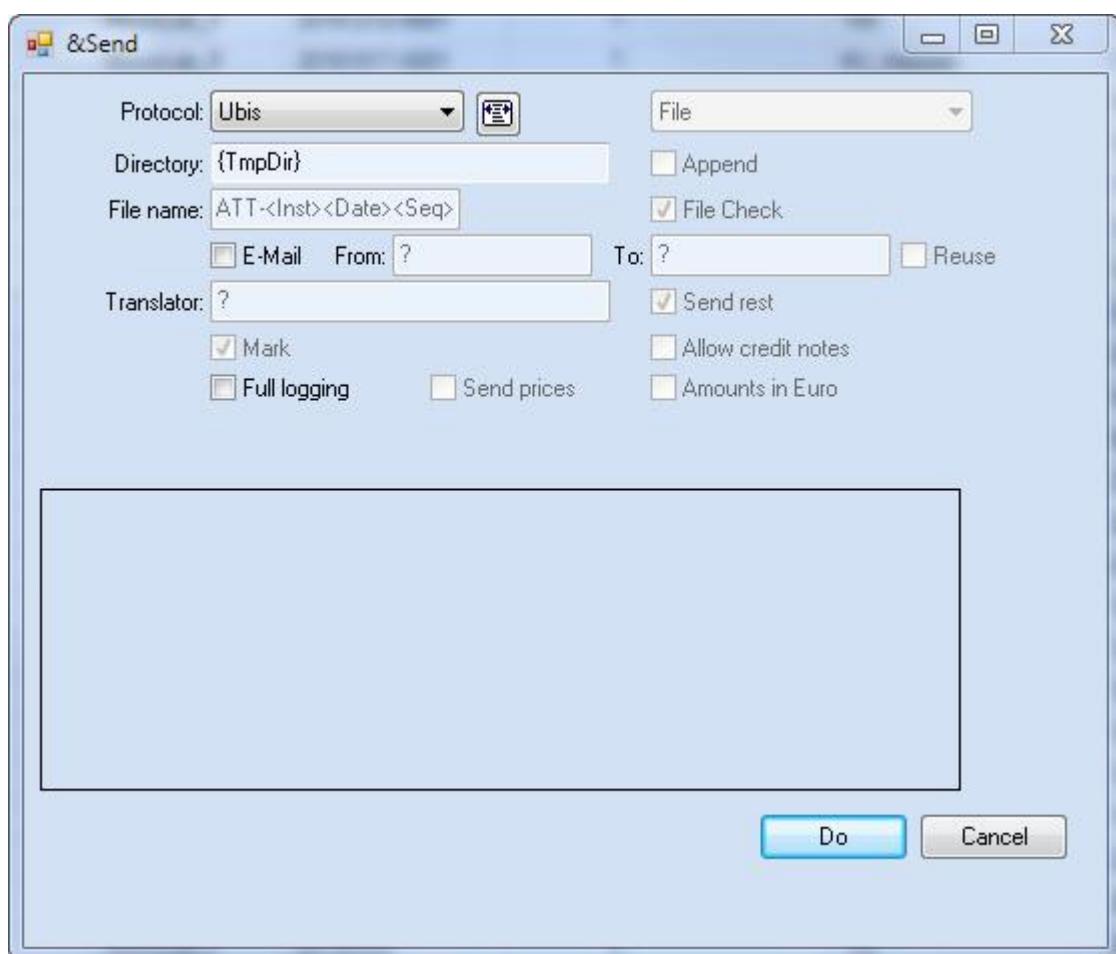
### Introduction

GLIMS now allows to export data about transfused blood bags directly in the format of "Rode Kruis Vlaanderen".

This export program is subject to a separate license.

### Export program

The export has been implemented as a **Financial shipment** export with protocol **Ubis (Belgian Red Cross Ubis)**.



### Configuration

#### Financial shipment

The **Destination** of the **Financial shipment** must be the "Rode Kruis Vlaanderen" organization.

In the [content of the exported file](#), the hospital identification will be the identification of the institution assigned by this "Rode Kruis Vlaanderen" organization.

## Export options

### Protocol

#### Ubis (Belgian Red Cross Ubis)

##### Content of exported files

The export program will produce two types of files:

1. A flat text file that is sent electronically to the "Rode Kruis Vlaanderen" organization.

##### Note

A separate file will be generated for each institution and blood bag supplier.

2. An XML file that is used to generate a PDF report that can be signed for approval.

### Flat text file

#### Header record

Contains data about the blood transfusion center (blood bag supplier) - file name - start and end date - hospital data.

Field	Content
1	Fixed value "0"
2-3	Identification and name of the correspondent's blood transfusion center. This is derived from the supplier of the blood bag.
4	System date (today)
5	Unique sequence number (length=8). This number is also saved in the comment field of the shipment.
6-7	Start and end date of the period: this is the minimum transfusion time (end date if known, otherwise start date) and max transfusion time (end date if known, otherwise start date) of all the blood bags in the file.
8-9	Identification and name of the hospital. This is derived from the patient encounter's institution (correspondent data). GLIMS will look up a patient encounter that is valid at the time of blood bag administration.  The identification is the one assigned by the <a href="#">HC code provider</a> specified in the general settings ( <a href="#">Start &gt; System management &gt; Customize &gt; GLIMS general</a> ).

#### Patient data (record "1")

Field	Content
1	Fixed value "1"
2	Not supported
3	External id of patient encounter (matching the first blood transfusion for the patient)
4-5-6	Patient's name, address and municipality
7-8-9-10-11	Not supported
12	Responsible of the transfusion as stored in the blood bag. If not available, the order's issuer is exported.
13	Identification of the order's issuer
14	Start date of the patient encounter
15	Not supported

#### Blood bag data (record "2")

Field	Content
1	Fixed value "2"
2	Encounter external id
3	External id of the blood bag
4	Product code of the blood bag
5	Barcode as external id of the blood bag
6	Barcode of blood product specification
7	Transfusion end date. If unknown, the transfusion start date is used.
8	Nomenclature code: retrieved from the billing item linked to the tariff
9	Volume/units. Number of invoice items for the blood bag.
10	Not supported
11	Invoice item's net amount

### Attest data (record "3")

Field	Content
1	Fixed value "3"
2	Not supported
3	Encounter external id
4	Total amount

### Summary data (record "9")

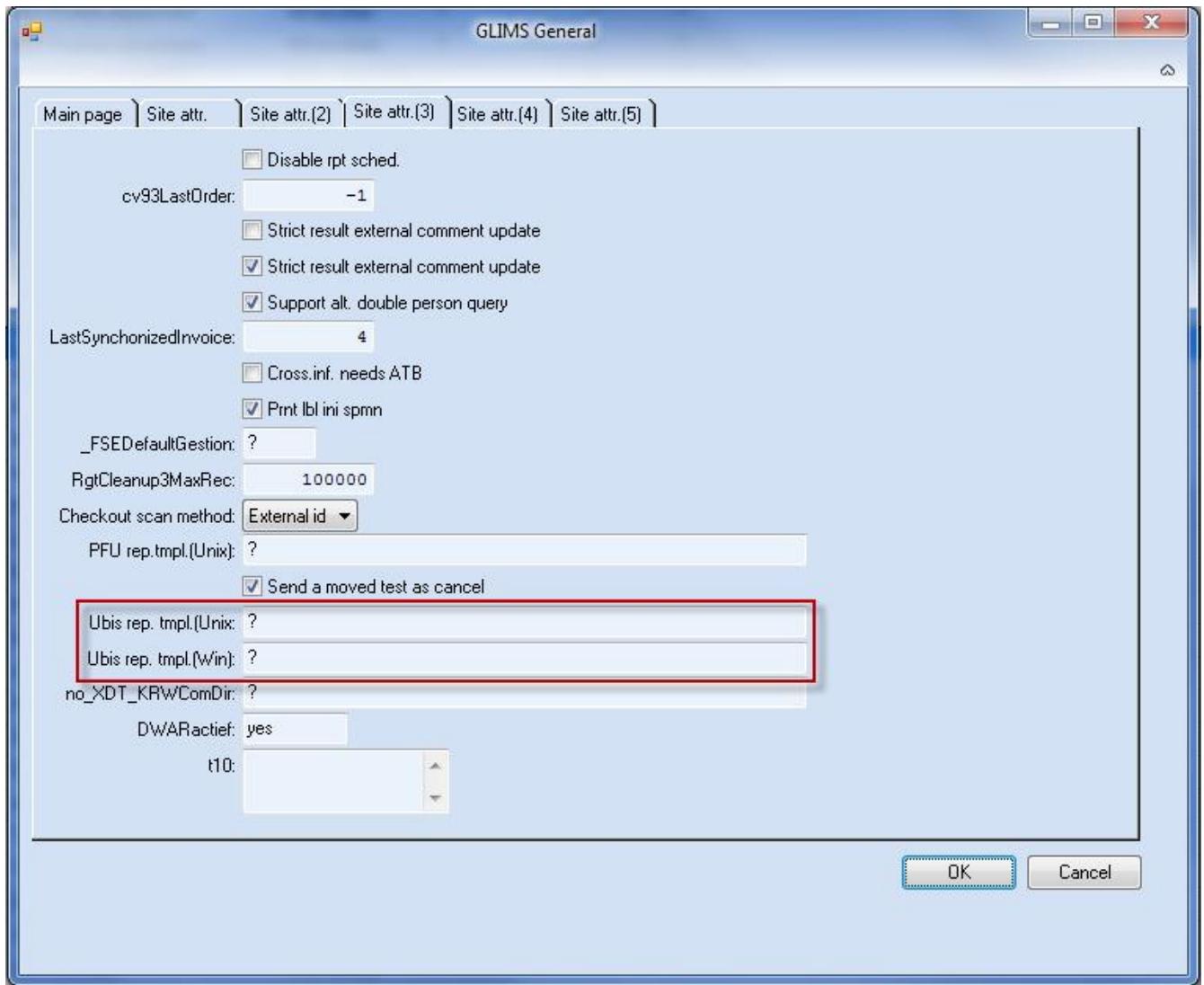
Field	Content
1	Fixed value "9"
2	Date on which the shipment was sent
3	File name
4	Number of records of type "1"
5	Number of records of type "2"
6	Total amount of blood bags

### XML files for report builder

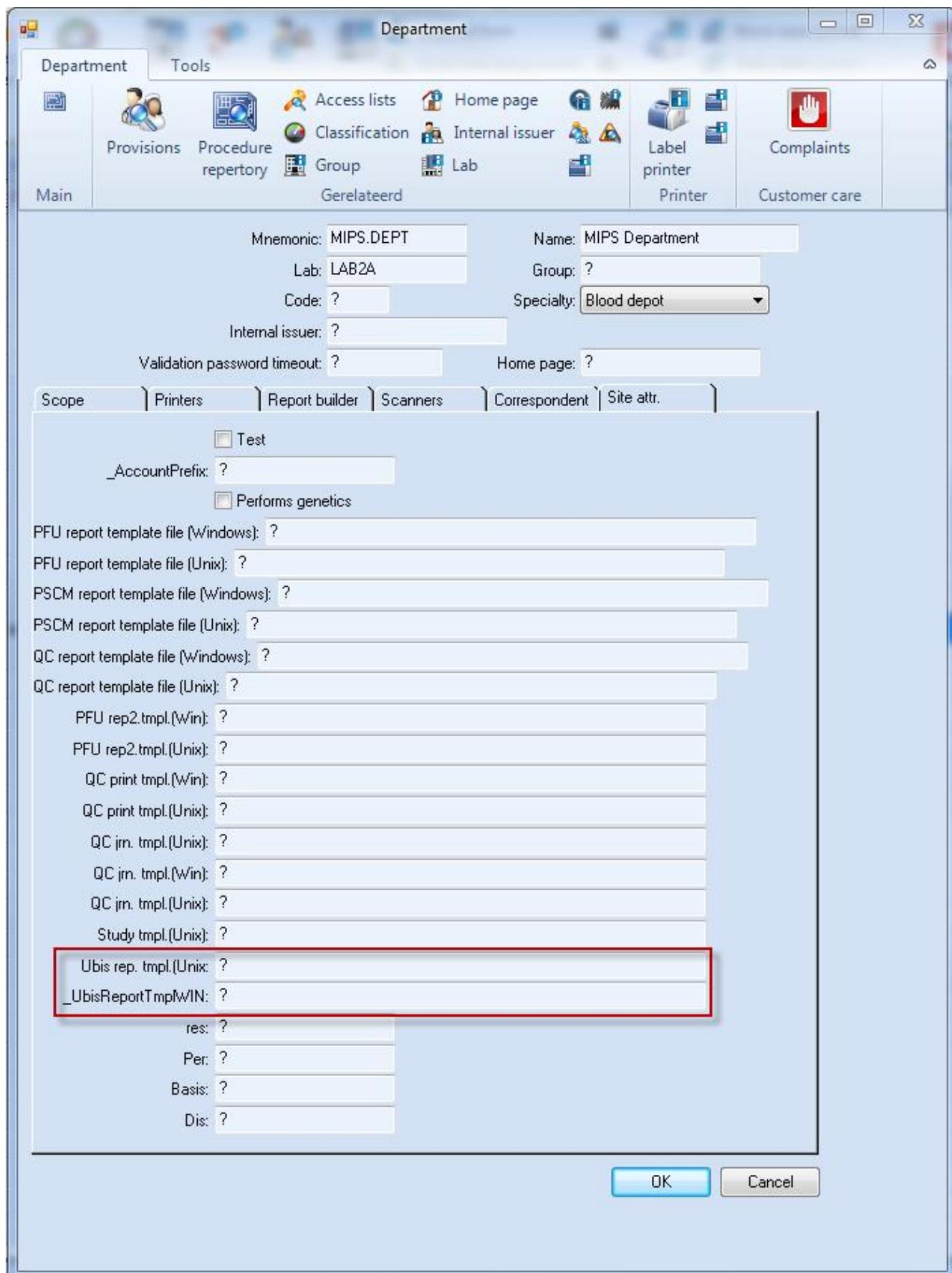
GLIMS also exports XML files that can be used to generate a PDF report that can be signed for approval.

The Jasper templates that are used to convert the exported XML files to a PDF report can be specified on **Department** or **Specific site** level via automatically created site attributes. The templates specified on **Department** level have priority.

### Specific site



## Department



## Logging

If errors occurred, a file with extension .ERR will be created. The export logging will also contain details about the errors.

**Note**

If no errors occur during the export of the financial shipment, a comment will be added to that shipment containing all different occurrences of the field 'verzamelstaat'. This only applies to shipments in status **Initial** or **Numbered**.

## **Updated templates for export of transfusion data in "Ubis" format (BILX\_UBIS-00012)**

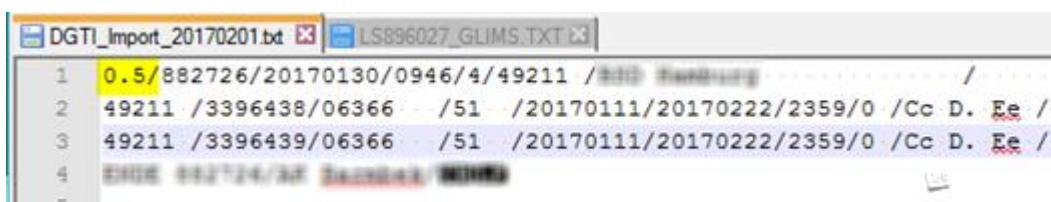
GLIMS allows to export data about transfused blood bags directly in the format of "Rode Kruis Vlaanderen".

GLIMS 9.8.0 ships with updated Jasper templates that can be used to convert the exported XML files to a PDF report. In order to use these templates, make sure they are specified in the site attributes on **Specific site** (or **Department**) level.

## **DGTI Germany: support for "External id as barcode" (GLIMS\_BTM-00874)**

The program to import blood bags in DGTI format (Germany) now supports importing the **External id as barcode** of a blood bag.

In order to benefit from this feature, the import file should contain the version number of the DGTI format: 0.5.



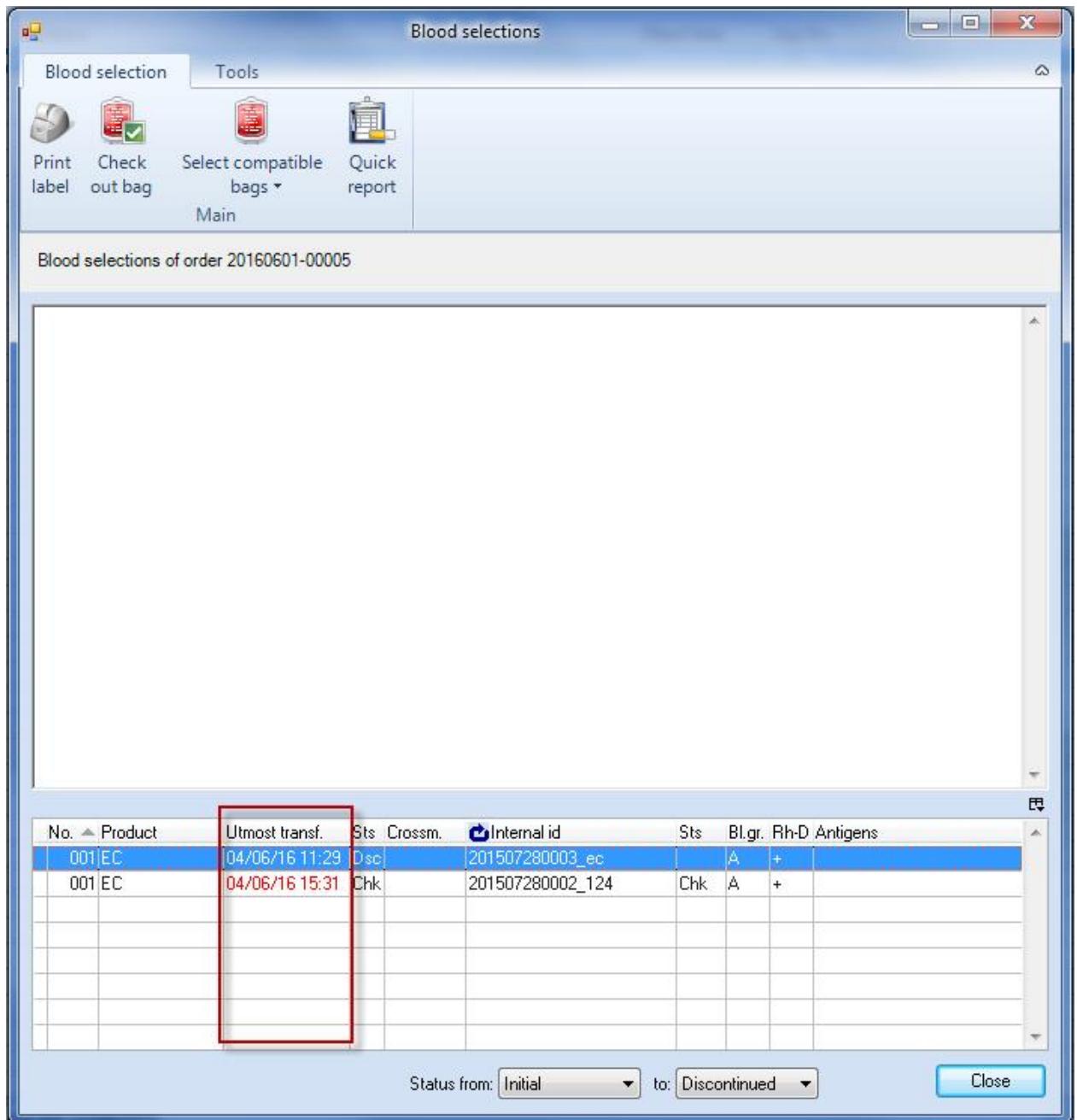
## **Utmost transfusion time in blood selection browsers (GLIMS\_BTM-00909)**

The **Utmost transfusion date/time** is now available as a column in:

1. the blood selection browser that can be accessed from the main menu via **Start > Transfusion management > Blood selections query**

Order	Name	Ward	Utmest transf.	Urg	Product	Sts	Crossm.	Posit	Internal id	Sts	Bl.gr.	Rh-D
20160601-00005			04/06/16 15:31	R	EC	Chk	?	201507280002_124	Chk	A	+	
20160803-00007			06/08/16 10:52	R	Erythrocytes	Chk neg	?	201608030001	Chk	A	+	
20160803-00008			06/08/16 10:59	R	Erythrocytes	Chk neg	?	201608030006	Chk	A	+	
20160803-00008			06/08/16 10:59	R	Erythrocytes	Chk neg	?	20160803002	Chk	A	+	
20160803-00009			06/08/16 11:07	R	Erythrocytes	Chk neg	?	201603080084	Chk	A	+	

2. the blood selection browser that can be accessed from an Order via [Requests > Blood selections](#).



#### Colors

- If the utmost transfusion date/time of a blood selection is today, it will be displayed in pink.
- If the utmost transfusion date/time of a blood selection is expired, it will be displayed in red.

### Date format in blood bag and blood selection browsers (GLIMS\_BTM-00910)

In the **Blood transfusion** module, (expiration, production and utmost transfusion) dates in the blood bag and blood selection browsers are now visualized using the full year format, i.e. DD/MM/YYYY.

## **Blood bag entry: no donation type setup screen by default (GLIMS\_BTM-00925)**

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### **Context**

The barcode scan program for blood bags requires that the **Donation type** (normal, directed or auto-logous) be indicated for each blood bag. Since GLIMS 9.6 (GLIMS\_BTM-00869), a functionality makes it possible to indicate a donation type for several blood bags at once. By default, when opening the scan program via **Start -> Transfusion management -> Entry -> By scanning barcodes**, a setup window was shown, asking the user to choose a donation type for the blood bags to be scanned.

### **Modification**

From now on, this setup window is by default not shown anymore. This restores the default behaviour of the barcode scan program, i.e. it requires the **Donation type** to be indicated for each blood bag and the **Donation type** is always reset to its initial value, i.e **Normal**.

If users want the setup window to be shown every time the barcode scan program for blood bags opens, they should deactivate the **Skip setup** option of the Tool used by the barcode scan program menu option / ribbon item.

For more information on how to create a pre-configured menu option / ribbon item, see **Donation type when scanning blood bags**.

## **Blood product trigger not executed during blood bag administration via CyberTrack (GLIMS\_CBT-00172)**

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Some MISPL triggers were no longer executed when administering a blood bag via CyberTrack. This was the case for e.g. the Blood product trigger **When administered**.

This has been corrected.

### **Note**

Problem occurred since GLIMS 9.3.0.

# Business Activity Monitor

## Full stops and commas correctly read as decimal separators in refresh rates (**GLIMS\_BAM-00004**)

### Background

The Business Activity Monitor offers the possibility to customize the frequency at which data must be updated. To do so, it suffices to indicate the chosen rates in the XML code of the BAM general settings. These rates must be specified using decimal numbers, 0.1 hour for 6 minutes, for instance.

### Issue and solution

Decimal numbers written with a decimal symbol that is different from the decimal symbol of the regional settings of the client computer were not interpreted correctly, giving rise to incorrect refresh rates.

This issue has been corrected: Both fullstops and commas are now correctly read as decimal separators, independently of the regional settings.

## Proper display of the monitors on 1280x1024 screens (**GLIMS\_BAM-00006**)

The monitors of the Business Activity Monitor module are now properly displayed on 1280x1024 screens.

## Improvements for actions and overdue results in instrument status pane (**GLIMS\_BAM-00009**)

The General Monitor of the Business Activity Monitor features an Instrument status pane which provides information about the actions of each station. The functionality has been improved in the following ways:

- All actions are now taken into account, not only those which were created today.

It is however possible to set the maximum number of days since the creation of the actions to be taken into account. To this aim, specify the MaximalActionAge in the XML code of the BAM general settings.

- The actions are now sorted as follows:

Label in BAM	Action status
Unavailable	Frozen, Connecting or Inputting
To be sent	Pending
Awaiting results	Outputting or Partial
Realized	Realized

- The actions in status **Ready** are not shown anymore.

- Results which were validated but whose validation took place outside the validation TAT limit were counted as overdue results. For actions, this is not the case anymore. This means that results are now considered as overdue only if they
  - are not confirmed and the **Maximal time till confirmation** is exceeded.
  - have been confirmed but later than allowed by the **Maximal time till confirmation**.
  - are not validated and the **Maximal time till validation** is exceeded.

#### Note

##### Note

For orders and properties, results which have been validated but whose validation took place once the **Maximal time till validation** was exceeded ARE still counted as overdue results.

## Correct display of the customized background color for the instrument status pane (GLIMS\_BAM-00011)

#### Background

The General monitor of the Business Activity Monitor features an instrument status pane which shows the number of created actions per status. The background color of this pane can be customized in the XML code of the BAM general settings.

#### Issue and solution

The background color specified by users in the XML code was not taken into account, so the instrument status pane always remained orange.

This has been corrected: the background color of the instrument status pane is now that specified by the user.

## Correct display of the customized maximum values for order and result gauges (GLIMS\_BAM-00012)

#### Background

The General monitor of the Business Activity Monitor features two gauges which indicate, respectively, the number of orders created and the number of results entered during the last hour. The maximum number of orders and results these gauges can show can be customized in the XML code of the BAM general settings.

#### Issue and solution

The maximum numbers specified by users in the XML code were not taken into account, the maximum value displayed on the gauges therefore remained 100.

This has been corrected: the maximal values of the gauges are now those specified by the user.

## Addition and modification of filters in Monitor configurations (GLIMS\_BAM-00014)

### Context

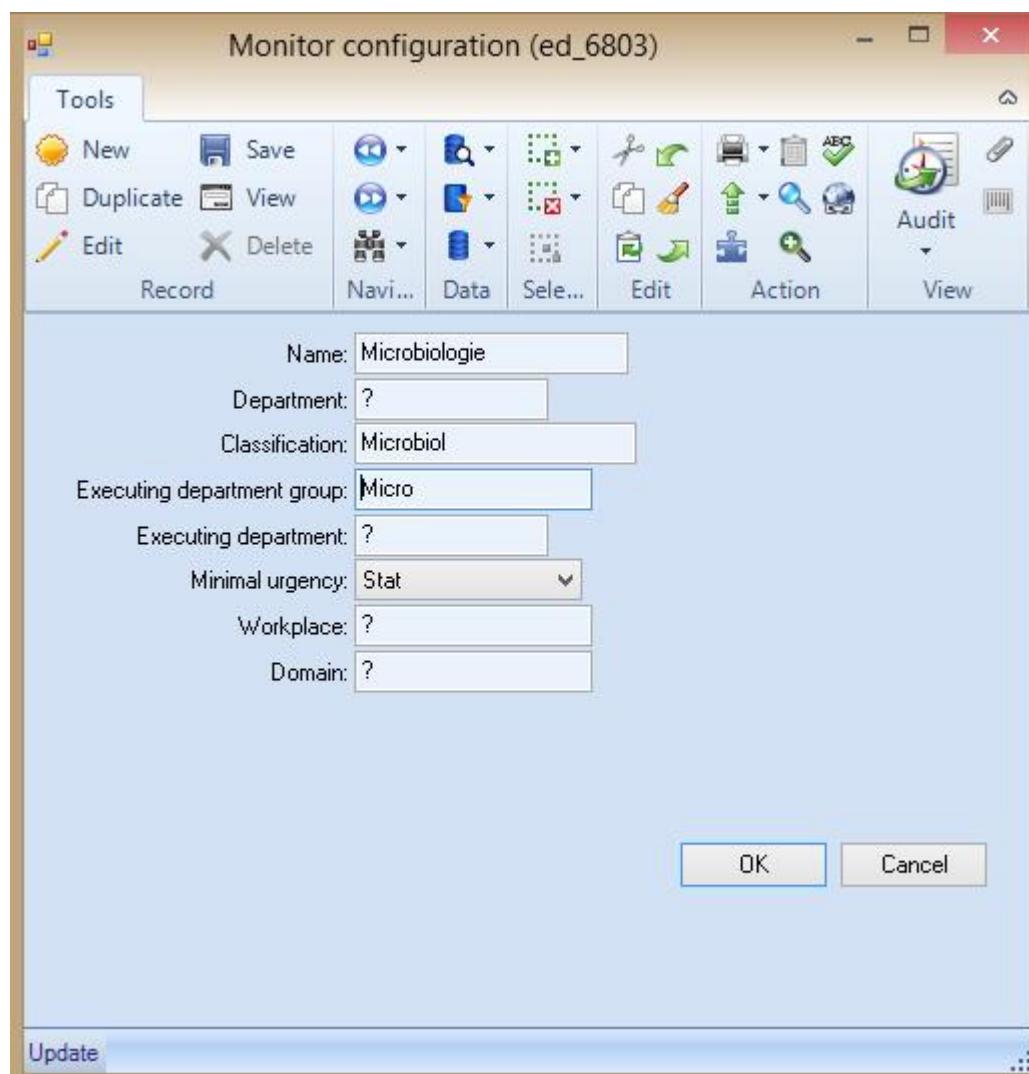
The Business Activity Monitor shows information on the progress of recent orders, results and actions. It also indicates if orders and results are overdue.

Using Monitor configurations, it was possible in GLIMS 9.6 to limit the data shown in the General and TAT monitors of the BAM to that of a specific department and/or property classification.

### Function extension

The Monitor configuration editor now also allows you to limit the data shown in the General and TAT monitors to that of a specific

- Executing department group
- Executing department
- Minimal urgency
- Workplace
- Domain (= Class)



The inner workings of these new filters are described in the chapter Monitor configurations in the GLIMS manual.

Except the **Name** field, the fields of the **Monitor configuration** editor may remain empty.

#### New behaviour of the Department filter

In GLIMS 9.6, the **Department** filter used to combine requesting department and executing departments. As there is now a specific filter for the **Executing department**, the inner workings of the **Department** filter has been modified:

If a **Department** is specified,

- The **results** counted in the BAM are those that belong to orders that were requested in the indicated department.
- The **orders** counted in the BAM are those that were requested in the indicated department.
- The **actions** counted in the BAM are those whose originating Requested code belongs to an order requested in the indicated department.

### **Orders to be phoned statistic takes the property classification into account (GLIMS\_BAM-00018)**

---

#### Background

The General monitor of the Business Activity Monitor features a status pane in which the number of orders having results to be phoned is indicated. When clicking on the number, a phone list browser opens.

#### Issue and solution

The results taken in consideration should only be those belonging to the property classification specified for the chosen monitor configuration. In the General monitor, this was however not the case. As a consequence, the number of orders with results to be phoned indicated by the monitor did not match that indicated in the phone list browser.

The issue has been solved: the orders indicated as to be phoned are only those with results to be phoned and belonging to the property classification of the monitor configuration.

### **No more display of default values in progress bars and gauges (GLIMS\_BAM-00024)**

---

On the Business Activity Monitor screens, default values were displayed before the actual data was loaded, leading to confusion.

This issue has been solved: before the data is loaded, the progress bars contain hyphens and no needle appears on the gauges.

### **Monitor minimized when detail browser opens (GLIMS\_BAM-00025)**

---

When clicking on an underlined number in the Business Activity Monitor, the corresponding order, result or action browser opens. However, the screen of the BAM monitor remains in front of the browser, preventing the user to see the browser data.

This has been corrected: the BAM monitor is now minimized when a browser opens.

## **TAT monitor: all properties shown and sorted according to sequence number (GLIMS\_BAM-00026)**

---

### **Background**

The TAT monitor of the Business Activity monitor shows, for each property for which turnaround time limits are defined, the number of results which were confirmed and validated in time or too late.

Until now, only the properties for which there were results today were displayed by the TAT monitor. Furthermore, the properties were shown in random order.

### **Improvements**

The TAT monitor now displays all the properties for which TAT limits are defined, not only those for which there are results today.

If a property classification is specified for the chosen monitor configuration, the properties are sorted according to the sequence number they have in this property classification. If the chosen monitor configuration does not refer to any property classification, then the properties are sorted according to the sequence number they have in the default property classification.

## **Error when using the European number format corrected (GLIMS\_BAM-00030)**

---

To use the European number format in GLIMS (e.g. comma interpreted as decimal operator), one must set the -E parameter in the session.pf file (see the chapter "The parameters in session.pf" in the System manual).

However, when this parameter was set, the general monitor of the Business Activity Monitor crashed. This has been corrected.

## **Addition of debug settings (GLIMS\_BAM-00103)**

---

### **Context**

The Business Activity Monitor (BAM) provides an overview of the laboratory's current performance. It shows information on the progress of recent orders, results and actions. It also indicates if orders and results are overdue.

The information provided in the BAM is fetched through the AppServer and displayed by the user interface on the client.

### **Issue**

This data retrieval process occasionally encounters some performance issues. When this is the case, it can be difficult to identify the cause and location of the problem.

## Solution

In order to ease the solving of bugs and performance issues, additional setting tags are now supported in the XML code of the BAM general settings.

### <Disable AppServer>

Values: YES, NO

When set to YES, the data retrieval process is not executed via the AppServer anymore but on the client.

### <QueryLogFile>

Use this setting tag to make the BAM execute a MultiTableQuery or OracleQuery. As value, indicate the file name in which the results of these queries should be written.

#### Example

##### Example

Here is an example of a query file line:

```
FOR EACH b_Order FIELDS(ord_Id ord_Department ord_Status ord_PhoneStatus) WHERE  
b_Order.ord_ReceiptTime >= "2458054" AND b_Order.ord_Status >= 2 AND b_Order-  
.ord_Status <= 5 USE-INDEX ord_receipttime  
  
QueryFirst (s) .001  
  
QueryEnd (s) .005; rows: 20
```

Obviously, it only makes sense to use this setting when <Disable AppServer> is set to YES.

### <DisabledQueries>

Say you want to test the performance of the data retrieval process for a specific set of data (e.g. the data displayed in the Order completeness pane). In this case, you need to disable the queries that are normally executed to retrieve the other data. This setting allows you to do so: it suffices to indicate the list of queries which you do not want to be run using the following query names:

- OrdersTodayRunData
- ResultsTodayRunData
- TATRunData
- ActionsTodayRunData
- OrderCompletenessDataToday
- OrderOverdueDataToday
- OrderCompletenessDataYesterday
- OrderOverdueDataYesterday
- OrderCompletenessDataTwodaysAgo

- OrderOverdueDataTwodaysAgo
- OrdersLastHourRunData
- ResultsLastHourRunData

## Example

### Example

```
<DashboardSettings>
    <DisableAppServer>YES</DisableAppServer>
    <QueryLogFile>C:\temp\BAMQueries.txt</QueryLogFile>
    <DisabledQueries>ResultsTodayRunData</DisabledQueries>
</DashboardSettings>
```

## Improvement of data load performance (**GLIMS\_BAM-00105**)

### Issue

In labs using a Progress database and where more than 10 000 results are obtained every day, data loading in the Business Activity Monitor was slow.

### Solution

The **Actions by download status** bar has been removed from the General monitor: it was not very informative (no station or time limit information) and slowed down data load.

The performance is now significantly better.

# Cell counter

## **GLIMS shuts down when closing cell counter via "OK" (GLIMS\_Diff-00032)**

### [Problem description](#)

The following issue was reported when using the cell counter in GLIMS:

1. From the Results of order browser, open the cell counter via the contextual ribbon or via the contextual function [Open cell counter](#).
2. Start counting and once finished click **OK** to store the results and to close the cell counter window.
3. GLIMS stops working.

### [Solution](#)

This has been corrected.

# Communication

## **Memory leak in result upload process (GLIMS-07612)**

A memory leak was detected when uploading results and the AppServer was active. This has been corrected.

## **Correction for GLIMS-SNEP result synchronization when station changes (GLIMS-07972)**

### **Problem description**

1. An order is created in GLIMS.
2. The order is downloaded to SNEP.
3. The results for the order are uploaded from SNEP to GLIMS, but for another station than the one that was initially scheduled in GLIMS.
4. A result in the order is discontinued and repeated. However, this information was not sent to SNEP. As a consequence, the result was not repeated in SNEP.

This has been corrected.

## **Update for GLIMS-Trix connection (GLIMS-08015)**

### **Background information**

GLIMS offers a direct and automated communication channel with the external system called Trix, a national database containing blood characteristics such as blood group, antibody info, etc.

When creating an order for a patient in GLIMS, GLIMS can automatically consult the external system Trix to check whether this patient is known in the Trix database. If so, the **Object** field **External info available** will be enabled.

### **Previous functionality**

If the connection with Trix was configured, GLIMS sent a request for information to Trix whenever an order was created or a request was added to an existing order.

### **Current functionality**

For performance reasons, a request for information will now only be sent to Trix for orders that contain at least one blood selection or a result linked to a property of the property classification (mnemonic) specified in the **Property classification for TRIX** field of the pre-configured Object.ShowExternalInfo function.



## Correction for "Fill code set" function (GLIMS-08400)

An error occurred when using the contextual function **Fill code set** on a **Code set** of a coding system. As a result, the function was not executed.

This has been corrected.

## Addition of colour styling for LAS status values in Station and Assessment method browsers (GLIMS-08445)

### Background

The **Station** and **Assessment method** browsers contain a column which indicates the LAS status of these stations and assessment methods: **Connected**, **Disconnected** and **?**.

### Enhancement

To make the LAS status clearer and more noticeable, it is now also displayed on a coloured background. The colour scheme is the following:

	status	comment
green	connected	
orange	partially connected	Used when both <ul style="list-style-type: none"><li>the LAS status of the station is <b>Connected</b></li><li>and the LAS status of at least one of the station's assessment methods is <b>Disconnected</b>.</li></ul>
red	disconnected	
no colour	other	

### Note

**Note**

The colour coding has not been applied to the LAS status values in the browser of the Channel quality monitor.

## LDT-import: correction for missing content of site attributes for order-related records (GLIMS-08484)

### Background

Order-related data can be imported in GLIMS in an LDT-message.

### Issue and solution

Since the introduction of Requested codes in GLIMS 9.3, the content of site attributes for order-related records, such as RequestedCode, Request and Specimen, was missing after importing an LDT-file.

This has been corrected.

## Correction for "Ready time" of action in analyzer communication (GLIMS\_ANLZ-01195)

### Background

A result scheduled on an action of station A can be provided by station B. If GLIMS is configured correctly, then the result received from station B is accepted as the result that was scheduled on station A. GLIMS will then move the **Result** record from the action it was originally scheduled on (for station A) to an action of station B. The action on station B may already have the status **Ready**.

### Issues

#### Issue 1

In the above-mentioned case, the action status is updated to a "non-ready" status if the relinked result is not confirmed / validated / discontinued. However, the **Ready time** of the updated action was not cleared, which could result in a "non-ready" action with a **Ready time**.

#### Issue 2

If the result that is moved to an action of station B is automatically confirmed / validated / discontinued (e.g. via a MISPL trigger), then this can ensure that the action becomes **Ready** again. If this happened, GLIMS did not update the action's **Ready time** with the time the newly linked result was confirmed / validated / discontinued.

### Note

Issues occurred since GLIMS 9.0.

### Consequences

In analyzer communication, analyzers querying GLIMS for finished tests might not get informed as subsequent queries did not notice the action anymore after it was updated (i.e. after the newly received result was linked to it) because of the action's **Ready time** which was not updated.

### Example

1. An order is created containing the tests T1 and T2 on specimen S1 (both tests can be executed on stations ANLZ1 and ANLZ2, the **Procedure** option **Allow replacement** is enabled).  
=> T1 and T2 are scheduled on an action of ANLZ1.
2. ANLZ2 sends a result for T1.  
=> A new action is created on ANLZ2 and the result for T1 is moved from the action on ANLZ1 to the newly created action on ANLZ2.  
=> The result for T1 is automatically confirmed / validated.
3. The action on ANLZ2 has status **Ready** because the result for T1 is automatically confirmed / validated.
4. ANLZ2 sends a result for T2.  
=> The result for T2 is moved from the action on ANLZ1 to the action on ANLZ2.  
=> The result for T2 is automatically confirmed / validated.
5. The action on ANLZ2 becomes **Ready** again but its **Ready time** is not updated.

Suppose ANLZ1 and ANLZ2 are substations of a LAS querying GLIMS for finished tests. If the query would have been launched after GLIMS had received the result for T1 from ANLZ2, then the LAS would have been informed about the finished test T1 for specimen S1. However, if the query would have been launched after GLIMS had received the result for T2 from ANLZ2, then the LAS would never get an indication that T2 for specimen S1 is finished as well because of the action's **Ready time** which was not updated.

### Solution

This has been corrected.

## **Correction for Station option "Isolation (test) update status limit" when set to "Validated" (GLIMS\_ANLZ-01180)**

An issue was detected where the Station options **Isolation update status limit** and **Isolation test update status limit** did not function correctly when set to **Validated**. When receiving a result message for an already validated isolation or isolation test, GLIMS complained about an incorrect status of the isolation or isolation test, which prevented an update of the corresponding records in the database.

This has been corrected.

### Note

Problem occurred since GLIMS 9.3.0.

## **LAS-status change for assessment method: no station wide event sent to message queue anymore (GLIMS\_ANLZ-01185)**

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### **In a nutshell**

In case of a LAS-status change for an assessment method of a LAS substation, the absence of corresponding assessment method (code) on the LAS station itself lead to the sending of a station wide event to the message queue. This has been corrected.

### **Issue**

The situation that triggered the issue was the following one:

- There is a LAS-status change for an assessment method of a LAS substation.
- The LAS station itself does not have a corresponding assessment method / assessment method code, i.e. there is no OutboundId / no CodeOut.
- As a consequence, the event message sent to the message queue to inform about this LAS-status change does not contain any test information. It only contains the substation identifier and the new LAS-status.

This situation gave the impression that the LAS-status change applied to the entire station.

### **Solution**

From now on, in such a situation, GLIMS will not create any message informing about this LAS-status change. The reasoning behind this is as follows: if the LAS is not configured for a certain test, then it is not necessary to send LAS-status change information to this LAS.

### **Note**

#### **Note**

Such a configuration, in which a LAS substation has an assessment method without there being a corresponding assessment method (code) on the LAS itself, might have been established on purpose. It should thus not be considered as erroneous.

## **Correction of caching-mechanism that finds the station user credentials in GLIMS when processing incoming results from analyzers (GLIMS\_ANLZ-01187)**

---

### **In a nutshell**

The creation of cached records has been corrected in order to process incoming results fast again.

### **Background**

When a message containing a user record not yet encountered during result processing is sent to GLIMS, GLIMS caches this user record. The aim is to process faster any subsequent result record (in the same result message or any following result message for the same station) containing the same station user.

### **Issue**

The internal creation of cached records was not done entirely correctly. This lead to a slow but steady increase in result processing times upon incoming result messages for the same service session.

## Note

### Note

This issue occurred since version 9.5.0.

## Solution

The caching-mechanism that finds the right station user credentials in GLIMS when processing incoming results from analysers has been corrected, bringing the processing times back to normal.

## **LAS status of station not linked to a LAS should not be updateable (GLIMS\_ANLZ-01192)**

The following issues related to changing the LAS status of a station or assessment method have been corrected:

- It was possible to set, manually or via a station flag, the **LAS status** of a station (or assessment method) even when the station was not part of a LAS (i.e. the station's **LAS station** field did not refer to a station with **Type** set to **LAS**).
- Setting the **LAS status** of an assessment method to **Connected** while the **LAS status** was already **Connected** raised an error stating that the station log entry did not have a short description.

## **Support "multi-level aliquoting" when communicating with a LAS working in slave mode (GLIMS\_ANLZ-01200)**

### Introduction

The purpose of this modification is to have GLIMS support "multi-level aliquoting" (i.e. specimen preparation consisting of more than 2 steps: primary tube - secondary tube - tertiary tube) when communicating with a LAS working in slave mode.

### Use case

The use case to be supported involves a laboratory consisting of several departments. A department receives a primary tube which is used for analyzing but also for creating a secondary tube to be sent to another department for analyzing. In the second department, the secondary tube may be aliquoted into a tertiary tube to be sent to a third department for analyzing.

### Issue

While GLIMS can handle the configuration for this use case and produces a correct scheduling, GLIMS does not identify the secondary specimen as the parent specimen of the tertiary specimen when communicating with a LAS working in slave mode. Instead, the primary specimen is seen as the

parent specimen of the tertiary specimen. Moreover, as the secondary specimen is marked as aliquoted, the secondary specimen is not sorted.

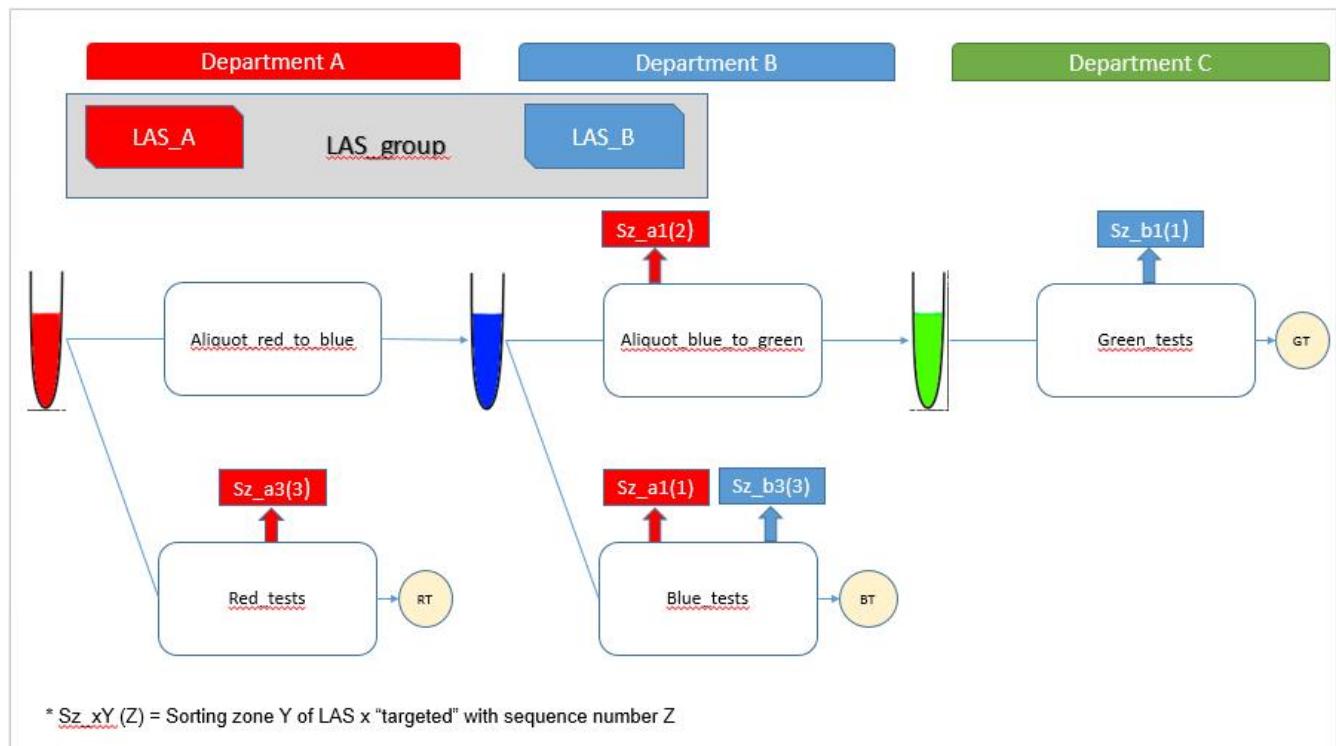
## Solution

In order to support multi-level aliquoting use cases, the following changes have been made to the LAS in slave mode functionality:

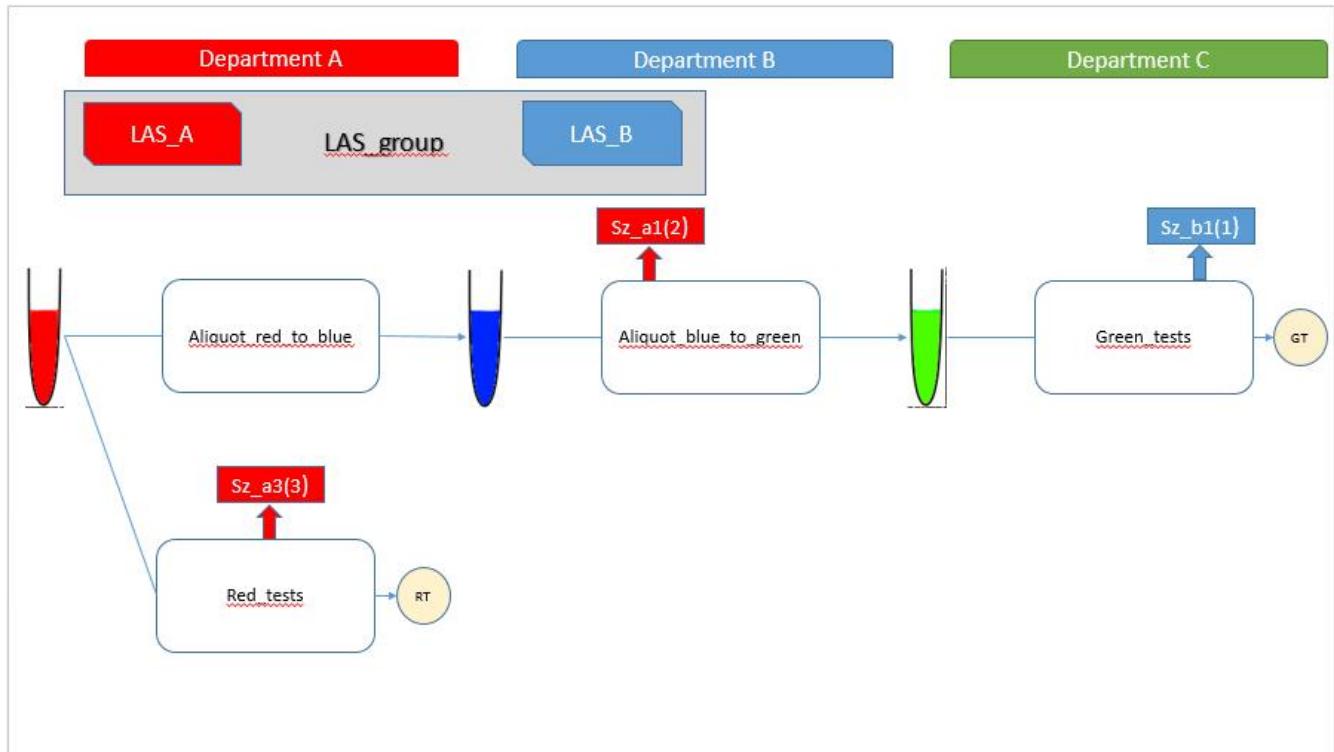
- When trying to sort a specimen, GLIMS will now make the following 2 assumptions:
  - The specimen being the subject of a sort query is always considered to be the "root specimen" during the processing of the current sort query, even if it is a sub specimen itself.
  - Only the level of the queried specimen and one level further is taken into account (meaning that only the actions scheduled on the specimen being sorted and the actions scheduled on any sub specimen will be taken into account) in order for GLIMS to be able to determine to which zone the specimen being queried should go and to which zone any sub specimen should go.
- Specimen size calculation now also takes into account the Dead distribution size for sub specimens (i.e. aliquots) being aliquoted. This is done:
  - during order post processing
  - when moving actions from one specimen to another
  - when discontinuing a result
  - during specimen replacement

## Configuration tips

The configuration could be as follows:



A scenario where no tests are scheduled on the secondary specimen but where tests are scheduled on the tertiary specimen is also supported:



In order for GLIMS to know where the secondary specimen (blue specimen) should be sorted to, you can configure a sorting target to an archive zone on the aliquoting procedure or revert to the event evaluation function of the LAS in slave mode functionality. Otherwise, the sort query for the secondary specimen will result in an incomplete sort.

#### Note

When using multiple LAS systems in this context:

- The LAS systems should be in the same [Download group](#).
- If you want to guarantee target selection of a "testing" procedure for the primary specimen (PT) and target selection for the secondary specimen (ST) in the first sort reply, an aliquoting procedure should not (unless deemed necessary) have a sorting target for a sorting zone of the LAS processing the input specimen of the aliquoting procedure. E.g. in the image above, the "aliquot\_red\_to\_blue" procedure does not target a red zone of the red LAS and the "aliquot\_blue\_to\_green" procedure does not target a blue zone of the blue LAS.
- Via the sequence number of the sorting zones and/or sorting targets, it is possible to "prioritize" sorting zones (and/or targets). Sorting zones (and/or targets) with a lower sequence number are taken into account first. E.g. if a target defined for a "testing procedure" of a sub specimen is selected first, before a target of the queried specimen is selected, then aliquoting will be done first.

## Prevent that procedure data result is sent twice for the same specimen (GLIMS\_ANLZ-01204)

### Problem description

Suppose the following configuration exists in GLIMS:

- Property "propA" which is output of a procedure on material "MatA"
- Procedure for property "TestX" on material "MatA"
  - Procedure data (**Scope = Specimen**) for property "propA"
- Procedure for property "TestY" on material "MatA"
  - Procedure data (**Scope = Specimen**) for property "propA"

This configuration implies that procedure data exist for different procedures but for the same property. When an order is created containing "TestX" and "TestY", then actions are scheduled for the same specimen and the corresponding procedures of those actions both have procedure data referring to the same property. When sending the work order message to the station, GLIMS would erroneously include the procedure data result twice for the same specimen.

#### Solution

This has been corrected. GLIMS will now take into account which procedure data result records were already processed for the same specimen.

### **Correction for electronic order import (GLIMS\_OI-00651)**

An issue was reported where the error **Activating requests: DEVELOPMENT ERROR: Request is created without requested code!** occurred during electronic order import.

This has been corrected.

### **Correction for electronic order import (GLIMS\_OI-00654)**

An issue was detected where an order import message containing material variables was not correctly processed.

This has been corrected.

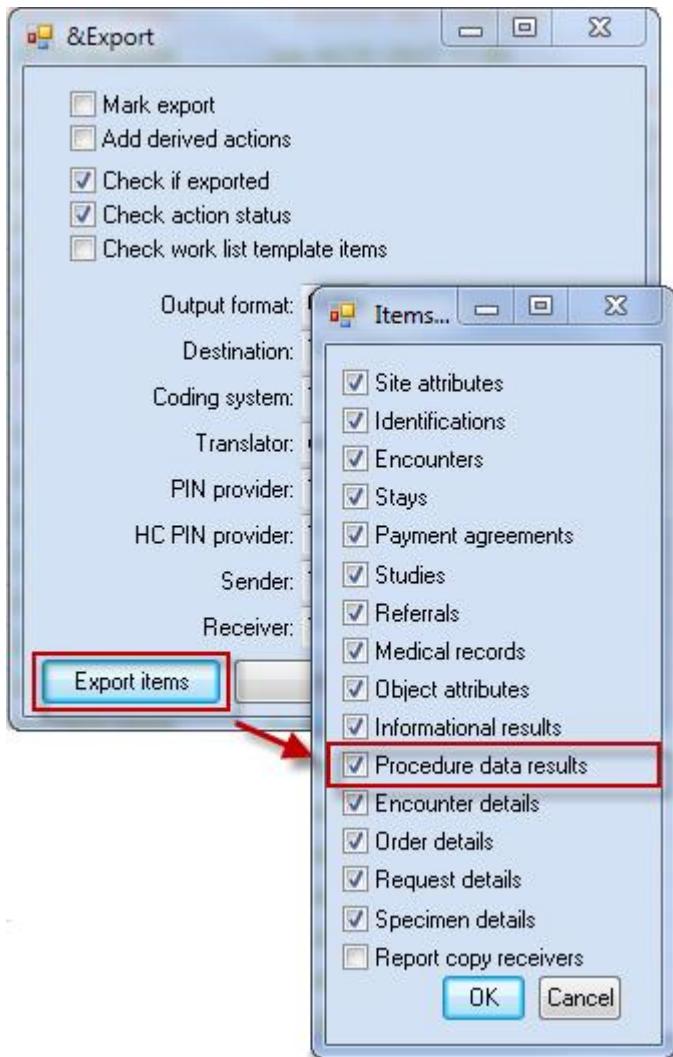
### **Referral data not saved during electronic order entry (GLIMS\_OI-00663)**

An issue was reported where during electronic order entry the referral data contained in the message was not saved in the order's **Referral** tab in GLIMS.

This has been corrected.

### **Optional export of procedure data results in work order export (GLIMS\_OX-00119)**

The work order export program now allows to indicate whether or not **Procedure data results** need to be exported.



## Country code not saved during patient import communication (GLIMS\_PI-00338)

When GLIMS received a message to create or update a Person and this message also contained the country code (for which a coding system and code set for the "Country" table were configured), the country was not saved.

This has been corrected.

## Missing IHE filler number for isolations (GLIMS\_RI-00159)

### Problem description

In GLIMS 9, isolations do not have an IHE filler number.

### Solution

### For new orders

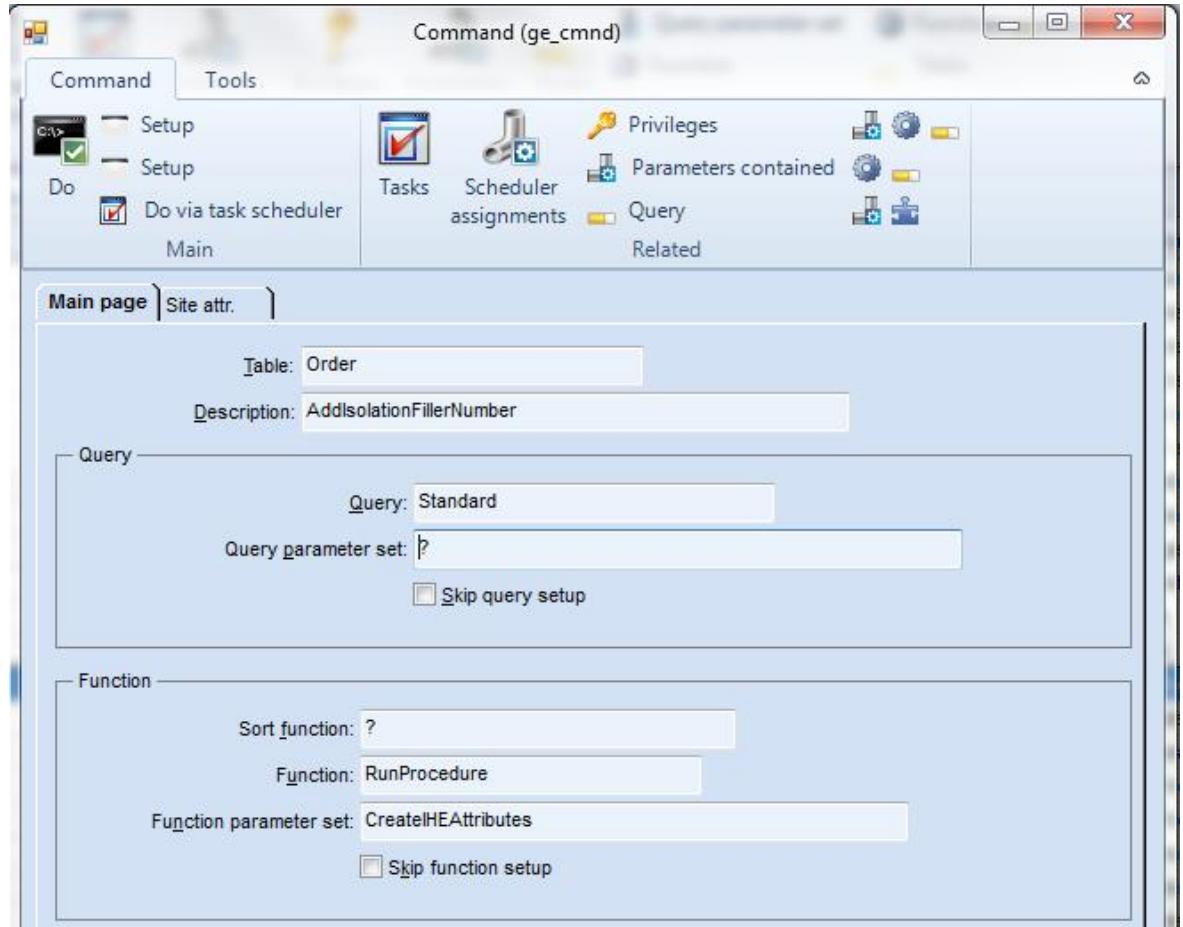
As of now, when registering new isolations, the Isolation-based site attribute LTWOFNumber will automatically be filled with an IHE filler number.

### For old orders

To add an IHE filler number for isolations in old orders take the following steps:

1. Configure a command as follows

1. Create a new command



2. Table: Order
  3. Query: Standard
  4. Query parameter set: define a query parameter set to select all the orders for which you want to add IHE filler numbers to the isolations.
  5. Function: RunProcedure
  6. Function parameter set: select the function [CalculateIHEAttributes](#)
2. Run the command

### Starting a "Java communication engine" service fails on UNIX ([MATE-05669](#))

An issue was reported where starting a service of type [Java Communication Engine](#) would fail on UNIX, because of a case mismatch in the path.

This has been corrected.

### **Correction for reaching translator server/service controller with internal language "XML" (MATE\_COMHL-00356)**

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An issue was reported where services of type **Translator server** or **Service controller** with **Internal language** set to **XML** could not always be reached on servers with multiple network interfaces.

This has been corrected.

### **Service inherits temporary directory of client session (Unix databases only) (MATE\_COMHL-00359)**

---

An issue was identified where services of type **Translator server**, **Task scheduler** or **Service controller** would fail to start if the application directory was read-only and the session.pf parameter file did not explicitly set the -T parameter to a writable temporary directory.

This has been corrected. The service will now inherit the temporary directory of the client session that started it.

### **Empty Progress window appears when stopping a service (MATE\_COMHL-00374)**

---

An issue was detected where a grey Progress window appeared when stopping a service. The service was stopped but the window could not be closed, only minimized.

This has been corrected.

### **Correction for JCE service registration (MATE\_COMHL-00376)**

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An issue was reported where a second **Java communication engine** service on a server would fail to start after setup, due to incorrect handling of its ApplicationRootFolder setting.

This has been corrected.

## Consult registration

### **License issue for consult registration (GLIMS\_CONSXT-00014)**

When starting the Consult registration module (for which a valid license is available), the user was asked to enter the license key for the extended consult registration module.

This has been corrected.

# Correspondents

## Correction for error when using "person merge" (GLIMS-08238)

An issue was reported where an error occurred when merging lookalikes ([Start > Correspondents > Persons > Lookalikes](#)) and closing the [Person merge](#) log window (i.e. the log of the executed actions which opens when the [Person merge](#) function is executed) too quickly (i.e. immediately after having selected [Yes](#) in the [Confirm merge](#) window).

This has been corrected.

## Inclusion of PMR HLA typing locus fields, crossmatch advice and site attributes in Person merge program (GLIMS-08319)

### Background

The Person merge program allows merging two or more person records that actually refer to the same person.

### Enhancement

From now on, the HLA typing fields, the crossmatch advice and the site attributes of the person medical record editor are taken in consideration during the merge operation.

More precisely,

- merging two persons will trigger an error if, in these persons' PMR,
  - the values of the respective HLA typing fields [Locus A](#), [Locus B](#), [Locus C](#), [Locus DQ](#) and [Locus DR](#) do not match.
  - the values of the respective site attributes which are either not of datatype [String](#) or not displayed in a widget of type [Editor](#) do not match.
- merging two persons will be allowed even if, in these persons' PMR,
  - the respective crossmatch [Advices](#) do not match. In that case, the crossmatch advice of the incorrect person record is added to the crossmatch advice of the correct person record.
  - the values of the respective site attributes of datatype [String](#) and displayed in [Editor](#) widgets do not match. In that case, the site attribute values of the incorrect person record are added to those of the correct person record.

# CyberLab

## **Correction for export of prices for import in CyberLab (GLIMS\_CBL-00005)**

When exporting price information for import in CyberLab, the validity (start and end date) of the requestables was not taken into account so that prices for no longer valid (with end date in the past) or new (with start date in the future) requestables were also exported.

This has been corrected.

### **Note**

Problem occurred since GLIMS 9.6.1.

## **Enhancements for csv export of price related data to CyberLab (GLIMS\_CBL-00006)**

Price related data can be sent from GLIMS to CyberLab in a .csv file. This modification brings several enhancements to this export function:

- Introduction of a mechanism allowing to fall back on the default requestable when a requestable does not have any billing code assignment.
- Export of additional information on how requestables of type Panel should be billed
- Export of the reimbursement class mnemonic
- The "To charge" flags have been replaced by two separated fields in the export file: one for the **To charge** field of the requestable, one for that of the tariff.
- Export of issuer-specific price lists
- All the exported fields are mentioned in the header of the export file.

More detailed information is available in the documentation.

## **Enhancements for xml export of fund and policy related data to CyberLab (GLIMS\_CBL-00007)**

Fund and policy related data can be sent from GLIMS to CyberLab in an .xml file. The list of data elements that can be exported has been extended. The export file now contains

- additional fields in the Fund section
- a section with policy information
- additional fields in the PolicyName section
- a section with policy clause information

More detailed information is available in the documentation.

## **Export of billing rule data to CyberLab (GLIMS\_CBL-00008)**

Billing rule data can now be sent from GLIMS to CyberLab in an .xml file. To this aim, the new option **Export billing rules** under **Start -> System Management -> Database -> CyberLab export** should be activated.

The following data is exported:

- the data of the billing rule tables
- billing rules without billing rule line outputs
- the reimbursement class

The following data is not exported:

- billing rules of which the end date has passed
- billing rules of which the start date lies in the future
- billing rules without billing rules lines
- billing rules with billing rule lines without inputs
- billing rule scope
- MISPL functions

More detailed information is available in the documentation.

## **Enhancements for xml export of request code and request form data (GLIMS\_CBL-00010)**

---

### [Background](#)

Request code and request form information can be exported to CyberLab. This modification brings improvements to this function.

### [Request code information](#)

More request code information is now exported to CyberLab:

- non-explicit requestables
- non-active requestables
- information regarding whether the underlying request definitions are universal or material/issuer specific.
- information about each valid requestable of the request code.

This new format is only supported by CyberLab 9.11 and higher. In order for the export function to work with both recent and older versions of CyberLab, the option **CyberLab version** has been added to the screen of the CyberLab export configuration. This option allows you to indicate which version of CyberLab you are using. Depending on the specified version, the export will use the former or the new format.

### [Request form information](#)

When names of request forms changed in GLIMS, the changes were not detected in CyberLab. As a consequence, CyberLab created new request forms instead of renaming the existing ones.

To remedy this situation, in the .xml file, each request form, request tab and request tab member is now uniquely identified by the id and creation time of the corresponding record.

## **Unique identification for properties and property classification nodes (GLIMS\_CBL-00012)**

---

### **Background**

Property classification related data can be sent from GLIMS to CyberLab in an .xml file.

### **Issue**

When configuration data related to property classifications changed in GLIMS (node reorganisation, property creation, etc), the changes could not be forwarded to CyberLab. As a consequence, CyberLab created new nodes instead of updating the relevant existing nodes.

### **Solution**

In the .xml file, each node and property is now uniquely identified by an id composed of the primary key and creation time of the record.

## **Enhancements for export of price related data to CyberLab (GLIMS\_CBL-00014)**

---

Price related data can be exported from GLIMS to CyberLab. This modification brings corrections and improvements to this function.

### **Warning**

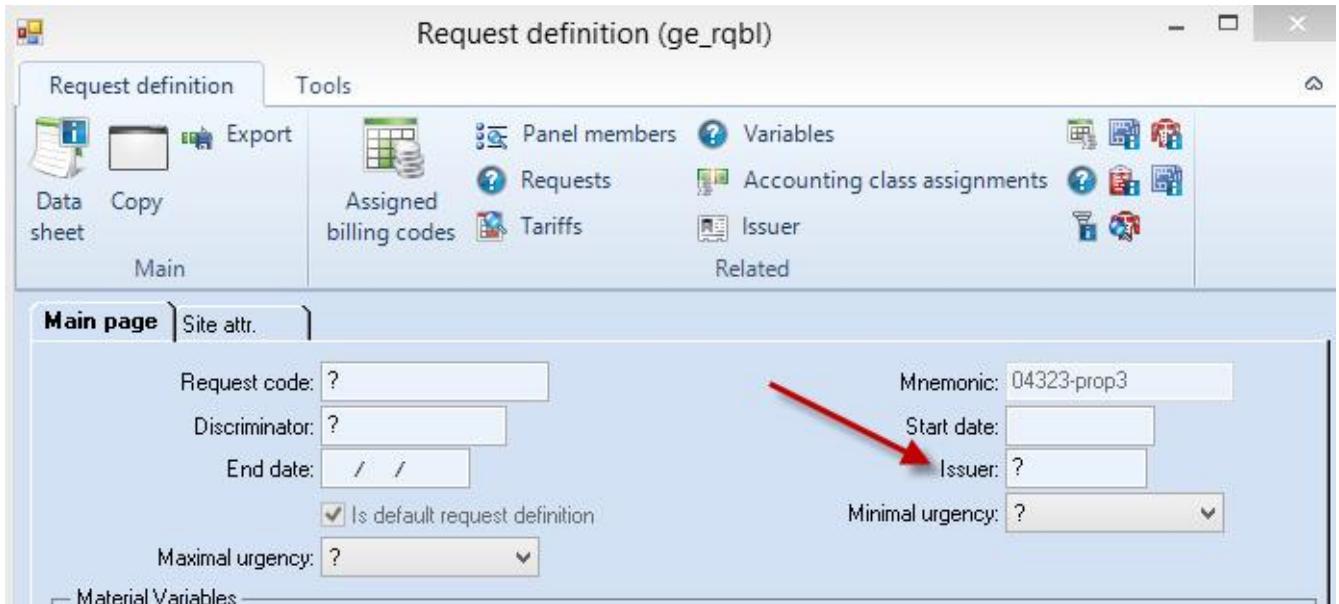
#### **Warning**

These changes only apply to the communication between GLIMS 9.6.3 (and higher) and CyberLab 9.12 (and higher).

### **Export of requestable issuers**

### **Basic workings**

In GLIMS, requestables can be linked to a particular issuer:



When this is the case, information regarding this issuer is now also exported to CyberLab. More precisely, two fields were added to the csv export file:

- <RqbllIssuer>: this field contains either the identification or the mnemonic of the requestable issuer.
- <RqbllIssuerType>: this field indicates the type of the issuer, which can be any type of the following list:

1 = Person, 2 = Organization, 3 = HcProvider, 4 = Ward, 5 = Institution, 6=Lab, 7=D-Department, 8=Firm, 9= Fund, 10 = Health Office, 11=Company, 12=Bank, 13= Study

## Panel requestables

Basically, when a requestable is linked to a particular issuer, then the issuer information is exported together with the requestable information. The situation becomes more complex when this requestable points to a panel requestable whose members are themselves linked to no or different issuers.

In such cases, the following rule applies:

A panel member is exported if

- the issuer to which it is linked is identical to the issuer of the panel requestable (more accurately, identical to the issuer of the requestable that points to the panel requestable), or
- this panel member is not linked to any issuer.

## Examples

### Examples

1.

Requestable panel Z has issuer A and contains three members: M1, M2, M3.

M1 has no issuer

M2 has issuer A

M3 has issuer B

--> If issuer A requests Panel Z, M1 and M2 will be exported, M3 will not be exported (independently of whether M3 is a simple requestable or a panel requestable) because it is specific to issuer B.

Obviously, since Panel Z is specific to issuer A, no issuer but A can request it.

2.

Requestable panel Z has no issuer and contains three members: M1, M2, M3.

M1 has no issuer

M2 has issuer A

M3 has issuer B

--> Like in example 1, if issuer A requests Panel Z, M1 and M2 will be exported, M3 will not.

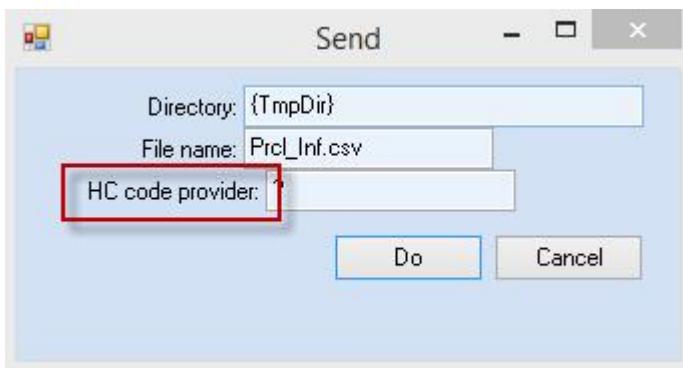
--> If issuer B requests Panel Z, M1 and M3 will be exported, M2 will not

--> If issuer C request Panel Z, only M1 will be exported.

## Export of the HC provider identification

### Addition of an HC code provider field

In the price export function, only the mnemonic of the correspondent (issuer) used to be exported. The general CyberLab export function works differently: if an HC code provider is specified, then the identification of the HC provider is exported. The mnemonic of the HC provider is only exported if the HC code provider is not indicated. In order to align the price export function with the general CyberLab export function, a field **HC code provider** has been added to the price export window:



The system works as follows:

- If the **HC code provider** is indicated, GLIMS looks for the HC provider identification:
  - if a valid identification is found, it is added to the price export file.
  - if a non-valid identification is found, none of the requestable data is exported and a log entry is created under **System Management -> Logging -> Logs -> Log type = Export**

## prices for CyberLab.

Log entries (DynamicBrowser - LogentriesOfLogBySeqNo)					
Log entry		Tools			
Open subject		Creation user	Log	Table	
Main	Related				
		Seq	S	Chk	Description
		500	W	✓	Issuer of requestable Na has no valid identification, no data of this requestable has been exported
		490	W	✓	Issuer of requestable 20 has no valid identification, no data of this requestable has been exported
		480	W	✓	Issuer of requestable aplm has no valid identification, no data of this requestable has been exported
		470	W	✓	Issuer of requestable aplm has no valid identification, no data of this requestable has been exported
	▶	460	W	✓	Issuer of requestable Á-a has no valid identification, no data of this requestable has been exported
		450	W	✓	Issuer of requestable 20 has no valid identification, no data of this requestable has been exported
		440	W	✓	Issuer of requestable vbc has no valid identification, no data of this requestable has been exported

### Note

#### Note

From this log entry, you can easily get a list of all the identifications assigned to the HC provider:

- right-click on the log entry -> [Open subject](#).
- right-click in the **Issuer** field -> [Go to](#) -> [Issuer](#)
- right-click anywhere in the **Issuer** editor -> [Identifications](#) -> [Assigned to](#).

- If the **HC code provider** field is left empty, the HC provider mnemonic is exported instead of the identification.

### HC provider of price list versus HC provider of requestable

The system just described applies to both HC providers exported in the csv file: the issuer of the price list and the issuer of the requestable. In other words, if the HC code provider is specified, GLIMS looks for the identification, not the mnemonic, of the price list issuer and requestable issuer.

The screenshot shows the GLIMS v9 software interface. The top navigation bar includes tabs for Start, Administration, Routine, Microbiology, Billing, Logistics management, Configuration, Correspondents, System configuration, Security, and System. The current tab is 'Price list'. Below the navigation bar is a toolbar with icons for Copy, Correspondents with price list, Contained price lists, Extension, Nomenclature code check, Payment agreements, Policy clauses, Tariffs, and Tariffs. The main area displays a table of price lists with columns for Mnemonic, Description, Extension, Extension multi, NC-check, Sync nomenclature code, and Allow discount. A context menu is open over a row labeled 'CCAM', showing options like Copy, Copy to..., Copy all..., Copy to clipboard, and Tariffs. The 'Copy all...' option is highlighted. A secondary context menu for 'Correspondents with price list' is also visible, listing Contained price lists, Correspondents with price list (selected), Payment agreements, and Policy clauses. To the right, a smaller window titled 'Correspondents with price list (DynamicBrowser - Correspondents with price list)' shows a table of correspondents with columns for Data sheet, Assigned to, Group memberships, Generate document, and Complaints. One record is selected: Heinz (hcrp) Riedle Heinz.

**Request definition (ge\_rql)**

The 'Request definition' screen has tabs for Request definition and Tools. Under Request definition, there are buttons for Data sheet, Copy, Export, Panel members, Requests, Assigned billing codes, Tariffs, Variables, Accounting class assignments, Issuer, and Related. The 'Main page' tab is selected. The form fields include Request code: ?, Discriminator: ?, End date: / /, Is default request definition (checkbox checked), Maximal urgency: ?, Mnemonic: 04323-prop3, Start date: ?, Issuer: ?, and Minimal urgency: ?.

In order to distinguish the price list issuer from the requestable issuer in the csv file, the former is referred to as <PrclHcProvider>, the latter as <RqlIssuer>.

#### Export of the correspondent mnemonic with panel members

When panel members were exported, the mnemonic of the correspondent (issuer) linked to the price list was not always exported.

This has been corrected. Additionally, as explained in the previous section, the correspondent's identification is now exported instead of its mnemonic if the HC code provider is specified.

## Export of all the billing codes of a panel member

When exported panel members had several billing code assignments, only their first billing code was exported. Given that the price of a panel member is the sum of all its billing codes, the price indicated in CyberLab could not be correct.

This mistake has been corrected: now, when a panel member is exported, all its billing codes are exported as well.

## Indication of the billing code in log entry

If a panel requestable member does not have a valid tariff record for a certain price list, a log entry with log type **Export prices for CyberLab** is created. In order to ease finding the member in question, the related billing code is now also mentioned in the log.

Log entries (DynamicBrowser - LogentriesOfLogBySeqNo)			
Log entry		Tools	
Open subject	Creation user	Log	Table
Main			Related
<input type="checkbox"/>	<input checked="" type="checkbox"/>	Description	Creation time
<input type="checkbox"/>	<input checked="" type="checkbox"/>	Export price lists for Cyberlab finished, saved to file C:/workspace/pro116/glims_dev_pro/tmp/Pro1_Inf.csv	29/08/2017 09:45
<input type="checkbox"/>	<input checked="" type="checkbox"/>	Panel nvp_pan_bill1 not exported for price list nvp_PL02, not all members have tariffs, check these billingcodes nvp_BC08.nvp_BC04.nvp_BC01.nvp_BC...	29/08/2017 09:45
<input type="checkbox"/>	<input checked="" type="checkbox"/>	Panel nvp_pan_bill1 not exported for price list CopyofCopyofDefault, not all members have tariffs, check these billingcodes nvp_BC08.nvp_BC04.nvp_BC...	29/08/2017 09:45
<input type="checkbox"/>	<input checked="" type="checkbox"/>	Panel nvp_pan_bill1 not exported for price list CopyofDefault, not all members have tariffs, check these billingcodes nvp_BC08.nvp_BC04.nvp_BC02.nvp...	29/08/2017 09:45
<input type="checkbox"/>	<input checked="" type="checkbox"/>	Panel nvp_pan_bill1 not exported for price list Piet, not all members have tariffs, check these billingcodes nvp_BC08.nvp_BC04.nvp_BC02.nvp_BC03	29/08/2017 09:45
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Panel nvp_pan_bill1 not exported for price list RIZV, not all members have tariffs, check these billingcodes nvp_BC08.nvp_BC04.nvp_BC02.nvp_BC03	29/08/2017 09:45
<input type="checkbox"/>	<input checked="" type="checkbox"/>	Panel nvp_pan_bill1 not exported for price list Default, not all members have tariffs, check these billingcodes nvp_BC08.nvp_BC04.nvp_BC02.nvp_BC03	29/08/2017 09:45
<input type="checkbox"/>	<input checked="" type="checkbox"/>	Panel nvp_bill_pan1 not exported for price list Piet, not all members have tariffs, check these billingcodes nvp_BC08.nvp_BC03	29/08/2017 09:45

## **Request code export to CyberLab: more information for sections and issuers (GLIMS\_CBL-00015)**

Request code data can be exported from GLIMS to CyberLab. In the .xml export file,

- a mnemonic tag is now included in the issuer information.
  - the section tags now contain an id. This id is composed of the discipline's key followed by "-01".

## **CyberLab export: sending policy description when policy name is missing (GLIMS\_CBL-00022)**

GLIMS offers the possibility to export funds and policy names to CyberLab. Sometimes, the policy name has no description. In that case, the policy description is now exported instead.

# CyberTrack

## Use correct user preferences in CyberTrack (GLIMS-08367)

When searching via PIN in [CyberTrack](#), it could happen that the [Default identification source](#) as set in the user preferences (via [Order entry options](#)) was not taken into account. This has been corrected.

### Note

Problem occurred since GLIMS 8

## Blood product trigger not executed during blood bag administration via CyberTrack (GLIMS\_CBT-00185)

Some MISPL triggers were no longer executed when administering a blood bag via CyberTrack. This was the case for e.g. the Blood product trigger [When administered](#).

This has been corrected.

### Note

Problem occurred since GLIMS 9.3.0.

## Scanning a patient in CyberTrack is logged in GLIMS (GLIMS\_CBT-00189)

Each time a patient is scanned in CyberTrack, this is logged in GLIMS:

- If the barcode is linked to a patient, a log of type [CyberTrack patient scanned](#) is created with a severity of type [Info](#).
- If the barcode is not linked to any patient, a log of the same type is created but with a severity of type [Warning](#).

Home Log types DynamicBrowser - LogtypesByName) X

Name	Enabled	Exp.Period
Change invoice status		
Change invoice summary status		
Correspondent Letter		
Credit note creation		
CyberTr@ck		
CyberTrack blood bag scanned		
<b>CyberTrack patient scanned</b>		
CyberTrack transfusion error		
Deassign from invoice summary		
Delete tariffication		
Delete tariffication (forced)		
E-mail log		
Echec de la connexion AppSer		
Echec de la connexion AppServer		
FaxLog		
Financial shipment external id assign		
Importeren van orders		
Invoice summary creation		
InvoiceSummary : assign doc.number		
Mail epidemiologie		
Order document		
Order processing		
Order short id assignment		
Persoon samenvoegen		
PhoneList		
Place on financial shipment		
Post-processing error		
Re-evaluate order set defaults		
Read audit Object		
Read audit Order		
Reject invoice item		
Send to Acc TF		
Services auto stop		
SYNOPS_OE		
Tarification		
T_CYBERLAB_HOML		

Logs DynamicBrowser - LogsOfLogtypeByCreationTime) X

Log	Tools
Verify	View
Log entries	Log entries
Main	Entries
Related	

Creation time: Process#noun  
15/06/2017 15:24 glims 9.8.0; User: ?

Log (ge\_log) X

Log	Tools
Verify	View
Log entries	Log entries
Main	Entries
Related	

Type: CyberTrack patient scanned Process#noun: glims 9.8.0; User: ?  
Location: DEV-GPRO-CBT4-WIN Final  
Expire date: / / Creation time: 15/06/2017 15:24:38

Log severity

Seq	S	Chk	Description	Creation time
14501			User stijn: person scanned with PIN [0422 23/08/2017 14:30]	
14401			User stijn: person scanned with PIN [0422 23/08/2017 14:13]	
14301			User stijn: person scanned with PIN [0422 23/08/2017 14:13]	
14201			User stijn: person scanned with PIN [0422 23/08/2017 14:07]	
1410W	X		User stijn: no person found with PIN [1957 23/08/2017 14:06]	
1400W	X		User stijn: no person found with PIN [B032 23/08/2017 14:01]	
13901			User stijn: person scanned with PIN [1258 23/08/2017 13:51]	
1380W	X		User stijn: no person found with PIN [=B03 23/08/2017 13:50]	
13701			User stijn: person scanned with PIN [1258 23/08/2017 13:31]	
13601			User stijn: person scanned with PIN [1258 23/08/2017 12:53]	

## Activating a pending order via specimen reception scan (GLIMS-08245)

A scheduling issue was reported when activating pending orders via the specimen reception scan in buffered mode. This happened when a [Procedure](#) was used with an eligibility MISPL based on the specimen's availability. The issue occurred because scheduling was done before the specimen was set to [Available](#).

This has been corrected.

### Note

Problem occurred since GLIMS 9.5.17.

## Activating a pending order via specimen reception scan (GLIMS\_OI-00667)

### Introduction

When a pending order is created via electronic order entry and the order message contains explicitly requested specimens, GLIMS will create specimens for that pending order.

### Problem description

In GLIMS version 8, GLIMS would assign a temporary internal ID to such specimens. Upon order activation, the temporary specimen internal ID's were recalculated using the [Specimen internal id](#) MISPL function specified in the general settings.

In GLIMS version 9, GLIMS did not assign a temporary specimen internal ID. As a result, the specimen internal ID's were not recalculated upon order activation.

The GLIMS 8 behavior has now been restored.

### Scenario which failed in GLIMS 9

1. A pending order is created via electronic order entry and the order message contains explicitly requested specimens.
2. Specimens were created with an internal ID based on the [Specimen internal id](#) MISPL function specified in the general settings (no temporary ID).
3. The specimen is scanned using the specimen reception scan program.
4. A MISPL is specified in the specimen reception scan option [New internal ID](#).
5. By scanning the specimen, the order is activated.
6. The specimen internal ID's were not recalculated using the [Specimen internal id](#) MISPL

function specified in the general settings (as the specimens do no have a temporary internal ID).

7. Labels are printed containing the initial specimen internal ID.
8. The specimen internal ID's are recalculated using the MISPL specified in the specimen reception scan option **New internal ID**.
9. The specimen internal ID's on the label now no longer match with the specimen internal ID's in the GLIMS database.

As the GLIMS 8 behavior has been restored (using temporary specimen internal ID's in case of pending orders), you can now activate a pending order using the specimen reception scan program. Upon order activation, the temporary specimen internal ID's will be recalculated using the **Specimen internal id** MISPL function specified in the general settings and printed labels will contain the recalculated internal ID.

**Warning**

When activating a pending order via the specimen reception scan program, you should NOT specify a MISPL expression in the specimen reception scan option **New internal ID**. If you do, the specimen internal ID on the printed labels may not match with the specimen internal ID in the database.

# Epidemiology

## **Correction for "Determine infection" function (GLIMS\_Epid-00143)**

---

The Isolation function **Determine infection** allows to detect isolation doubles and hospital infections.

In a specific case, an error could occur when executing this function.

This has been corrected.

# Genetics

## **Switch between pathology and genetics work screen (GLIMS\_Path-00339)**

Problem description:

- Login as a user in a department for which the field **Specialty** is not set to **Genetics**.
- Open the pathology work screen. The screen is opened in 'pathology' mode.
- Login as a user in a department for which the field **Specialty** is set to **Genetics**.
- Open the pathology work screen. The screen is not opened in 'genetics' mode.

This has been corrected.

### **Note**

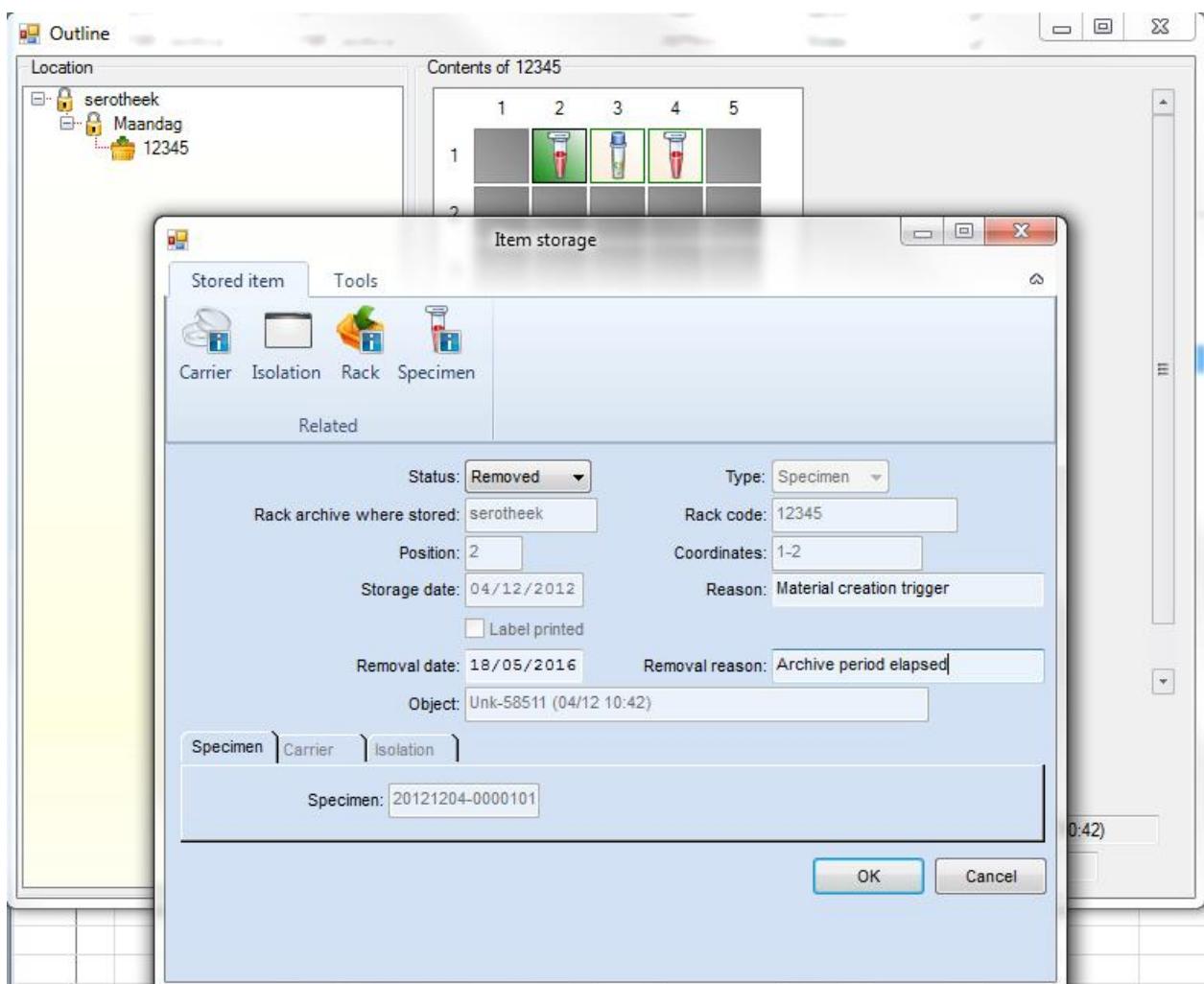
Problem occurred since GLIMS 9.6.0.

# Lab archive

## Allow manual updates to item storages in lab archive (GLIMS-08242)

GLIMS now allows to manually edit some fields of an item storage.

1. Select an **Archive** (Start -> Archive -> Configuration -> Archives).
2. Select the contextual function **Outline**.
3. Double-click one of the stored items.
4. The **Item storage** window is opened. You can now manually edit the following fields:
  1. **Status**
  2. **Reason**
  3. **Removal date**
  4. **Removal reason**



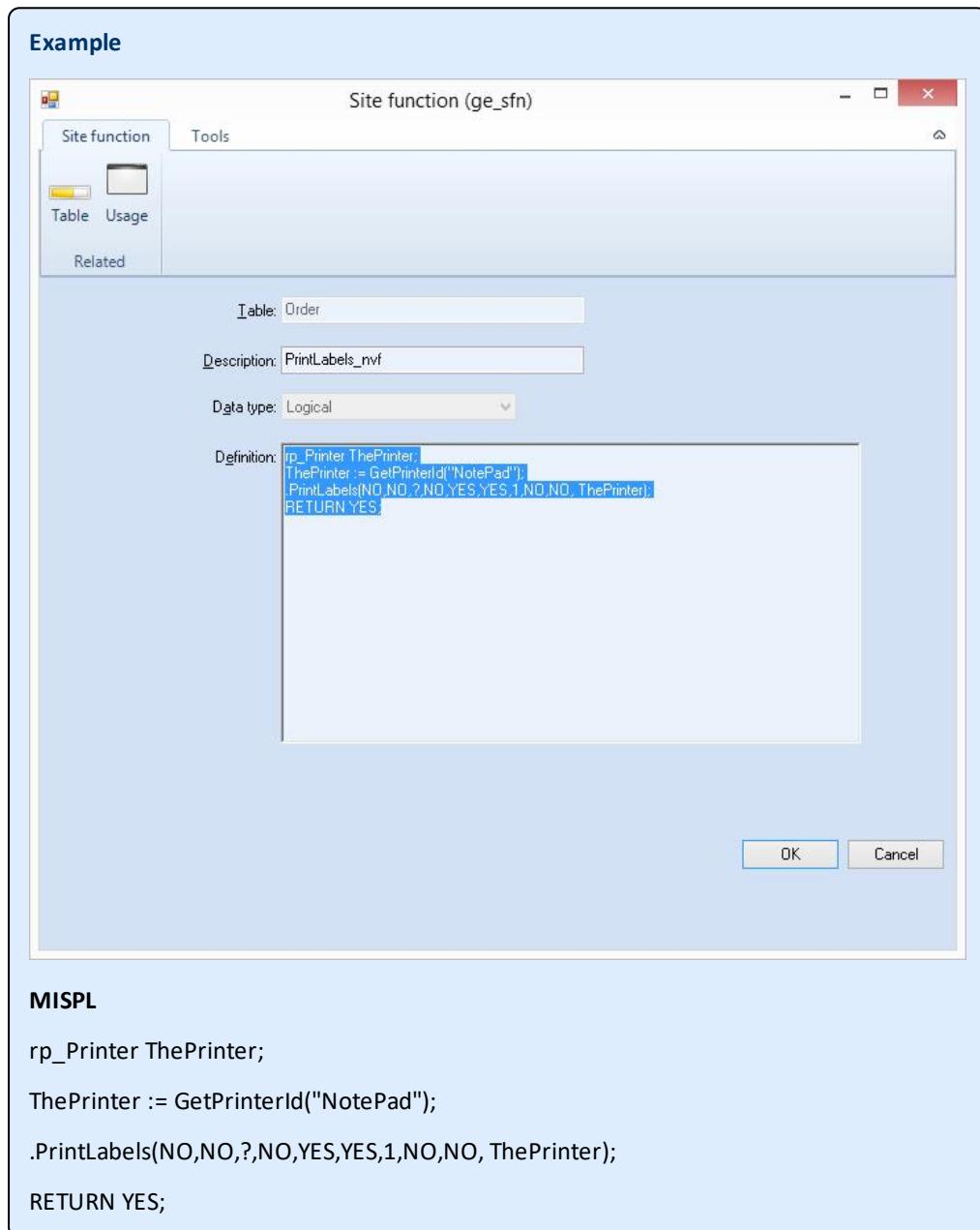
# MISPL

## Order.PrintLabels function expects PrinterId (GLIMS-07857)

A new, SpecificSite-based MISPL function, "GetPrinterId", is now available. It takes a PrinterName as input parameter and returns the PrinterId of the printer in question.

The purpose of this new function is the following one: The table 'Order' has a widely-used function, 'PrintLabels'. This function has several parameters, one of which being "LabelPrinterId". The value of this parameter should be retrieved using "GetPrinterId" as a built-in function. This is illustrated below:

### Example



## Performance of MISPL function GetLogEntry (MATE-04379)

An issue was reported where the MISPL function [GetLogEntry](#) performed poorly, especially against Oracle databases.

The implementation of this function was revised to significantly reduce its execution time.

### **Issue with MISPL function "Round" ([MATE\\_MISPL-00092](#))**

An issue was detected when using the Round function in a MISPL expression.

This has been corrected.

### **Issue with Truncate MISPL function ([MATE\\_MISPL-00106](#))**

An issue was detected in the built-in Truncate MISPL function. It could return an integer negative number when used for small values (e.g. 0.03).

#### **Example**

```
RETURN Truncate(0.03,0);  
could result in -2  
whereas the expected result is 0.
```

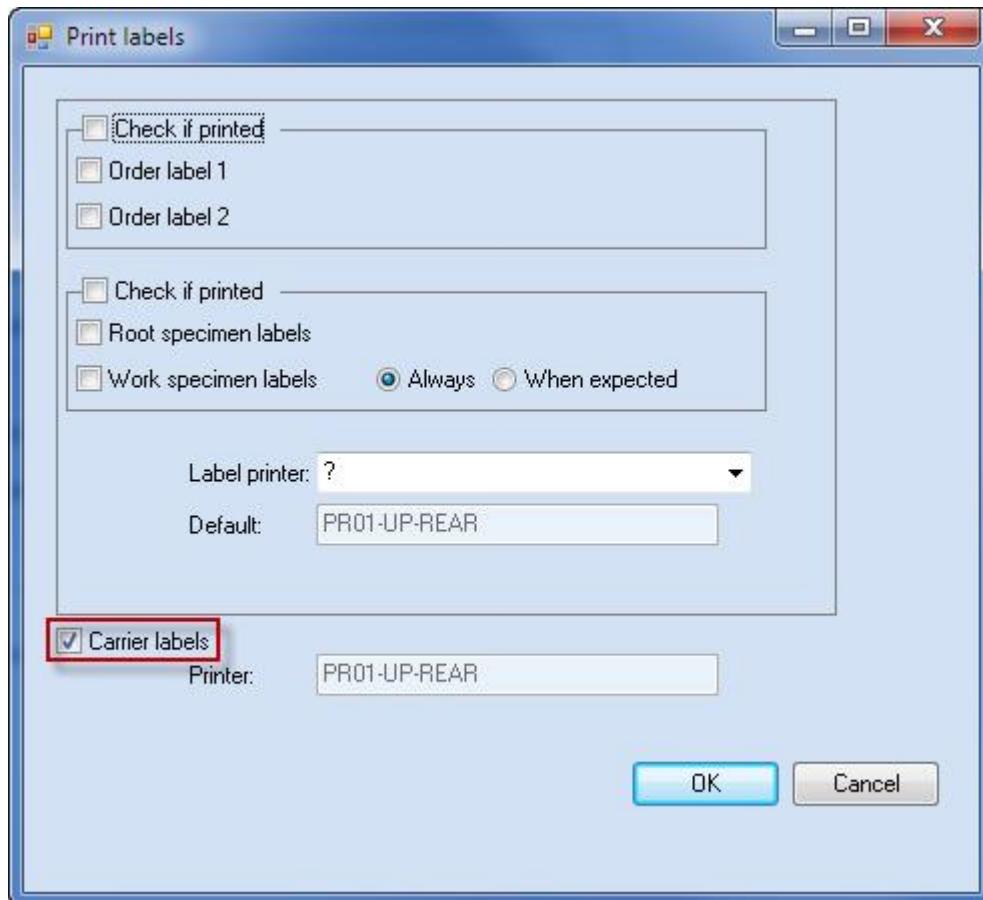
This has been corrected.

# Microbiology

## Correction for only printing carrier labels (GLIMS-08149)

An issue was detected where carrier labels were not printed if only the **Carrier labels** option was enabled in the **Print labels** screen (via the **Order** context function **Print labels**) or in the order entry options (**Labels** tab).

This has been corrected.



### Note

Problem occurred since GLIMS 9.6.

## Correct print order of specimen labels (GLIMS-08241)

In the microbiology action browser, it is possible to select actions and to print the corresponding specimen labels using the contextual function **Specimen -> Print specimen labels**.

The order in which the labels were printed was different from that in which the actions had been selected. This was not desirable and has been corrected: the print order now follows the order in which the actions have been selected.

## Note

### Note

The problem occurred since version 9.5.

## **Actions created for isolation tests (GLIMS-08148)**

No action was created for isolation tests when the specimen variable of the specimen was different from the material variable of the microbiology procedure request.

This has been corrected.

## Note

### Note

The problem occurred since version 8.

## **Wider Medium column in Carriers browser of microbiology work screen (GLIMS-08426)**

The **Medium** column in the **Carriers** browser of the microbiology work screen has been made wider in order to fully display longer medium mnemonics.

## **Full Microbiology Lab Automation - WASPLab (GLIMS\_ANLZ-01160)**

### Introduction

GLIMS 9.8 has been extended to support communication with the WASPLab system for full microbiology lab automation.

Please check the documentation for a full description.

### Main features

- Data exchange for carrier grafting
- Integration and visualization of grafting results
- Data exchange for incubation and growth results
- Integration and visualization of growth results
- New MISPL functions to automatically add carriers (colony picking)
- Integration of isolation information
- Detailed audit trails

## **Explicit negative answer when no growth is detected (GLIMS\_ANLZ-01161)**

### Introduction

When no growth is detected (no reportable isolations are registered), GLIMS allows to store and report a so-called "negative answer". In previous versions, this was a default negative answer defined in the microbiology procedure.

#### New feature

If you do not want to use the default negative answer, you can now also specify an "explicit negative answer".

For a full description, please check the chapter Microbiology - Negative answer when no growth is detected.

### **Updated isolations do not disappear from result servers anymore (GLIMS\_BAC-01127)**

---

In certain scenarios, such as the one presented below, updated isolations sent via HL7 disappeared from result servers (such as CyberLab) while still being present in GLIMS.

Scenario:

- Reports are scoped on specimens.
- The minimal result status is **Validated**.
- There is one specimen with two microbiology actions MA1 and MA2.
- MA1 has one isolation MA1', MA2 has one isolation MA2'.
- Both MA1 and MA2 are in status **ReadValidated**.
  - > A report is generated and sent via HL7.
  - > MA1' and MA2' appear in the result server.
- MA1' is updated and its status turns to **Available**.
  - > The status of MA1 is lowered to **ReReading**.
  - > No report is generated.
- MA2' is updated.
  - > The status of MA2 is lowered to **ReReading**.
  - > No report is generated.
- The status of MA2 is set to **ReadValidated**.
  - > A report containing MA2' is generated.
  - > The statuses of MA1 and MA1' are too low, so MA1' is not included in the report.
  - > ISSUE: MA1' is not in the result server anymore.

This issue has been solved.

## **Improvements for isolation query / browser (GLIMS\_BAC-01129)**

### **Isolation query**

The isolation query allows to specify a test pattern to select only isolations with specific isolation test (values).

You can now specify **?** as test value which will return all isolations with that specific isolation test for which no value is available yet.

### **Isolation browser**

When double clicking an isolation in the isolation browser, the microbiology work screen will now be opened instead of the isolation detail screen.

**Note**

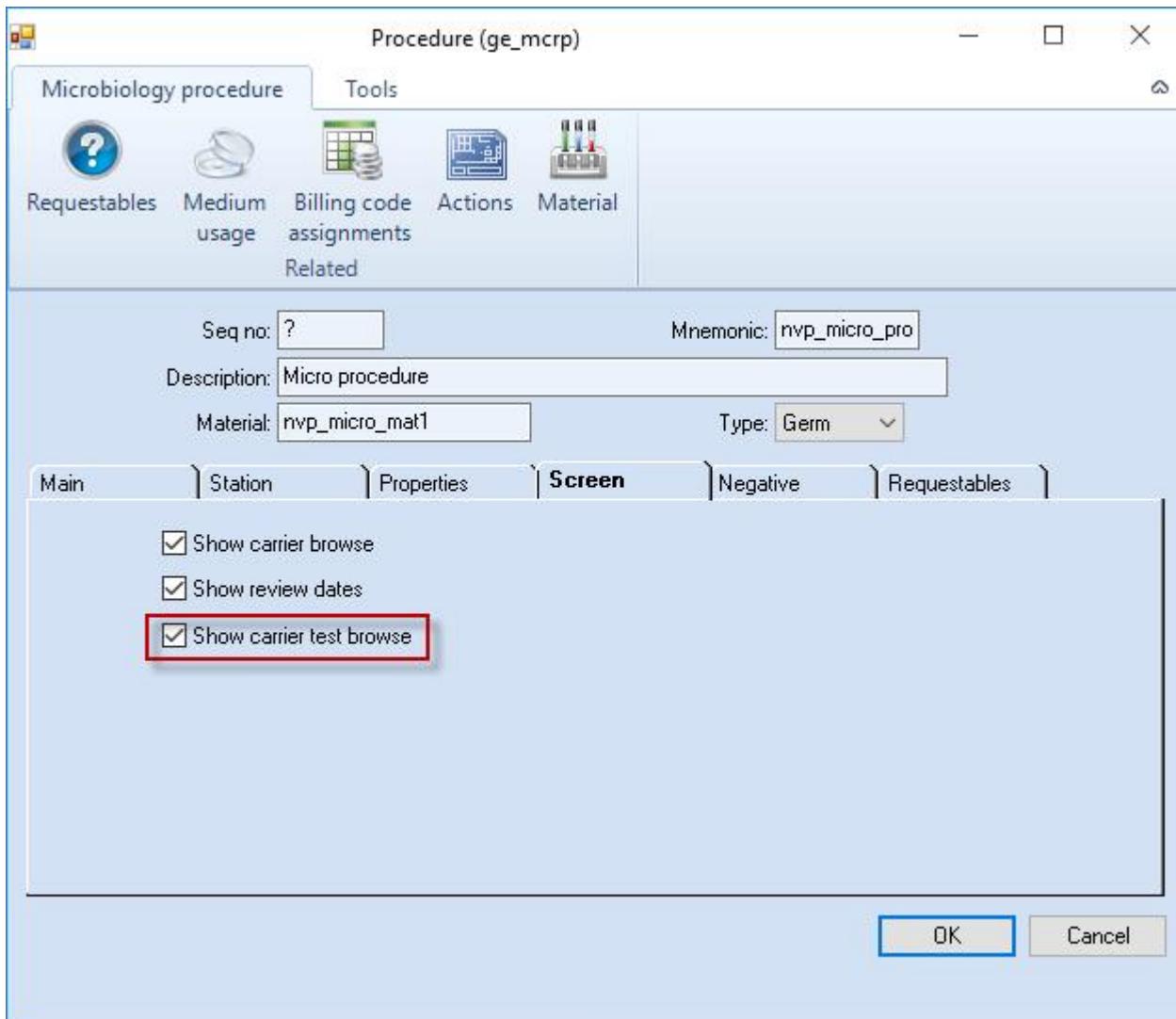
Use **F6** in the isolation browser to open the isolation detail screen.

## **Correction for access profiles allowing only result discontinuation (GLIMS\_BAC-01139)**

An issue was reported where a user to whom an access profile was assigned with only discontinuation rights (no confirmation or validation rights were granted) was not able to discontinue microbiology actions. This has been corrected.

## **Option to hide carrier test browser in microbiology screen (GLIMS\_BAC-01146)**

A new option **Show carrier test browse** has been added in the microbiology procedure configuration screen. If this option is disabled, the carrier test browser will not be shown in the microbiology work screen for microbiology actions derived from that microbiology procedure.



#### Note

If the microbiology procedure option **Show carrier browse** is disabled, the carrier test browser will not be shown either, even if the option **Show carrier test browse** is enabled.

### **More columns in antibiogram of microbiology screen (GLIMS\_BAC-01147)**

The antibiogram window in the microbiology work screen now has 10 columns instead of 6. This allows to show the antibiotic results for up to 10 isolations.

The screenshot shows the GLIMS software interface. At the top, there are dropdown menus for 'Station' (hvp\_micro\_statA) and 'Status' (ReReading). To the right of these are several icons: a magnifying glass, 'Yes', a clipboard, and a speech bubble. Below this is a table titled '3. ALCALIG - Antibiogram' with columns for 'Antibiotic' and 'C. 1 | 2 | 3'. The rows list various antibiotics with their susceptibility results (S, I, R). On the left, there is a table titled 'Isolation Tests' with columns for 'Is', 'Test', 'Sts', 'Date', and 'Value'. Two entries are shown: '1 Aminopep Cnf 13/07 P' and '2 CAMPRev Cnf 13/07 P'.

Antibiotic	C. 1	2	3
Trim		R	
Oflox		I	
Clind	S	I	
Oxa	S	I	
Amp	I	I	
Cepha		I	
Eryt		I	
Tetra		I	
Gent	S	I	
Pen_MIC	I		
Cefa	I		
Temo		I	
Amox		I	
Azt		I	
AB16		I	

### Extend list of allowed RIS values in antibiogram (GLIMS\_BAC-01148)

The list of supported RIS values when entering an antibiotic result has been extended with:

- E (insufficient evidence)
- - (not tested)

The screenshot shows a table titled 'Antibiogram' with columns for 'Antibiotic' and 'C. 1 | 2 | 3'. The rows list various antibiotics with their susceptibility results (S, I, R). A new column for comments is present, with the value 'E' highlighted in a red box for Amox.

Antibiotic	C. 1	2	3	
Pen_MIC	I			
Trim		R		
Cefa	I			
Oflox	I			
Gent	S	I		
Temo	E			
Amox	-			
Azt	R			

### Antibiotic panel option "Disabled" not taken into account (GLIMS\_BAC-01154)

An issue was reported where the antibiotic panel option **Disabled** was not taken into account. As a consequence, when adding an isolation in the **Microbiology screen** and an antibiotic panel was linked to the microorganism of the isolation, the disabled antibiotic panel would still be automatically added to the antibiogram.

This has been corrected.

### Mark antibiotic results with comment in work screen (GLIMS\_BAC-01155)

The antibiogram in the microbiology work screen now has an extra column that contains an asterisk (\*) if the antibiotic result has a comment.

1. AeromonChild - Antibiogram	
Antibiotic	C. 1
Gent	R
Cefal	R
Temo	S
Amox	R
Azt	I
AB16	S
AB10	R

#### Tip

Click the spyglass in the upper right corner to see detailed information about the antibiotic result.

### Correction for antibiogram browser of microbiology work screen (GLIMS\_BAC-01157)

The following issue has been reported for the antibiogram browser of the microbiology work screen:

When entering antibiotic results for an isolation in an antibiogram browser with several columns / isolations, no background color was displayed for RIS values. Moreover, when refreshing the antibiogram browser, the entered values were moved to the next column / isolation.

This has been corrected.

#### Note

Problem occurred since GLIMS 9.6.1.

### Focus issue in isolation test browser of microbiology screen (GLIMS\_BAC-01160)

When the user accidentally clicked on a vertical column separator in the Isolation tests browser of the microbiology screen, the focus did not shift to the **Isolation tests** browser. As a result, the user had to click twice to e.g. enter a value in the **Isolation tests** browser.

This has been corrected.

### Carrier query and browser (GLIMS\_BAC-01183)

A carrier query and browser is now available in the microbiology module. It can be accessed from the main menu via **Start > Microbiology > Browse carriers**.

### Correction for scheduling of microbiology order in case of different material variables (GLIMS\_BAC-01184)

#### Problem description

- A panel exists containing a microbiology procedure. A request definition variable is defined, e.g. Location = LeftArm.
- A panel exists containing a property (this property is linked to the microbiology procedure via configuration). A request definition variable is defined, e.g. Location = RightArm.

An issue was detected during order entry where, when both panels were requested, only 1 specimen was created whereas two specimens were required because of the difference in request definition variables.

This has been corrected.

## **Possible to directly validate microbiology action with antibiotics results (GLIMS\_BAC-01189)**

If a microbiology action had antibiotic results, it was not possible to directly validate it.

This has been corrected.

## **Antibiotic results in antibiogram wrongfully marked as modified (GLIMS\_BAC-01207)**

A visualization issue was reported where antibiotic results in the antibiogram window of the microbiology work screen were wrongfully marked as modified (underlined). This happened if an RIS value in the antibiogram had been manually modified.

This has been corrected.

## **Correction of mistakes in microbiology audit trails (GLIMS\_BAC-01208)**

This modification solves the following issues occurring since GLIMS 9.8 in the audit trails of microbiology actions and carriers:

- The carrier internal id / internal sequencer was missing in the subject of the logs, making it difficult to identify the carrier to which the action applied.
- The isolation internal id / internal sequencer was missing in the subject of the logs, making it difficult to identify the isolation to which the action applied.
- When a carrier or isolation was deleted, all the related logs were deleted as well.
- Some microbiology status changes were not shown in the audit trail.

Additionally, any deletion of a carrier or isolation is also logged.

## **Simultaneous updates of microbiology action comment in microbiology screen (GLIMS\_BAC-01214)**

### **Issue**

In the microbiology screen, if two users were simultaneously editing the **Comment** field for the same microbiology action, only the changes saved last were visible. Moreover, the second user was not informed about the first user's changes.

## Solution

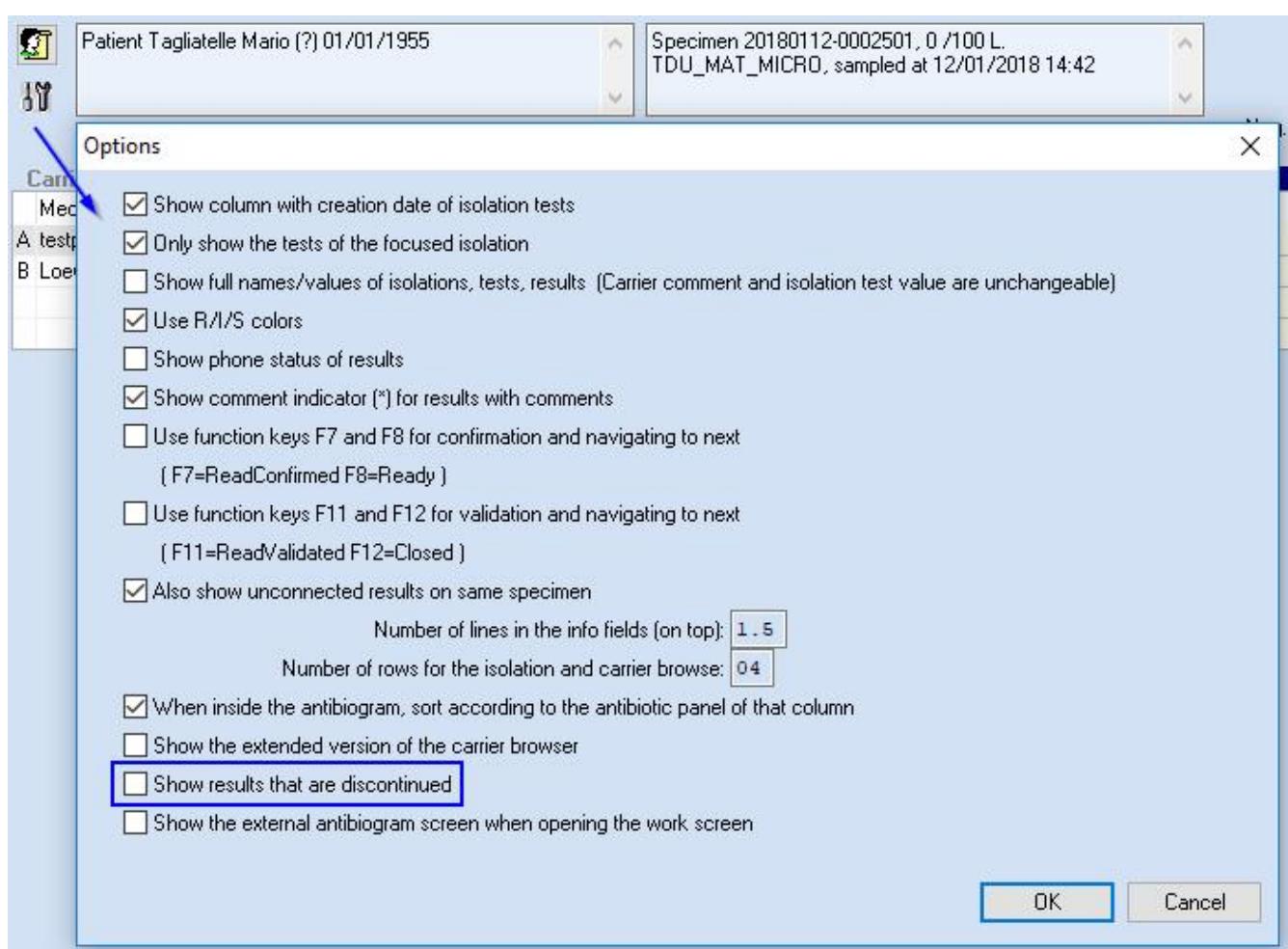
When the second user saves his / her comment, the screen will now refresh in order to display the first user's comment. Next, a message will be displayed informing the second user that the record has been changed by someone else and asking him / her to edit the displayed comment.

## Option to show / hide discontinued results in microbiology work screen (GLIMS\_BAC-01215)

In the microbiology work screen, the option **Show results that are discontinued** is now available which allows to show or hide discontinued results in the microbiology work screen's Results of specimen browser.

### Note

By default, this option is disabled and discontinued results are not shown.



## Warning for not-reportable isolation when validating a microbiology action (GLIMS\_BAC-01217)

### Issue

When validating a microbiology action to which at least one not-reportable isolation is linked, the following message was displayed: "Warning: isolation is not-reportable yet. If it should appear on reports, make it reportable."

This message hindered the user's work flow, particularly if the microorganism had been explicitly configured as not reportable.

## Solution

This warning will now only be shown if the **Microorganism** is set to reportable (**Mark as reportable = Yes**) in the microorganism configuration screen and the related isolation is set to not-reportable in the microbiology screen (and no longer if **Mark as reportable = No** in the microorganism configuration screen).

## Calculate isolation severity when an isolation test is added or confirmed (GLIMS\_BAC-01219)

### How does it work?

A severity can be assigned to an isolation using a site function in the field **Formula to calculate the severity** of the micro-organism configuration. The site function is executed each time an isolation appraisal is entered or an antibiotic result's **RIS report value** changes (e.g. when confirming the anti-biogram) for the isolation linked to the micro-organism with the severity formula.

#### Note

The site function is only executed if the isolation has a positive isolation appraisal.

### What's new?

The site function will now also be executed each time an isolation test is added or confirmed.

## Consulting an isolation's history (GLIMS\_BAC-01221)

This modification:

1. corrects the issue where the isolation audit trail displayed the text "Oldest part of the log has been left away because of size restrictions".
2. allows to consult the history of an isolation via the new contextual function **Show all > Organism history** on **Isolation** (this also works in the microbiology work screen). Each time an isolation is updated, a record is created in the IsolationHistory table (which can be consulted via the above-mentioned function).

## End of incubation time not recalculated anymore when isolation is added (GLIMS\_BAC-01222)

When an isolation was added to a microbiology action, the end of incubation time was always recalculated. This was not desirable and has been corrected.

Thus, from now on, when an isolation is added, the end of incubation time is not recalculated.

## New antibiogram screen (GLIMS\_BAC-01224)

### New antibiogram screen

As the antibiogram browser in the microbiology work screen only displays RIS values and as the zoomed antibiogram - when opened - does not allow to continue working in the microbiology work screen, an additional, external antibiogram screen has been added.

Antibiotic	1.JACRI					3.ALCA					4.Jesper					5.BRUC					6.CAMP					7.MORG				
	C	MIC	AgDiff	ETest	Raw	Report	C	MIC	AgDiff	ETest	Raw	Report	C	MIC	AgDiff	ETest	Raw	Report	C	MIC	AgDiff	ETest	Raw	Report	C	MIC	AgDiff	ETest	Raw	Report
N_PpTaz	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	
Imipenem	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	
PEN	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	
Amikacine	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	
Tom	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	
AMOX	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	
Ofox	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	
Gent	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	
Ceph	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	
Teta	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	
Teno	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	
Amp	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	
COL	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	
sbt_Oxa	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	
sbt_Peru	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	
sbt_delta	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	
Cef	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	
Eryt	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	
Clind	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	
Cefotaxime	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	
AB10	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	
AB12	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	
AB13	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	
AB14	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	
AB15	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	
AB16	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	
AB42	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	
AB43	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	
AB44	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	
AB45	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	
AB46	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	
AB47	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	
AB49	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	
AB50	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	
AB51	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	
AB52	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	
AB53	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	
AB54	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	
AB55	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	
AB56	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	
AB57	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	
AB58	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	
AB59	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	
AB60	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	
AB61	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	
AB62	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	
AB63	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	
AB64	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	
AB65	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	
AB66	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	
AB67	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	
AB68	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	
AB69	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	
AB70	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	
AB71	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	
AB72	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	
AB73	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	
AB74	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	
AB75	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	
AB76	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	
AB77	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	
AB78	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	
AB79	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	
AB80	?	?	?	?	?																									

## Screen layout

The external antibiogram screen consists of a browser where the main columns are the detected isolations and the rows are the antibiotics to be tested. For each isolation, multiple columns are available which display the different types of antibiotic result values.

## Sorting of the antibiotics

The antibiotic's **Seq no** determines the sequence of the antibiotics in the external antibiogram screen.

## MIC, AgDif, ETest

These columns allow to view or enter MIC, Agar diffusion and ETest values. The value displayed in red indicates that this value determines the final RIS raw value. The **Formula type** configured in the antibiotic panel (or in the antibiotic for manually added antibiotics) decides which value will be copied to the raw value by default.

## Raw / Report

For more information on these columns, see Zoomed antibiogram.

## C / Comment

The first column (C) contains an asterisk (\*) if the antibiotic result has a comment. The actual comment for the selected antibiotic result is displayed / can be modified at the bottom of each main column.

### Note

Use the **Enter** key after entering or modifying a comment. Otherwise, the comment will not be saved.

## Buttons

### Confirm

Allows confirming the entire antibiogram.

### Close

Allows to close the external antibiogram screen.

## Scheduling of microbiology QC tests for inactive and expired lots (GLIMS\_QCMB-00035)

### Past functionality

When microbiology QC tests are scheduled, microbiology QC results are created for each microbiology reagent lot of the microbiology reagent used to perform the microbiology QC test. However, if the microbiology reagent lot was inactive or expired, the microbiology QC test was not scheduled. As a result, it did not appear on the microbiology QC work list and risked being forgotten.

## Current functionality

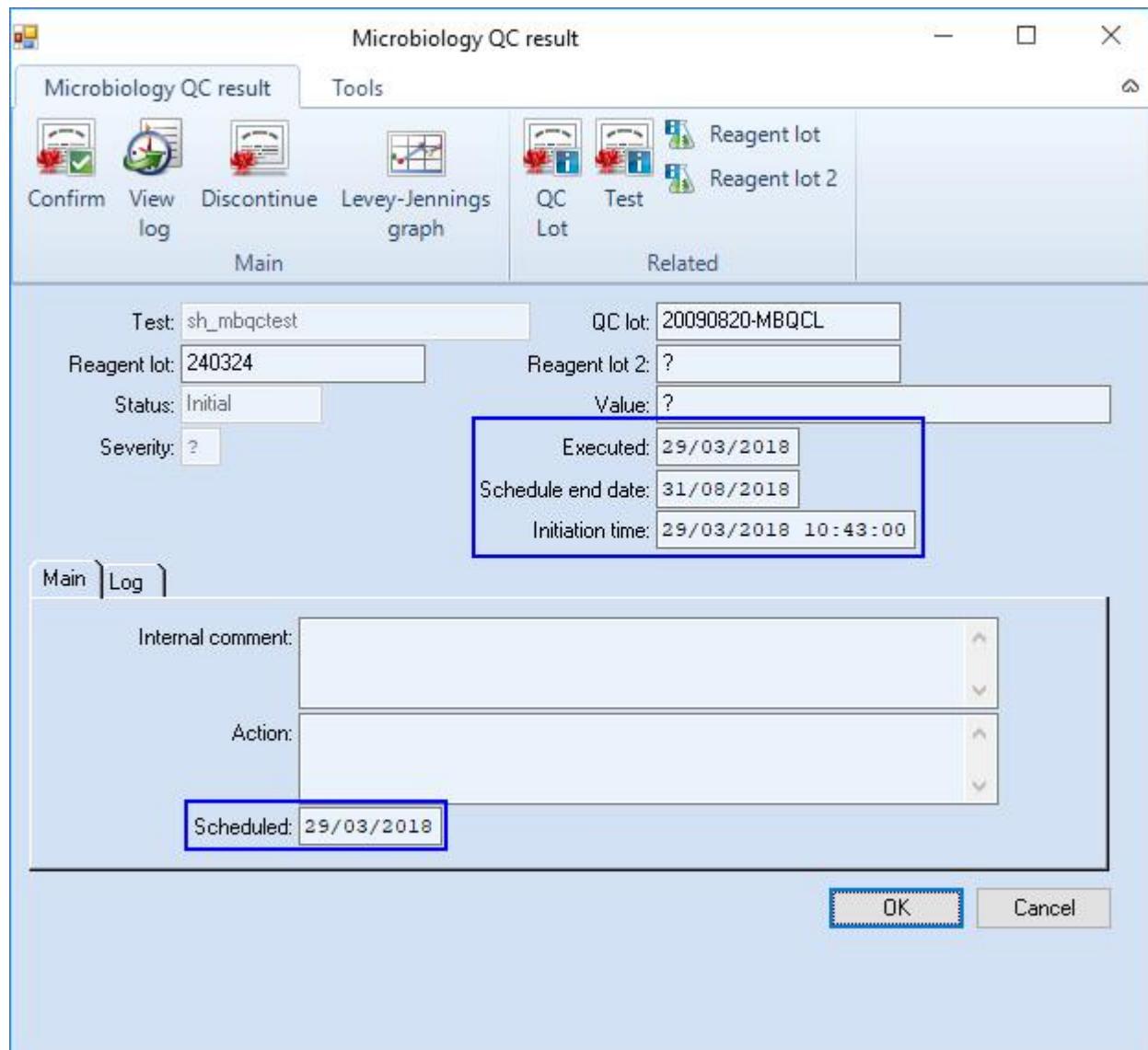
GLIMS will now no longer check if the microbiology reagent lot is inactive or expired. Only the start and end date of the microbiology reagent lot are now checked to make sure that the next execution date of the microbiology QC test lies within this date range.

## Initiation time of microbiology QC results (GLIMS\_QCMB-00036)

### Introduction

In order to make a distinction between the date on which a microbiology QC test is scheduled to be executed, its initiation time (e.g. grafting time) and the date on which the microbiology QC result can be read, the following functionality has been added.

### In the "Microbiology QC result" editor



### Scheduled

Indicates the date on which the microbiology QC test is scheduled to be executed. This field is

filled when the **Microbiology QC result** record is created (i.e. when scheduling the microbiology QC test), taking into account the microbiology QC test's **Frequency** or the date specified when using the contextual menu / ribbon item **Schedule Ad hoc**.

### Initiation time

This field is filled when using the contextual menu / ribbon item **Set initiation time** on a **Microbiology QC result** and is cleared when using the contextual menu / ribbon item **Reset initiation time**.

It can be the date and time of grafting.

### Executed

This field is filled when using the contextual menu / ribbon item **Set initiation time** on a **Microbiology QC result** and is cleared when using the contextual menu / ribbon item **Reset initiation time**. The **Incubation period** specified for the **Microbiology QC test** is taken into account, which means that **Executed = Initiation time + Incubation period**.

It is updated when the microbiology QC result's **Value** is entered.

### Schedule end date

Indicates the date by which the microbiology QC test should be completed. Only used for cyclic microbiology QC tests.

### In the contextual menu / ribbon

The following functions have been added, which can be accessed from a **Microbiology QC result**:

#### Set initiation time

#### Reset initiation time

#### Update schedule date

Allows to update the **Scheduled** date for microbiology QC results of which the **Initiation time** has not been set yet.

### Browsers

### Microbiology QC results

1. The browser's query screen has been extended with the options **Minimal initiation time** and **Maximal initiation time**.
2. The microbiology QC results browser now displays the **Initiation time**.

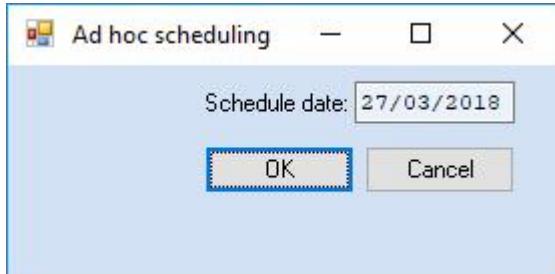
### Microbiology QC work list

1. The browser's query screen has been extended with the options **Minimal initiation time** and **Maximal initiation time**.

2. The browser now displays the **Incubation period** and **Initiation time** in separate columns. The **Schedule date** column now displays dates without incubation period.

## **Scheduling of ad hoc microbiology QC tests to be executed on a given date (GLIMS\_QCMB-00037)**

The possibility has been added to schedule an ad hoc microbiology QC test to be executed on a given date via the new contextual menu / ribbon item **Schedule Ad hoc**.



### **Note**

1. Only microbiology QC tests for which the **Frequency** is set to **Ad hoc** will be scheduled to be executed.
2. When the user (re)schedules an ad hoc microbiology QC test, a new QC result is created for the given date. This means that it is possible to schedule an ad hoc microbiology QC test multiple times on the same day.

# Miscellaneous

## Correction for tool to introduce new PIN numbers based on import file (GLIMS-07829)

### Introduction

GLIMS allows to introduce new PIN numbers based on an import file.

### Functionality

For each **Identification** assigned by the "old PIN provider" and with **Code** = "old PIN", the tool will:

- Set the **Valid until** field (if an **End date** is specified)
- Create a new **Identification** assigned by the "new PIN provider" and with **Code** = "new PIN"

### Correction

A correction has been implemented for this tool:

If an **Identification** already exists for the "new PIN provider" but with a **Code** <> "new PIN", the new identification with the new PIN will not be imported. Identifications rejected for this reason are logged in a .rej file.

## Correction for error "No b\_xxx record is available" (GLIMS-07885)

An issue was detected where the error **No b\_xxx record is available** could occur when:

- using the cell counter,
- exporting financial data (via the FinancialShipment.Send function) in the HPRIM format.

This has been corrected.

## Avoid SQL errors during patient query (Oracle databases only) (GLIMS-08005)

An issue was reported where SQL errors (e.g. "Invalid SQL statement") occurred when querying for patient information (e.g. from the Order entry screen) and GLIMS was used in combination with an Oracle database.

This has been corrected.

## Synchronisation issue between object browser and data sheet (GLIMS-08136)

### Problem description

1. Open a person or object browser.
2. Select the contextual function **Result overview**.
3. In the result overview, select the contextual function **Datasheet**.
4. When selecting another person or object in the first screen, it could happen that the **Datasheet** was not synchronized.

This has been corrected.

## Show all orders of lots or unknown objects (GLIMS-08216)

It was no longer possible to list the orders of lots ([Start > Routine > Objects > Lots](#)) or unknown objects ([Start > Routine > Objects > Unknown objects](#)) via the context function **Object > Show all > Orders**. GLIMS would then issue a warning: **insufficient criteria to perform query**.

This has been corrected.

## Changes to properties not taken into account by other sessions (GLIMS-08223)

When configuration changes had been made to properties or property classifications, other sessions were not immediately informed about these changes, although the **Caching update interval** (specified in [Start > System management > Customize > GLIMS](#), tab page **More**) had elapsed.

This has been corrected.

**Note**

Problem occurred since GLIMS 9.3.

## "Correspondents by bank account, bank id" browser no longer available (GLIMS-08252)

Since the **Bank account** and **Bank id** fields are no longer available on **Correspondent** level (they have been moved to a separate table), the browser which can be accessed via [Start > Correspondents > Correspondents > By bank account, bank id](#) has been removed.

## Improved performance of queries for specimen reviews and incomplete results (GLIMS-08255)

Queries for specimen reviews and incomplete results often lasted too long in the GLIMS Oracle version. The performance has been improved.

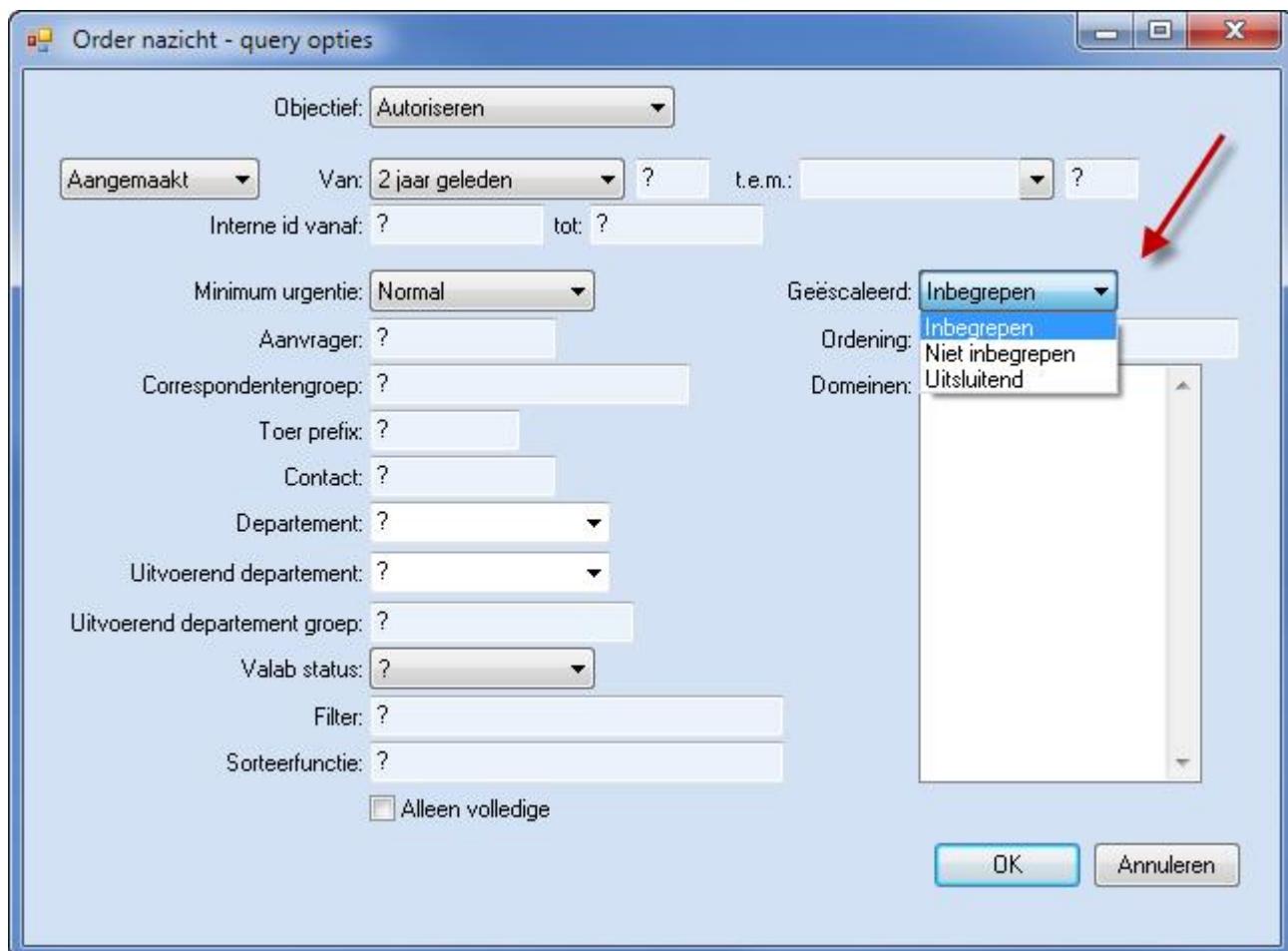
## Updated terminology in Dutch version of GLIMS (GLIMS-08419)

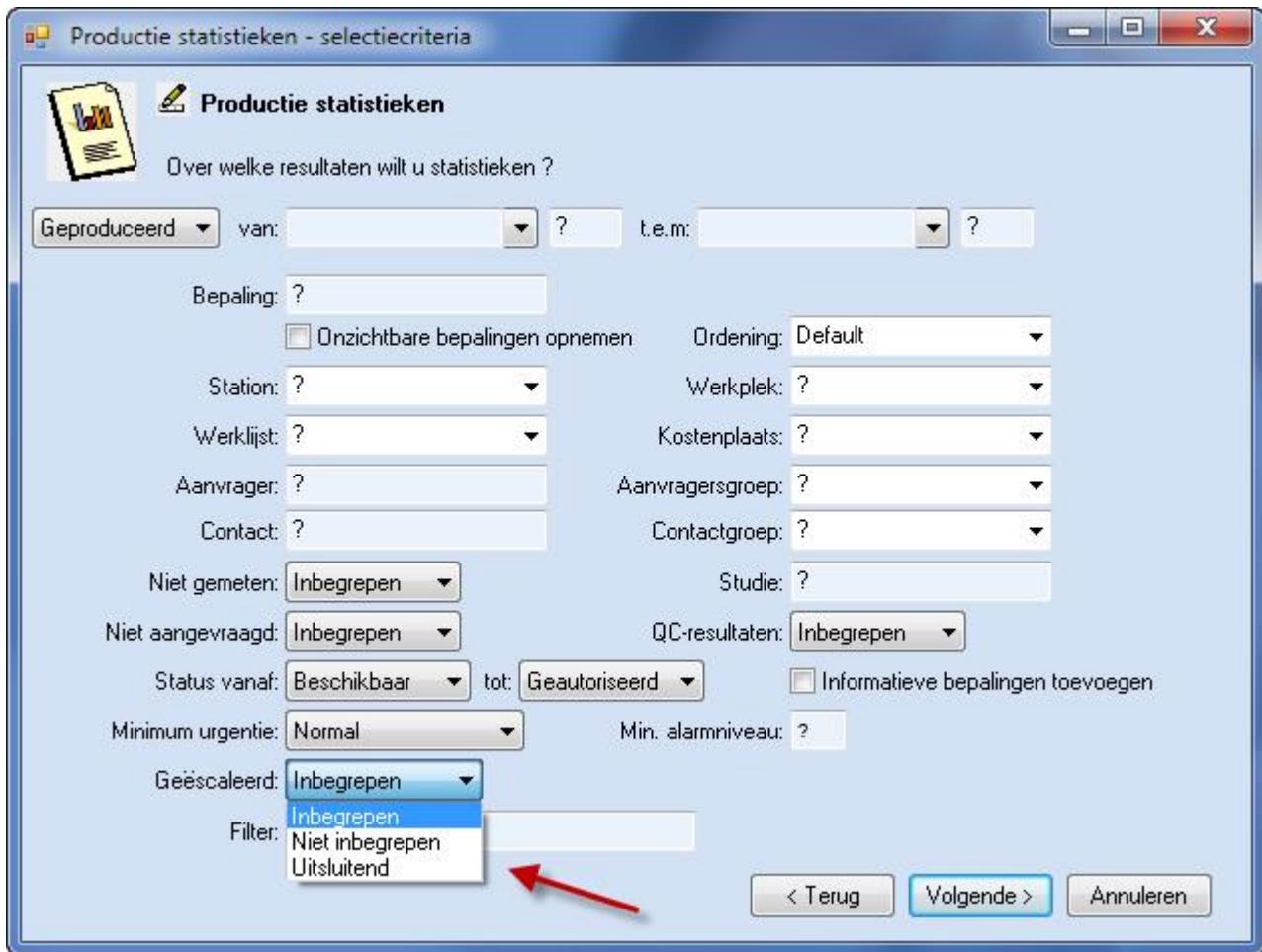
### Background

GLIMS 9.6.0 introduced the result escalation (validation in phases) functionality through GLIMS-07712.

## Updated terminology

In order to use terminology consistently throughout the application, the possible values of the **Escalated (Geëscaleerd)** query option in the Order review query screen and in the selection screen of the result statistics in the **Dutch version of GLIMS** have been renamed to **Inbegrepen, Niet inbegrepen, Uitsluitend** (instead of **Inclusief, Uitsluiten, Kies**).





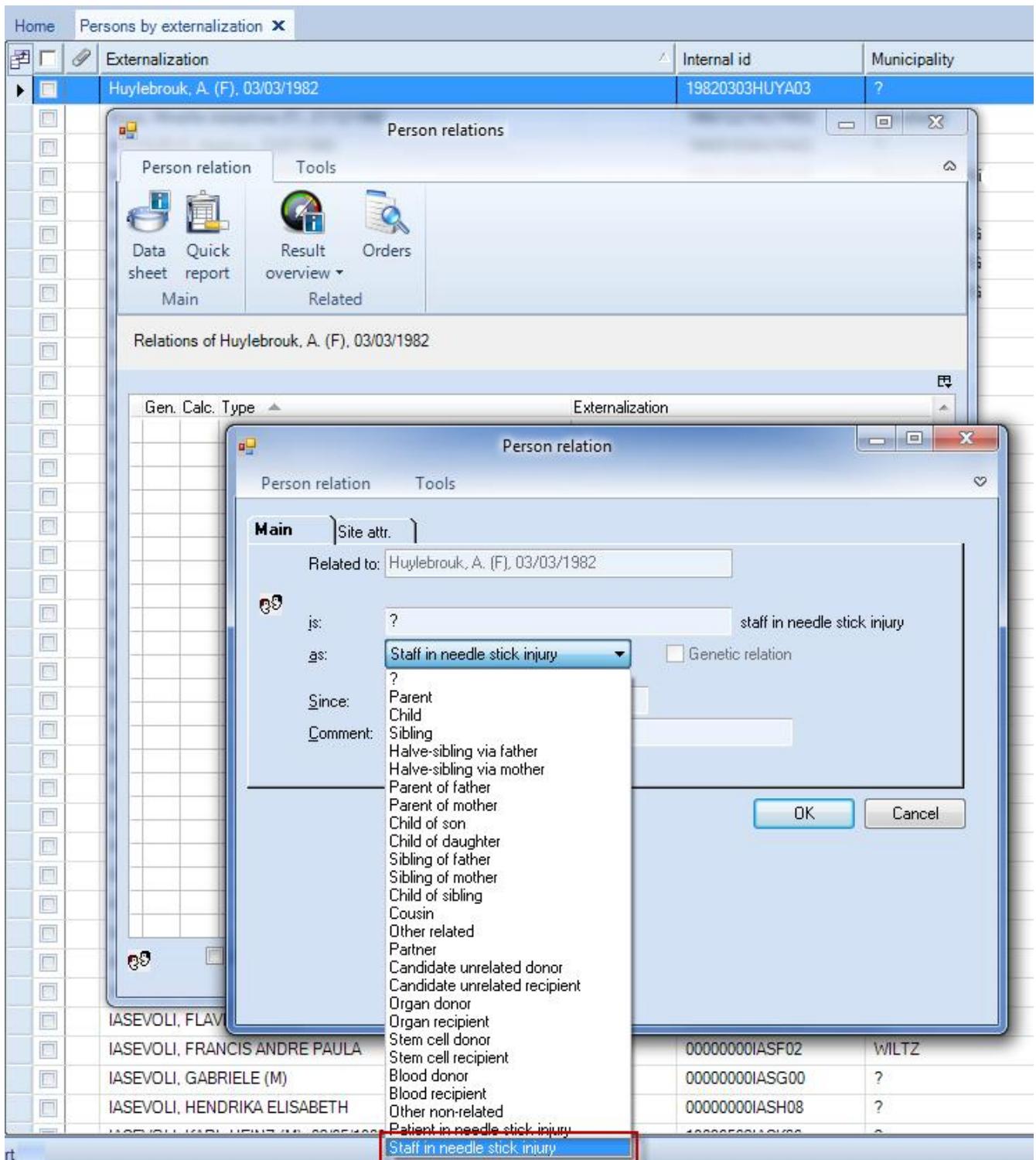
## Updated label of person relation type: "Staff in needle stick injury" (GLIMS-08534)

### Background information

The **Person relation** table allows to indicate how persons are related via the person relation type field, a drop down list of possible types of relationships.

"Medic in needle stick injury" => "Staff in needle stick injury"

The label of the person relation type **Medic in needle stick injury** has been changed into the more general label **Staff in needle stick injury**.



## **Export Encounter.Institution during export of patient data (GLIMS\_PX-00028)**

During the export of patient data, GLIMS now also exports the Encounter.Institution.

## **Correction for error "SYSTEM ERROR in a .NET event handler" (MATE-04341)**

An issue was reported where the error **SYSTEM ERROR in a .NET event handler** occurred. This happened e.g. when opening a browser with a query option screen or order entry immediately after having started GLIMS.

This has been corrected.

## **Error when logging in to Unix version (MATE-04352)**

An issue was reported where an error occurred when logging in to the Unix version of GLIMS. This has been corrected.

## **Correction for mixed sorting in redesigned browsers (MATE-04365)**

An issue was detected in redesigned (.NET) browsers where mixed sorting (i.e. ascending sort order in one column and descending sort order in a second column) did no longer work. This has been corrected.

### **Example**

Mixed sorting is used in the work list browser: work lists are by default sorted in ascending order of **Name** and descending order of **Creation time**.

## **Correction for errors after session timeout (MATE-04367)**

An issue was reported where errors occurred after a session timeout. This has been corrected.

## **"Script error" when resizing MISPL builder window (MATE-04382)**

When resizing the MISPL expression builder window, it could happen that a "Script error" occurred. This has been corrected.

## **SMTP fix: correct handling of multiple recipient email addresses (MATE-04406)**

Some mail servers would reject email messages with too many recipients. The issue was caused by a liberal interpretation of IETF RFC 2822, which most SMTP servers accepted, except when their internal limits were reached.

This has been corrected: the destination addresses are now sent as single 'To:' and 'Cc:' address-list headers.

## **Dynamic URL processing: title text not shown in title bar of window (MATE-04429)**

When using dynamic URL processing (i.e. dynamic web and file access) in GLIMS, the configured title text was no longer displayed in the title bar of the window opened by the URL. Instead, the **Label** (or, if unknown, the **Mnemonic**) of the Tool was displayed.

This has been corrected.

## **Correction for error when opening browser after re-login (MATE-04431)**

### **Problem description**

- Start GLIMS and open a browser (e.g. user browser).
- Close the browser and log off.
- Log in with the same or another user account.
- Open the same browser as in the previous session.
- An error occurs.

This has been corrected.

## **Correction for empty menu editor (MATE-04489)**

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 for export to Excel of browser content (MATE\_MSOF-00017)**

An issue was reported where the error **Procedure gp\_DirectDispatchAdapter has no entry point for ProcessInquiry. (6456)** occurred when opening the **Result overview** from an **Order** (e.g. in the order browser) and choosing **Export > Export to Excel** in the contextual Tools ribbon.

This has been corrected.

## **Correction for export to Excel (MATE\_MSOF-00019)**

An issue was reported where an error occurred when exporting result values starting with "=" (e.g. "=> < 1.10\*3 UFC/mL") to Excel. This has been corrected.

## Norms

### **Issue with age-specific norms (GLIMS-07769)**

An issue was reported where an age-specific norm was applied to a patient with unknown birth date (age).

This has been corrected.

## Order entry

### Allow deleting a panel member via "-<panel member>" (GLIMS-07748)

When requesting a panel in order entry, it was no longer possible to delete a panel member by entering "-<panel member>". This problem occurred since the introduction of "requested codes" in GLIMS 9.3 and has been corrected.

#### Example

1. Open Order entry.
2. Enter the panel "NaK" (containing the panel members "Na" and "K").
3. Remove one of the panel members by entering "-Na".
4. "Na" is now removed. In previous versions, an **Input error** message was shown and the user had to select "Na" and use the Delete key to remove it.

#### Note

Assume an order is created and the following requests are entered:

- a panel "NaCl" containing "Na" and "Cl"
- a material "Serum"
- a property "Cl" which is scheduled on the requested "Serum"

Entering "-Cl" will remove all occurrences of "Cl" in the order. However, when specifying "Serum" in the **Specimen** field and entering "-Cl", only the property "Cl" will be removed for the selected "Serum" specimen.

### Changing specimen internal id and discriminator in order entry (GLIMS-07756)

The following issues in the specimen browser of the order entry screen have been solved:

- When selecting a specimen and choosing the context function **Change internal Id**, the specified specimen id was not saved.
- It was not possible to update a specimen discriminator directly in the specimen browser of the order entry screen.

#### Warning

If you choose to save your order as a pending order, all manual changes to the specimen will be ignored, since by default no specimens are created for pending orders.

#### Note

Problem occurred since GLIMS 9.5.

### Electronic orders with optional panel members (GLIMS-07767)

GLIMS allows to define panels with optional panel members.

### Manual order entry

When requesting such a panel during manual order entry, the user will have the choice whether to add these optional members or not.

### Electronic order entry

In case of electronic order entry, there is no manual intervention.

There is an order import service option [RequestOptionalPanelMemberRequestMethod](#) that allows to indicate how GLIMS should handle panels with optional panel members.

If this option is set to [Never](#), the optional panel members are not requested.

However, in case of pending orders this option was not taken into account and optional panel members were always requested.

This has been corrected.

## **Requesting microbiology procedures with specimen scope (GLIMS-07772)**

### Problem description

1. A new order is created and a microbiology procedure is requested with a specimen scope.
2. Using the [AddRequest](#) MISPL function (in the [Evaluation after scheduling](#) field), a second microbiology procedure is requested with a different specimen scope.
3. When the option [RemoteCalls](#) was set to [Yes](#), the second microbiology procedure was scheduled on the same specimen instead of on a second specimen.

This has been corrected.

## **Locking issue during electronic order entry (GLIMS-07819)**

A locking issue was detected during electronic order entry.

This has been corrected.

## **Issue with AddRequest MISPL during order entry (GLIMS-07822)**

### Problem description

- Request property A in the order entry screen.
- Property A is scheduled on specimen A.
- In the configuration of property A, a Creation trigger is defined which uses the AddRequest MISPL function to add property B.
- Property B is not derivable from specimen A.
- In previous versions, a general error message appeared.

- GLIMS will now produce a clear message explaining that the auto-requested property B cannot be derived from specimen A.

## Correction for error when deselecting panel member in order entry (GLIMS-07895)

### Problem description

- In Order entry, request a panel with at least one material and a property that can be derived from that material. The panel's **Request definition** has the Confirm option enabled.
- Deselect the material request in the confirmation screen with all panel members.
- An error occurs and GLIMS has to be restarted.

This has been corrected.

## Object time in order entry is not reset when entering multiple orders (GLIMS-07989)

An issue was reported where the default object time in order entry was not reset when entering multiple orders without closing the order entry screen. This happened after entering an order for which a popup dialog had appeared (e.g. for material variable selection). As a result, the default object time of the next new order was not correct.

This has been corrected.

### Note

Problem occurred since GLIMS 9.5.

## Correction for error "No requestable found for request code" during order entry (GLIMS-08019)

An issue was reported where the error **No requestable found for request code** occurred during order entry. This has been corrected.

## AddRequest MISPL functions must not update existing requests / requested codes (GLIMS-08029)

The MISPL functions Order.AddRequest and Specimen.AddRequest allow to automatically add a request to an order via MISPL. However, when the request to be added already existed in the order, GLIMS would update the existing request with information specified in the parameters of these MISPL functions (Billing mark, To charge).

This was not intended behavior: the AddRequest MISPL functions should not update existing requests in the order.

This has been corrected:

1. The Order.AddRequest MISPL function will no longer update the **To charge** field of an existing request.
2. The Specimen.AddRequest MISPL function will no longer update the **To charge** or **Billing mark** field of an existing request.

## **Correction for panels with optional panel members (GLIMS-08035)**

### **Problem description**

- A panel exists with the option **Confirm** disabled in its request definition. Some of the panel's members are optional.
- When requesting this panel during manual order entry and saving the order, the optional panel members were also requested, whereas they should not have been.

This has been corrected.

## **Issue with panels in order verification (GLIMS-08047)**

An issue was detected where it was no longer possible to enter a request code for a request definition of type **Panel** in the Order verification program.

This has been corrected.

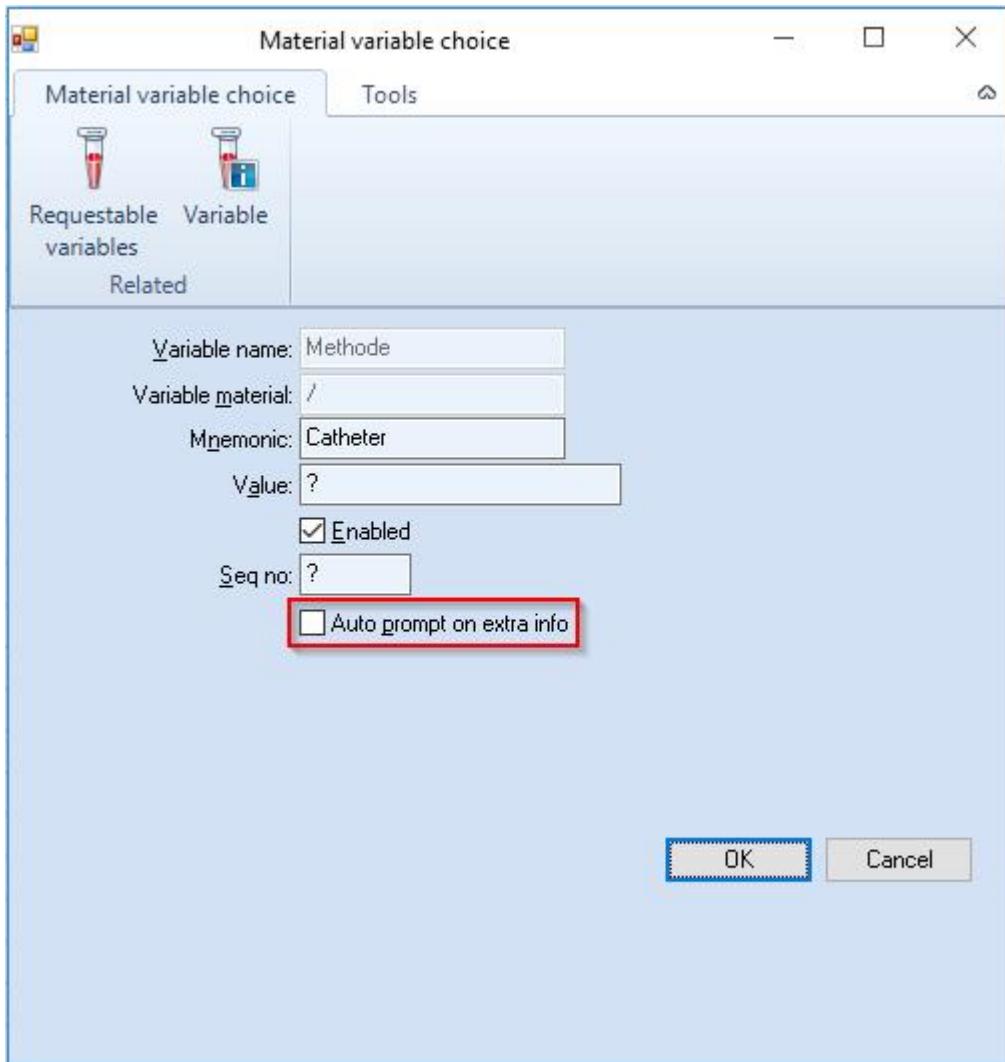
## **Extra info for specimen variable via requestable variable (GLIMS-08049)**

During order entry, specimen variables can be assigned automatically to specimens by using request definition variables. This requires no manual intervention from the user. The configured material variable and material variable choice are automatically saved for the requested specimen.

It is now possible to allow the user to specify extra info when a specific variable and choice are automatically added via a request definition variable.

In the material variable choice configuration, a new option **Auto prompt on extra info** is available.

If enabled, and this material variable and material variable choice are automatically added via a request definition variable, the user will be asked to specify extra information. This extra information is then saved in the **Extra info** field of the specimen variable. Specifying extra information is optional.



## **Blocking period of property not taken into account during electronic order entry (GLIMS-08105)**

An issue was reported where the blocking period defined for a property was not taken into account when orders were created / updated electronically.

This has been corrected. When an existing result within the blocking period is detected during electronic order entry, the blocking period is accepted and a result is created with a message in its value. The result's value is filled with the text in the **Property** field **Text used as result during blocking period** (or, when not specified, with a fixed text).

### **Note**

Problem occurred since GLIMS 9.3.

## **No popup message when same panel is requested twice (GLIMS-08169)**

### **Problem description**

When entering the same panel twice during order entry, this was pointed out to the user in a

message dialog that needed to be closed. This message hindered the user's workflow.

## Solution

As of now, if the same panel is requested twice:

- if it contains a material, it will be added twice;
- if it does not contain a material, the duplicate panel request code will be ignored. A desktop notification will be shown which automatically disappears and allows the user to continue to work.

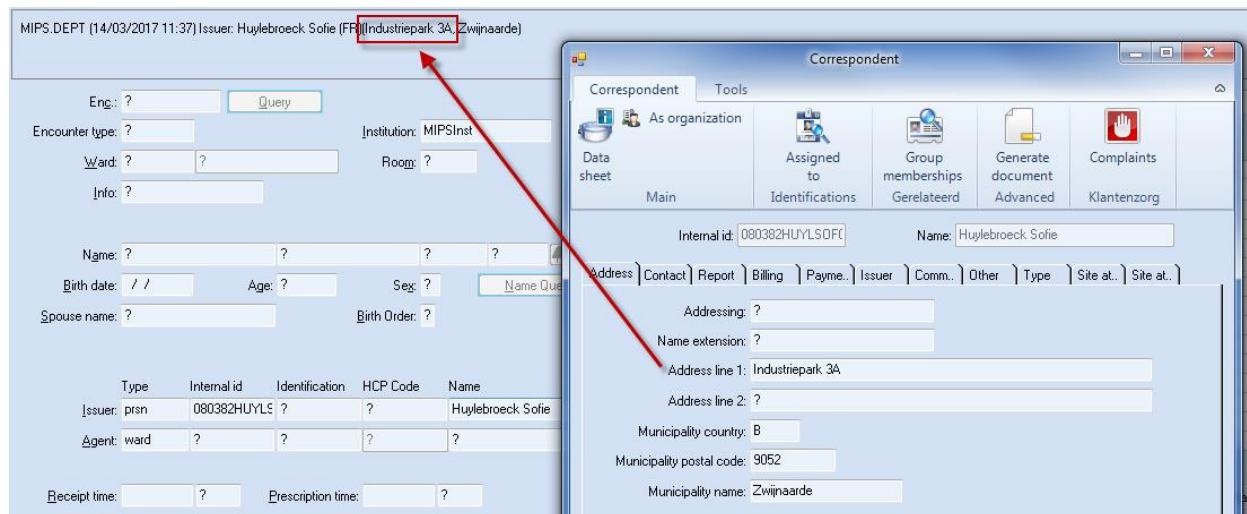
## Show address of issuer in info window of order entry screen (GLIMS-08184)

### Problem description

It is possible that a municipality is inhabited by several issuers with the same name. When the order is completed, the user needs to check if the correct issuer is selected. However, the order entry screen only displayed the name and municipality of the issuer. As a result, the user had to double-click on the issuer to check the address.

## Solution

The info window of the order entry screen will now also show the issuer's address line 1.



## Higher request urgency triggers higher action urgency (GLIMS-08206)

When the urgency of a property request was increased, the urgency of the parent action was not changed accordingly.

This has been corrected.

## Correction for duplicate request codes on different materials (GLIMS-08231)

### Problem description

1. In order entry, request a property and save the order.
2. Reopen the order. Via procedure configuration, a specimen has been scheduled for the requested property.
3. Request the same material.
4. Select the newly requested specimen using the F8 key.
5. Request the same property as in step 1.
6. Issue: the property is not added. The order contains the property only once instead of twice.

This has been corrected.

**Note**

Problem occurred since GLIMS 9.3.

## **Property description used as request code name for new property (GLIMS-08248)**

### **Background**

When a property is created and its mnemonic and description are specified, GLIMS automatically creates a requestable and request code. The request code is automatically named after the property description.

### **Issue and solution**

Since GLIMS 9.3, in the Progress version, the name given to the request code corresponded to the property mnemonic instead of the property description.

This has been corrected.

## **Double microbiology actions in electronic order entry (GLIMS-08261)**

In case of electronic order entry, it could happen that a microbiology action was scheduled twice if 2 panels were requested with the same material, the same microbiology procedure and different properties.

This has been corrected.

**Note**

Problem occurred since GLIMS 9.3.

## **Avoid warning for properties that should not be phoned (GLIMS-08286)**

When a property was requested during order entry for which the option **On phone list** was disabled and the option **Phone results** was enabled for the **Order**, a warning message was displayed when saving the order indicating that the property could not be phoned.

As of now, if the scenario above occurs, the warning message will no longer be shown.

#### Note

If the **Property** option **On Phone list** is disabled, results for this property will never be shown on a phone list. By default, this option is enabled. For more information, see [Phone list - Mark results as "to be phoned"](#).

### Schedule preference not taken into account for property with "Use available specimen" (GLIMS-08290)

When an order contained a property for which the option **Use available specimen** was enabled, and also contained two available specimens from which the property could be derived (via different procedures), the **Schedule preference** specified on **Property output** was not taken into account during action scheduling. Only the first procedure encountered was taken into account.

This has been corrected.

### Empty string or spaces interpreted as "?" in Discriminator fields (GLIMS-08328)

Since 9.6.4, when entering an empty string or spaces as discriminator for panel requests, this discriminator was not always interpreted in the same way as a "?" discriminator.

This has been corrected.

### First material variable and additional info can be specified in specimen grid (GLIMS-08341)

#### Issue

It was not possible to directly enter data in the cells of the specimen grid in the order entry screen. Besides, once the fields had been enabled, their content was not saved in the database.

The problem occurred since version 9.3.

#### Solution

The **Variable** and **Info** cells can now be filled in directly in the grid. The entered data is registered in the database when the order is saved.

Note that only the first material variable can be entered directly in the **Variable** cell. If there are more variables, they must be specified using the **Specimen variable** editor. To open this editor, use the contextual menu function **Specimen variables** on the corresponding specimen.

#### Warning

##### Warning

The data specified in the editor and that entered directly in the grid are not synchronized: changes made in the grid will override changes made in the editor if the later have not been saved (via click on **OK** in the editor and then in the order entry screen).

To avoid mistakes and thus wrong results, please enter material variables and information using either the grid or the editor but not both.

## Request attribute changes correctly saved during order entry (GLIMS-08366)

Changes made to the request attributes **Urgency**, **BillingMark** and **ToCharge** in the order entry screen were not always taken into account.

This has been corrected.

### Note

#### Note

The problem occurred since version 9.3.

## Correction for Material variable option "Enabled" (GLIMS-08374)

An issue was detected where during electronic order entry, a specimen variable was created although the option **Enabled** of the corresponding material variable was not checked.

This has been corrected.

## Corrections for order verification program (GLIMS-08406)

The following improvements have been implemented for the order verification program:

- Only manually added requests are now considered. Requests added via MISPL should not be taken into account.
- No error will occur anymore when using the syntax "-<requestcode>" (e.g. "-NA") for an incorrectly entered request code. This syntax will now result in the request code being removed from the order verification screen.
- It is no longer required to use the **Bar code parser** (**Start > System management > Customize > GLIMS General**) in order to be able to find orders by scanning their internal ID.

## Date format in "Change object time" window (GLIMS-08422)

When changing the object time of an order, the date format displayed in the **Change object time** window was DD/MM/YY instead of DD/MM/YYYY.

This has been corrected.

## Scheduling issue for pathology procedures (GLIMS-08464)

An issue was reported where the error **Error(s) encountered during activation of order. Order will potentially be saved inconsistently. Please re-open this order and correct.** occurred during order

entry when requesting a panel containing the same pathology procedure twice but with a different discriminator.

As a result, the order was not scheduled correctly. This has been corrected.

## Support for ticket books (GLIMS-08472)

### Introduction

The present modification introduces the necessary developments to support the use of ticket books in German laboratories.

### Ticket book usage in laboratories

Certain German labs distribute ticket books to their issuers. These ticket books contain labels to be stucked on paper orders. Each label carries a barcode belonging to a certain number range, called "ticket book range".

### Example

#### Example

Ticket book A contains 500 labels numbered from 0001 to 0500. The ticket book range of ticket book A is 0001-0500.

Ticket book B contains 500 labels numbered from 0501 to 1000. The ticket book range of ticket book B is 0501-1000.

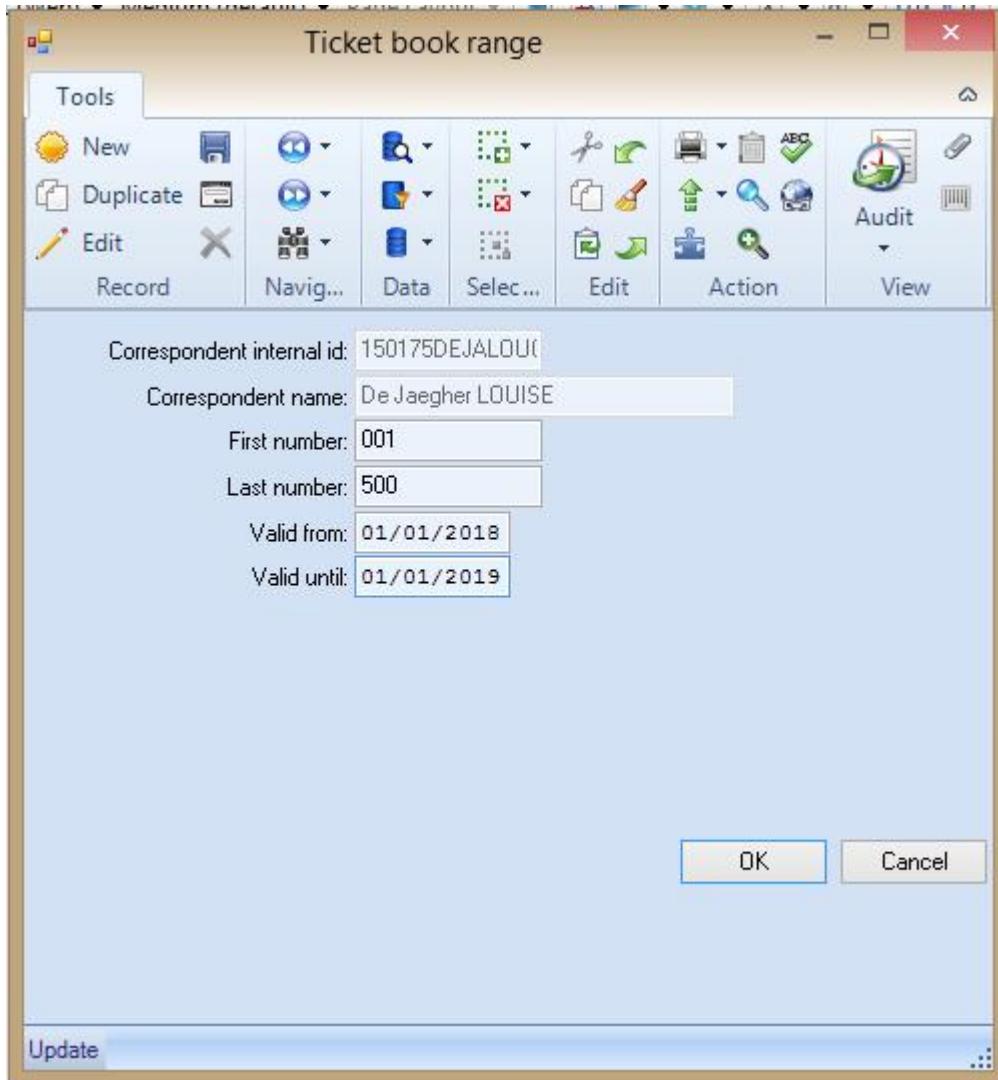
Each issuer receives a ticket book. Therefore, a specific ticket book range corresponds to a specific issuer. By looking in which number range a barcode is situated, it is therefore possible to identify the issuer of the order.

### Ticket book support in GLIMS

#### Configuration

Ticket book ranges and issuers must be associated in the database. This is to be done in the **Ticket book range** editor, which can be open in two ways:

- from the **Ticket book range** browser: **Start** -> **Ticket book ranges** -> press Insert key.
- from the **Correspondent** browser, select a specific correspondent record, right-click **Show all** -> **Ticket books**, and press the Insert key.



### First number - Last number

First and last number of the ticket book range

### Valid from - Valid until

The **Valid from** field is mandatory, the **Valid until** field is not.

The validity period is checked against the Object date. If the Object date is not yet known, the date of the day is used.

Once the validity period has expired, the ticket book is not valid anymore and the number range can be reused for another ticket book.

### Routine

#### Barcodes and order short IDs

The barcodes on the ticket book labels are directly related to the order short IDs.

When

- the barcode on the ticket book label
  - is entered manually in GLIMS, or
  - is scanned in the Specimen reception scan program
- an electronic message containing an order short ID is received

the logic of the barcode parser determines the order short ID and identifies the issuer of the order. The latter is automatically filled in the **Issuer** field of the Order entry screen.

#### Note

The issuer information is not updated when the Object date or Ticket book range is modified.

## New order identifier type and recalculation of specimen internal ids (GLIMS-08489)

### Introduction

GLIMS already supports the use of the following order identifiers: Internal id, External id and Short id. This modification

- introduces a **new identifier type**: Work id. Work ids are used in certain labs which need to process specimens though no corresponding order has been created yet.
- makes it possible to **recalculate** initial specimen internal ids on the basis of a work id specified during order entry.
- makes it possible to **process** orders by identifier.

### New order entry fields

Two fields have been added to the **Order** tab of the Order entry screen:

#### Work id

This field allows entering a work id for the order. When a work id is entered, an order identifier record of type **Work id** is saved in the database.

The work id can be modified. If it is replaced by an empty string or "?", the work id record is deleted from the database. Modifications and deletions of work ids via the Order entry screen are logged in the Order log.

#### Work id creation date

This field is automatically filled in when a work id is entered for the order.

### New browser

A new browser, **Orders by order identifier**, displays orders sorted by identifier. It is accessible via **Start -> Routine -> Orders**. A query window allows filtering on identifier prefix (similar to internal ID prefix), identifier type, order creation date, or select a customized filter.

The screenshot shows a software interface for managing order identifiers. At the top, there's a navigation bar with 'Home' and 'Order identifiers'. Below it is a search bar with the placeholder 'Order identifiers with Type 'Work id'', 'Minimal date '-Q0''. A table lists several order identifiers with their creation times and corresponding order objects.

Identifier	Creation time	Order Object
4417	17/01/2018 14:27	Unk-67426 (17/01 14:26)
4418	18/01/2018 15:54	Unk-67438 (18/01 15:53)
4443	16/01/2018 09:39	Unk-67412 (16/01 09:38)
4444	16/01/2018 09:58	Unk-67413 (16/01 09:57)

## New MISPL functions

Two new MISPL functions are available:

- `.GetIdentifier(IdentifierType)`

This Order-based MISPL function

- returns, for the chosen order, the order identifier of the specified type.
- is to be used in a MISPL program which calculates specimen internal ids on the basis of work ids.

### Example

#### Example

MISPL program for the calculation of specimen internal ids on the basis of work ids (i.e. OrderIdentifierType "1"):

```
String NewId;
Order TheOrder;

NewId:=?;
TheOrder:=.LastRequest(?) .Order;
```

```

IF TheOrder <> ?
THEN
    NewId:=Identifier("Order",TheOrder.GetIdentifier(1).Identifier,5);
ENDIF;
RETURN NewId;

```

- .RecalculateSpecimen()

This Order-based MISPL function

- triggers the recalculation of the internal id of all the specimens linked to an order, using the site function created for the calculation of specimen internal ids (SpecimenInternalId).
- is useful when a work id is entered while specimens already have an internal id.

When the internal id of a specimen changes, this is logged on the specimen record.

#### Note

To limit the recalculation of specimen internal ids to specific workflows (microbiology workflows, for instance), insert the .RecalculateSpecimen function to the post-commit program.

#### Warning

This function should only be used for specific configurations and by MIPS staff only.

## Process orders by identifier

There is a new gp-site-based function: **Process by identifier**. It is available under **Start** and allows processing orders similarly to the function Process by number for specimens. Note however that only one order id at a time should be entered in the **Id** field. In other words, it is not possible to process several orders at once.

**Short id**, **Internal id** and **Work id** can be used as search criteria. In the **Seq. No.** column, you can indicate whether the identifiers entered in the **Id** field should first be look up within Short ids, then within Internal ids and finally within Work ids, for instance.

The "process action" consists in either opening the order entry screen or executing a tool of your choice.

Home Process by identifier X

**Process**

Id  
4417

Launch Save parameters

**Config.**

Start order entry Select tool

Identifiers	Seq. No.
Internal Id	2
Short Id	1
Work id	3

AddRequests ...

## Issue with billing mark when checking if panel is derivable from root specimen (GLIMS-08504)

### Background

During order entry, when a panel is requested with a billing mark, GLIMS skips the panel members that do not have the specified billing mark in their **Billing marks** field.

### Problem description

However, when checking if the requested panel is derivable from the requested root specimen, GLIMS did not take this into account. As a result, a warning message was shown indicating that the panel was not derivable from the root specimen.

### Solution

This has been corrected. When checking if the requested panel can be derived from the requested root specimen, GLIMS will skip the panel members that do not share the billing mark with which the panel was requested.

## Multiple selection of requests deactivated after the application of a menu function (GLIMS-10374)

### Background

In the Order entry screen, the field **Requests** allows the selection of requests for the order. The chosen requests are listed in the table underneath. In this table, you can select several requests and right-click to apply a menu function to all the requests at once.

## Issue and solution

After a user had applied a menu function to several requests, the multiple selection remained active. This had the following consequence: when the user subsequently wanted to, for instance, delete a single request, the deletion was applied to all the requests.

This has been corrected.

## **Request discriminator in order entry is erroneously set to panel member discriminator (GLIMS-10396)**

## Introduction

Consider a panel containing:

- a material with a discriminator (e.g. +01:00)
  - a property without a discriminator. The property can be derived from the material.

## Issue + solution

When requesting the panel during order entry, the request discriminator in the order entry screen was set to the specimen's discriminator. This has been corrected.

**Order evaluation MISPL is run after requested code discontinuation  
(GLIMS-10411)**

Since GLIMS 9.3, when a requested code was discontinued in the Order entry screen, the order evaluation MISPLs did not run.

This has been corrected.

Locking issue for urgent results in an order (GLIMS-10418)

An issue was detected where adding requests to an order (e.g. manually in order entry or automatically via the AddRequest MISPL) would lock all urgent results in the order (even if they were not being modified). This could cause deadlocks when multiple services were updating results of the same order at the same time.

This has been corrected.

**Note**

Problem occurred since GLIMS 9.5.

## Specification and lookup of German LANRs and BSNRs (GLIMS-10459)

### Introduction

In Germany, HC providers usually have a national number, a so-called LANR. They can also have a workplace specific number, a BSNR. In order to assign the correct issuer to an order, the HC provider's LANR and BSNR must be indicated during order entry.

The GLIMS user interface has therefore been adapted to allow the specification and lookup of LANRs and BSNRs in order entry and correspondent search screens. The following sections describe the new functionality and the required configuration.

### Configuration

Two fields should be filled in under **System management -> Customize -> GLIMS General -> Identification:**

- **Provider for LANR:** if this field is not filled in, the **LANR** and **BSNR** fields will not be visible in order entry and correspondent search screens.
- **Provider for BSNR:** fill in this field to be able to specify and lookup BSNRs in order entry and correspondent search screens.

This field was already used to indicate the provider of BSNRs for executing departments, and thus for executing HC providers. The provider indicated in this field is now also used as the site's provider of BSNR for requesting HC providers, i.e. issuers.

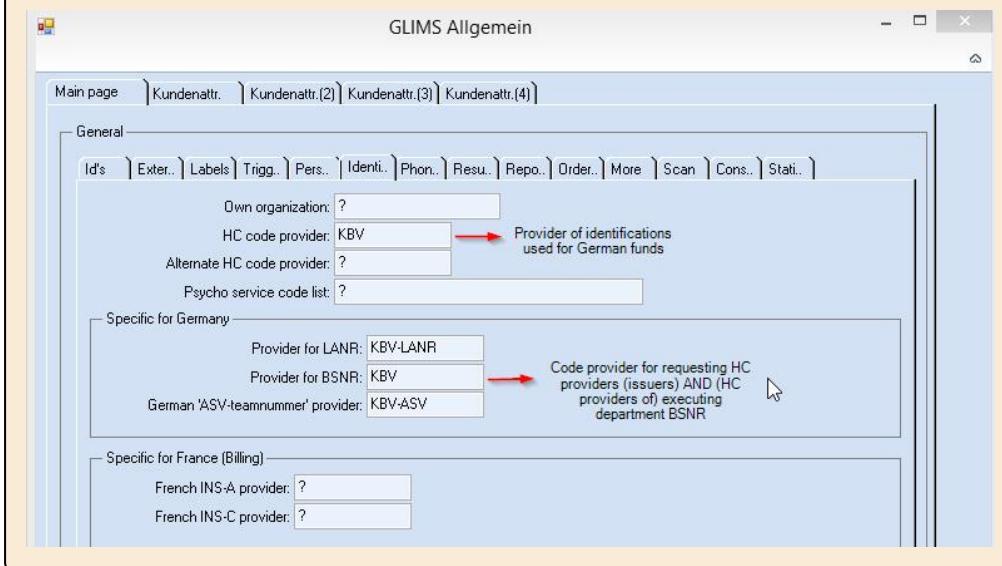
**Note**

Before GLIMS 9.8, the field used to indicate the site's provider of issuer BSNRs was **HC code provider**. This site provider should now be indicated in **Provider for BSNR**. The provider indicated in **HC code provider** is however still used for identifications related to German funds.

**Warning**

The providers indicated in **HC code provider** and **Provider for BSNR** do not have to be identical. However, to allow a smooth transition, current users of GLIMS should indicate

the same provider in both fields.



## New fields

In the **Order entry** screen, two fields, **LANR** and **BSNR**, have been added for both issuers and agents.

	Type	Internal id	LANR	BSNR	Name
Issuer:	?	?	?	?	?
Agent:	ward	?	?	?	?

### Notes

- These fields replace the **HCP code** and **Identification** fields, which are displayed if the **Provider for LANR** is not indicated.
- As the **Identification** field is replaced by the **LANR** and **BSNR** fields, the field **Issuer identif. source** in the order entry options is deactivated.

## New lookup possibilities

Double-clicking or pressing CTRL-F in the order entry **LANR** and **BSNR** fields opens a window allowing a lookup of LANRs and BSNRs. The type of window depends on the value of the field **Correspondent search method** under **Start -> Tools -> Set user preferences**:

- If the option is set to **Standard** or **Browser**, a list of identifications is displayed. These are the LANRs/BSNRs assigned by the provider specified in the fields **Provider for LANR/BSNR**.
- If the option is set to **Via search screen**, a Correspondent search screen with **LANR** and **BSNR** fields appears.

The searched and displayed LANRs and BSNRs are those that are valid on the date of the **Order lowest object time**, if this date is known. If the order lowest object time is not known, the searched and displayed LANRs and BSNRs are the codes that are valid on the day the functionality is being used.

## Correction for incorrect scheduling (GLIMS\_BAC-01164)

## **Problem description**

When, during order entry, a root specimen was requested followed by a panel (while the root specimen was selected in the **Specimen** field of the request browser of the order entry screen), the panel was scheduled on the selected root specimen even if the panel members could not be derived from the root specimen.

## **Solution**

As of now, when a root specimen is requested and the user goes on to request a panel (while the root specimen is selected in the **Specimen** field of the request browser of the order entry screen), GLIMS will check if the panel contains a root specimen:

- If this is the case, the panel is requested separately from the selected root specimen.
- If this is not the case, GLIMS will check if each panel member can be derived from the selected root specimen :
  - If all panel members can be derived from the selected root specimen, the panel will be scheduled on the root specimen.
  - If at least one panel member cannot be derived from the selected root specimen, GLIMS will ask the user if the panel should be entered separately.

## **Correction for incorrect scheduling (GLIMS\_OI-00673)**

### **Problem description**

1. During order entry, a specimen is requested.
2. F8 is used to clear the **Specimen** field of the request browser of the order entry screen.
3. A panel is requested. This panel contains a microbiology procedure for which a material is configured (the same as the specimen requested in step 1).
4. Instead of scheduling the microbiology procedure on the requested specimen, GLIMS scheduled a second specimen.

This has been corrected.

## Order review

### **Correction for error when opening "Order review" (GLIMS-08212)**

An issue was reported where the error "The HEIGHT-PIXELS specified for BROWSE BROWSE TheBrowse is invalid." occurred when opening the Order review screen. This happened when the order externalization in HTML displayed in the screen's info box had a value higher than 6 for "height" and if a **Conclusion property** was specified in the Result query options.

**Note**

Problem occurred since GLIMS 9.5.

This has been corrected.

### **Memory leak in order review (GLIMS-08492)**

A memory leak was detected when logged in with a user account linked to a **HC provider** record and using Order review to validate results.

This has been corrected.

# Orders

## Performance of urgency monitor (Oracle databases only) (GLIMS-07521)

For GLIMS in combination with an Oracle database, the performance of the urgency monitor has been improved when only using the [Executing department group](#) and [Classification](#) as query parameters.

## Correction for order log when changing the object of multiple orders simultaneously (GLIMS-07947)

When the user selected multiple orders in the order browser and changed the object of these orders via the Change object context function, logging was only added for the first order. The other orders did not have log entries referring to a change of object.

This has been corrected.

## Error when opening order outline (GLIMS-08011)

When opening an order outline, the following error message could be shown:

*Field rqst\_Result from b\_OrderRequest record was missing.*

This has been corrected.

### Note

Problem occurred since GLIMS 9.6.0.

## Correction for error "Value cannot be displayed" when opening order (GLIMS-08025)

An issue was reported where the error [\\*\\*Value 31/12/-4714 cannot be displayed using 99/99/9999. \(74\)](#) occurred when opening an order.

This has been corrected.

## Existing order cannot be changed after printing labels (GLIMS-08078)

### Problem description

1. Open an existing order.
2. Activate the [Print labels](#) function in the context menu / ribbon.
3. Make a change to the order.
4. Press [OK](#) to save the order: the order could not be saved because of a warning message that was displayed, stating that the order was altered by another user.

This has been corrected.

## **Include discontinued requested codes in Order.Attribute("RequestList") (GLIMS-08102)**

---

### **Introduction**

The MISPL function Order.Attribute allows to return a list of requested codes / request definitions in an order by specifying one of the following attribute names:

1. RequestList
2. RequestListName
3. RequestListDescription

### **Problem description**

In GLIMS version 8, the MISPL function also returned discontinued requests. Since the introduction of "requested codes" in GLIMS v9.3, the MISPL function no longer returned discontinued requested codes.

### **Solution**

Discontinued requested codes are now included when specifying "RequestList", "RequestListName" or "RequestListDescription" as attribute name in the Order.Attribute MISPL function.

## **New functionality: Order administration review (GLIMS-08477)**

---

A new functionality, [Order administration review](#), has been introduced. It allows

- putting orders on review lists, so-called Order to-do lists,
- preventing these orders from being further processed (scheduled, billed,...) until they are reviewed,
- querying on orders that need to be reviewed.

For more information, please consult the chapter Order administration review in the documentation.

## **Property classification names entirely displayed in query screen of Urgency monitor (GLIMS-08303)**

---

In the query screen for urgent orders, property classification names composed of more than 8 characters were not entirely displayed.

This has been corrected.

## **Order due time based on specimen receipt or sampling time in Urgency monitor (GLIMS-10394)**

---

### **Background**

The urgency monitor shows urgent orders which have not been completely processed yet. The orders are displayed on a varying coloured background.

## Modification

The background colour on which an order was displayed was always based on that order's lowest object time (or on its creation time if this creation time followed the lowest object time). This system has partially changed: the background color now depends on the order's due time.

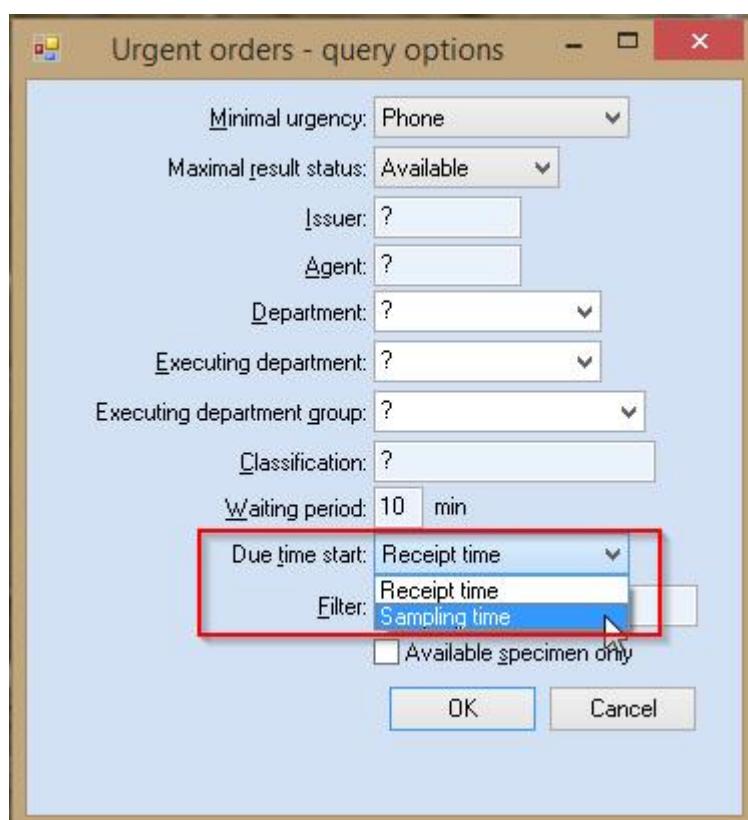
The order due time is defined as follows:

1. If at least one result of the order is linked to a specimen:

the due time of the order is calculated on the basis of the **Receipt time** (i.e AvailabilityTime) or **Sampling time** of the specimen. That is,

- Order due time = Current time - Specimen receipt time
- OR
- Order due time = Current time - Specimen sampling time

The choice between the two options is to be made using the **Due time start** setting of the **Urgent orders - query options** screen.



2. If in the order two results are linked to a specimen and have different Receipt/Sampling times, then the largest of the two Receipt/Sampling times is used to calculate the order due time.

3. If no result of the order is linked to a specimen:

- if the order's lowest object time lies after the order's creation time, the object time is used to calculate the order's due time.
- if order's lowest object time lies before the order's creation time, the creation time is used to calculate the order's due time.

### **Correction for error "Attempt to reposition query during another query operation. (3162)" (MATE-04546)**

---

An issue was reported where the error [Attempt to reposition query during another query operation. \(3162\)](#) occurred when scanning an order barcode while an Order browser was open in order to select the scanned order in the browser.

This has been corrected.

### **Add logging when specifying the patient for an existing order created without an object (MATE-05623)**

---

An issue was reported where the order log was not updated when an order had been created without specifying the patient (object) and the patient was specified later on via F6 on the order. In this case, logging was only added if the contextual function [Change object](#) on [Order](#) was used.

This has been corrected.

# Pathology

## Error in pathology work screen: "Procedure ed\_ptex has no entry point for ProcessInquiry. (6456)" (GLIMS-08402)

In the pathology work screen, when selecting a result and choosing the contextual function **Go to... > Property**, the following error occurred:

Procedure ed\_ptex has no entry point for ProcessInquiry. (6456)

This has been corrected.

## Error when opening pathology work screen (GLIMS\_Path-00335)

An error occurred when opening the pathology work screen for a pathology examination with both specimens and sub-specimens.

This has been corrected.

## Adding slides on a specimen (GLIMS\_Path-00341)

In the pathology work screen, it was no longer possible to add slides directly on a specimen (not via one of the blocks).

This has been corrected.

### Note

Problem occurred since GLIMS 9.6.0.

# Quality control

## Update QC population based on target and deviation values received from instrument ([GLIMS\\_ANLZ-01201](#))

### Introduction

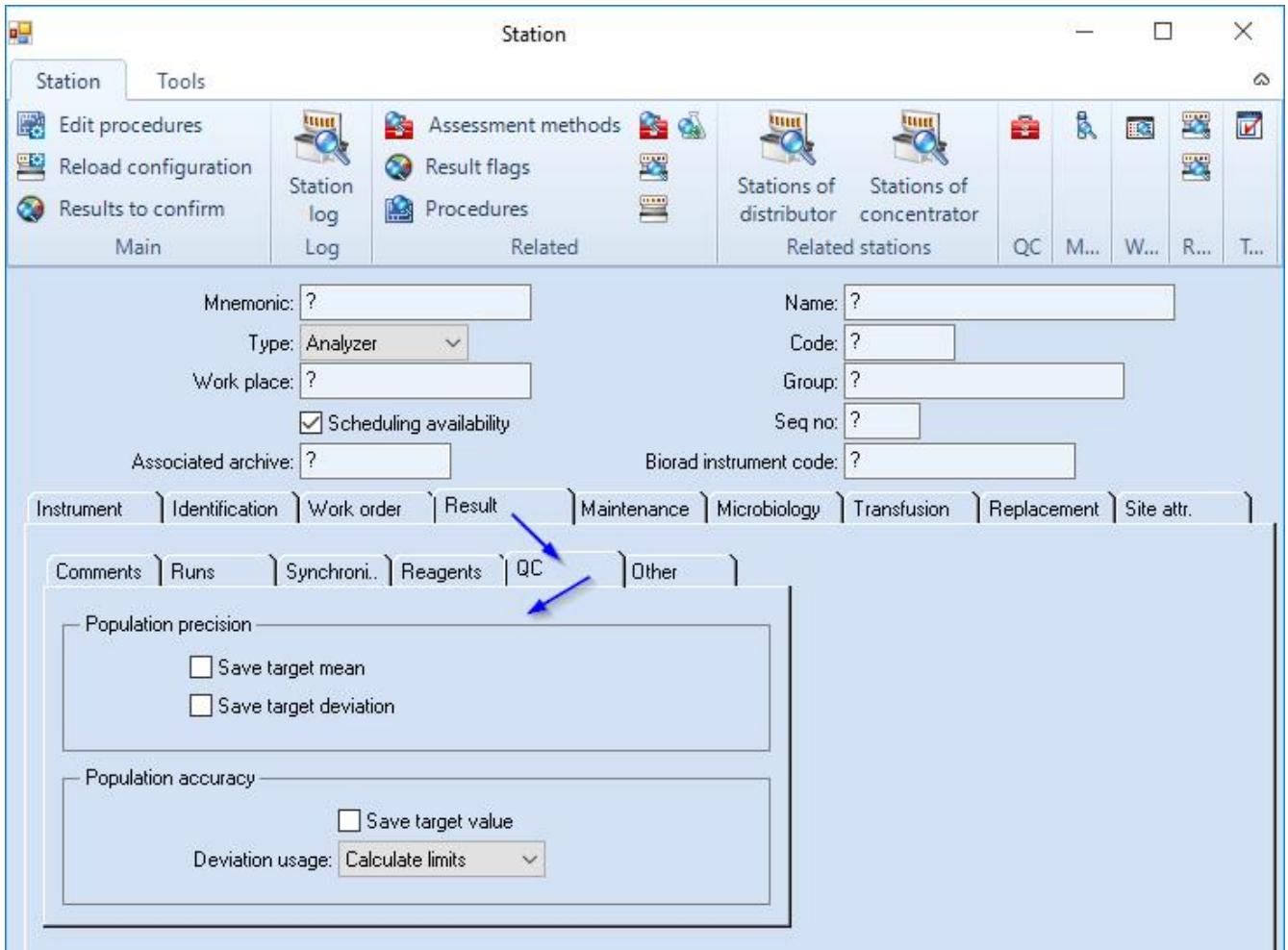
Certain instruments can send additional QC population-related data to GLIMS. GLIMS is now able to update the QC population based on the target and deviation values received from the instrument.

### GLIMS internal ASTM protocol

The GLIMS internal ASTM protocol has been extended with a new QC-record (Manufacturer) in an ASTM result message.

Reference	Name	Description
M.3.1.1	Record code type	Fixed: 'QC'
M.4.1.1	Target value	Target value for the QC population of the QC result in the R-record.
M.5.1.1	Deviation value	Deviation value for the QC population of the QC result in the R-record. The interpretation of this field is specified on <a href="#">Station</a> level in GLIMS.

### Station configuration in GLIMS



GLIMS allows to configure on Station level how these incoming values should be interpreted. They can be applied to influence the precision and/or the accuracy of a QC population.

For precision, it is possible to save the :

1. Target mean
2. Target deviation

For accuracy, it is possible to:

1. Save the target value
2. Calculate the accuracy high and low limit

#### Note

When using the incoming deviation value for calculating the accuracy limits (high/low) of the QC population, the following formulas are used:

1. Accuracy low limit = TargetValue - <QC Deviation Count> x DeviationValue
2. Accuracy high limit = TargetValue + <QC Deviation Count> x DeviationValue

<QC Deviation Count> = **QC norm deviation count** of the **Assessment method** OR **QC norm deviation count** in the **GLIMS QC settings** OR default value (= 3).

#### Note

When setting the accuracy, the **Origin info** field of the QC population is updated to "instrument:YYYY-MM-DD hh:mm:ss" to indicate that the instrument is responsible for an updated target value. However, this only happens when there is a change (i.e. the QC population will not be updated again if a result message contains the exact same values as before).

#### No conversion of received target and deviation values

The (QC) result value which accompanies the target and deviation values sent by the instrument can be converted:

1. Via a conversion MISPL on the assessment method.
2. Via a unit conversion as the assessment method can have a different unit than the unit of the property.

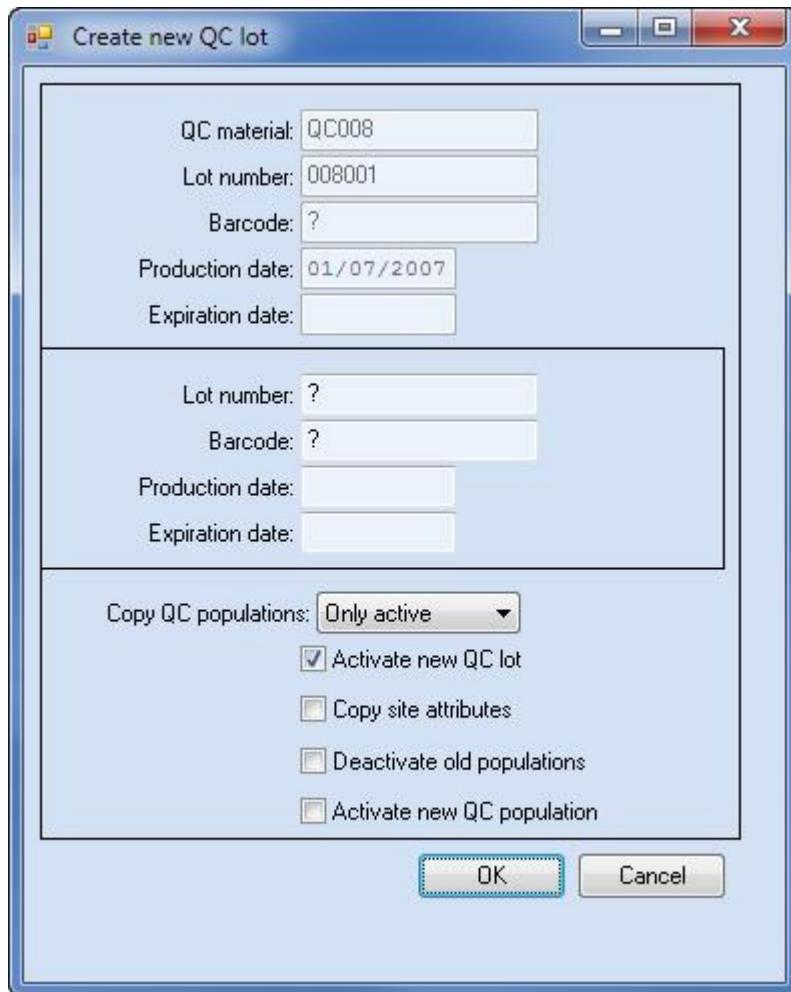
However, the target and deviation values are not converted. They should be sent in the unit of the property in GLIMS.

### **New function "Create new QC lot" on QC lot (GLIMS\_QC-00615)**

#### Introduction

In order to create a new QC lot, GLIMS now offers a more user-friendly function with more features. It allows to create a new QC lot from an existing one, activate the new QC lot and copy / activate / deactivate QC populations in one operation.

The **Create new QC lot** context function can be accessed from an existing **QC lot**.



## Functionality

### Data of original QC lot

The fields **QC material**, **Lot number**, **Barcode**, **Production date**, **Expiration date** which are grayed out display information about the initially selected QC lot.

### Data for new QC lot

#### Lot number

Lot number of the new QC lot (mandatory).

#### Barcode

Barcode of the new QC lot.

#### Production date

Production date of the new QC lot.

#### Expiration date

Expiration date of the new QC lot.

## Copy / activate / deactivate

### Copy QC populations

Allows to copy the QC populations of the original QC lot in order to create QC populations for the new QC lot. Possible values are: **Only active**, **Only inactive**, **Both**. The QC checks defined for these QC populations are also copied.

By default, the copied QC populations are inactive. They can be activated in the same operation by setting the **Activate new QC population** option (see below).

### Activate new QC lot

By default, this option is set which means that the new QC lot will be activated. This implies that the other QC lots of the same QC material will be deactivated.

If not set, the new QC lot is not activated.

### Copy site attributes

The values of the site attributes defined for the original QC lot will be copied to the new QC lot.

### Deactivate old populations

If set, the QC populations of the original QC lot will be deactivated.

#### Note

This option can only be set if **Activate new QC lot** is set.

### Activate new QC population

If set, only 1 QC population per assessment method will be activated for the new QC lot.

#### Note

This option can only be set if **Activate new QC lot** is set.

## Moving average or median results should not update "Last QC time" of assessment method ([GLIMS\\_QC-00621](#))

### Problem description

Each time a QC result enters the system, the time is recorded in the assessment method's **Last QC time** field. However, the assessment method's **Last QC time** field is also updated when a result is added to a QC population of which the **Sub type** is set to **Moving average** or **Day median** (i.e. when calculating a day median or moving average). This is not always desired.

### Solution

When a moving average result or a median result is entered, the **Last QC time** of the **Assessment method** will now only be updated if the result causes the channel quality to be set to **Unreliable**.

**Note**

The **Last QC result time** of the **QC population** will always be updated.

## Quality reset of assessment method in case of multiple QC populations (levels) (GLIMS\_QC-00674)

### Problem description

An assessment method can be linked to several active QC populations, e.g. in order to monitor low, normal and high concentration levels.

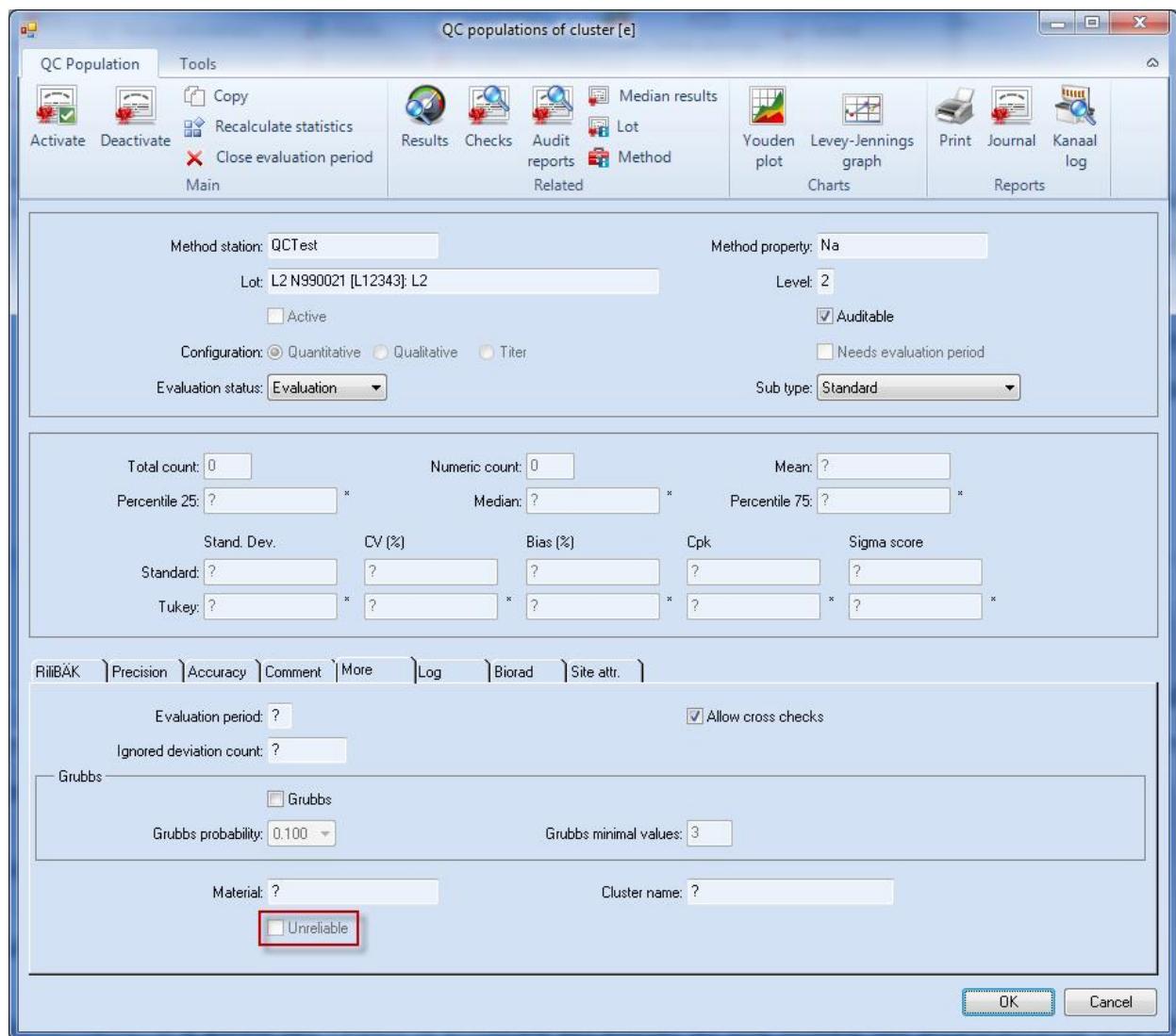
**Example**

When a QC result is entered for the QC population monitoring the low concentration and the QC result's **QC severity** exceeds the assessment method's **QC alarm severity**, the assessment method is automatically set to **Unreliable**. The assessment method remains **Unreliable** if an invalid QC result is entered for the QC population monitoring the normal concentration. However, as soon as a valid QC result was entered for e.g. the "low concentration" level, the assessment method was set to **Reliable** again (if an automatic reset of the channel quality was allowed), even though no valid QC result had been entered for the "normal concentration" level.

### Solution

#### Introduction of the concept of reliability for QC populations

A new field **Unreliable** has been introduced on **QC population** level.



## Marking a QC population as "Unreliable"

### Automatically

If a QC result is entered of which the **QC severity** exceeds the assessment method's **QC alarm severity**, the assessment method is automatically set to **Unreliable**. In addition, the QC population is now also automatically set to **Unreliable**.

### Manually

It is possible to manually mark a QC population as **Unreliable**. In order to do so, use the contextual function **Set QC population to unreliable**.

#### Note

If a QC population is marked as **Unreliable**, the **Quality** field of the associated assessment method will also be set to **Unreliable**.

## Marking a QC population as reliable

## Automatically

A QC population is automatically reset to reliable when a valid QC result is entered.

## Manually

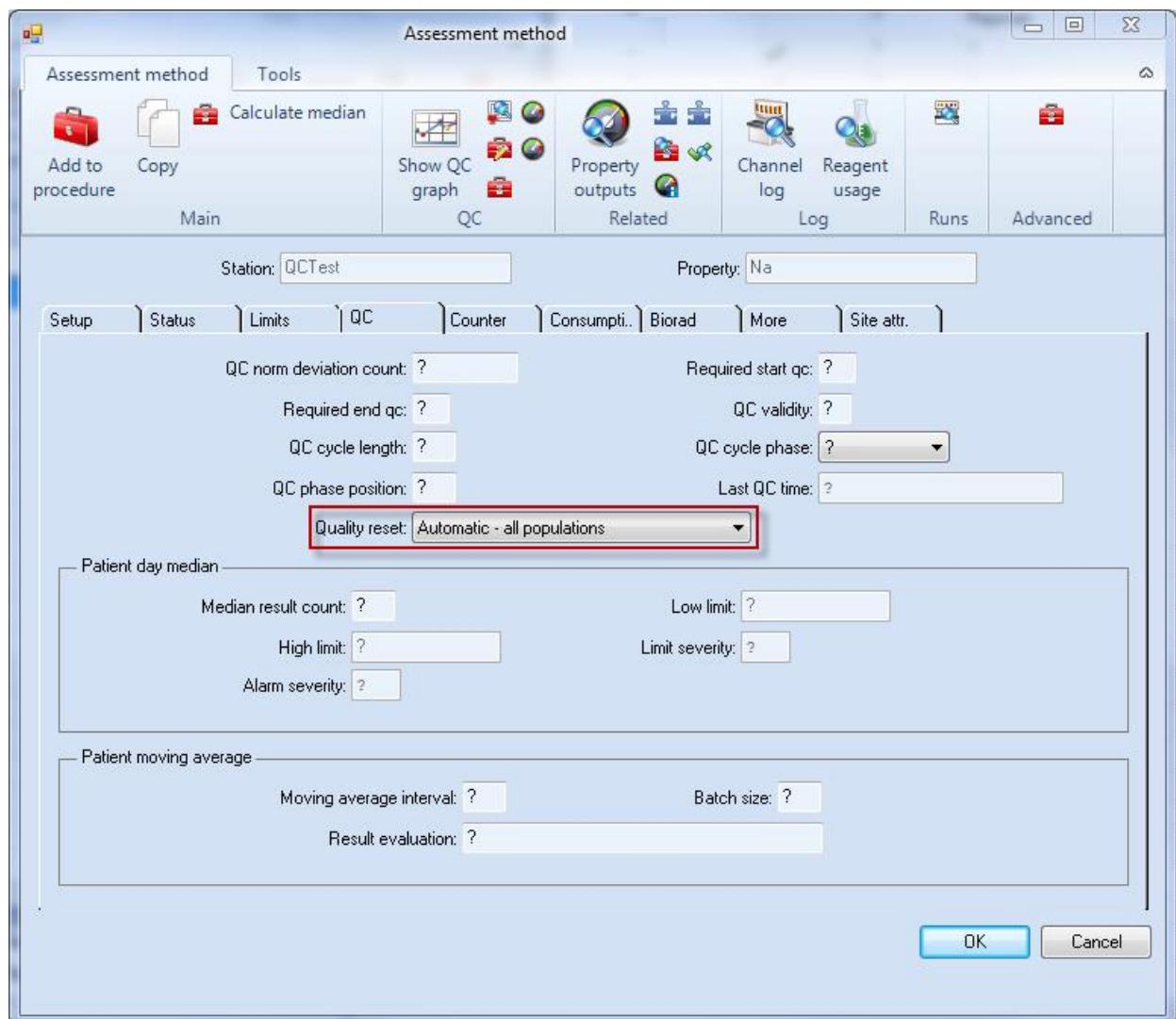
It is possible to manually mark a QC population as reliable. In order to do so, use the contextual function **Set QC population to reliable**.

### Note

The **Quality** field of the associated assessment method may also be reset to **Reliable** depending on the assessment method's Quality reset setting.

## Quality reset = "Automatic - all populations"

If the assessment method's **Quality reset** field is now set to **Automatic - all populations (Automatic - all populations replaces Automatic - same population from previous versions)**, upon entering a valid QC result, the **Quality** field of the assessment method will now only be reset to **Reliable** if all active QC populations linked to the same assessment method are reliable.



## Channel quality monitor

The **Qual.** column labels have been renamed to **Channel quality** and **QC population quality** so that the channel quality monitor now also reflects the (un)reliability of the QC population.

The screenshot shows the 'Channel quality' tab of the GLIMS application. At the top, there are selection filters for 'Work place: W\_B' and 'Station: ?'. Below these are two tables:

Station	Property	LAS	Status	Channel Quality	Comment	Phase	Position	Last QC
APPRAISE	Alpha1	Conn	Ena	Rel	added comment	?		10/25/2011 12:36:28
APPRAISE	Beta2	Disc	Lck	Rel	added comment	?		08/03/2007 14:52:14
APPRAISE	Gamma	Conn	Ena	Uni	added comment	?		06/12/2007 14:11:39
APPRAISE	PTT	Conn	Ena	Rel	added comment	?		??
APPRAISE	SpeGraph	Disc	Lck	Rel	added comment	?		??
Array	STEV4	?	Ena	Rel	added comment	?		??
BIN	AldoRera	?	Ena	Rel	added comment	?		??
BIN	Aldost	?	Ena	Rel	added comment	?		??
BIN	Rerine	?	Ena	Rel	added comment	?		??
Bloedgas	TC03	?	Ena	Rel	added comment	?		??
Bloedgas	GASA	?	Ena	Rel	added comment	?		??
Bloedgas	Ph	?	Ena	Rel	added comment	?		??
Bloedgas	HCO3	?	Ena	Rel	added comment	?		??
Bloedgas	PCO3	?	Ena	Rel	added comment	?		??
bnii	STEV2	?	Ena	Rel	?	?		??

Below this table is a green box containing the text "added comment".

Level	Lot number	Material	Type	Shift	Entered at	Value	Sev Sts	Norm	QC population Quality	Internal comment
1 sh	test1	000100	A,P,e	?	?	?	??	?	Rel	?
1 sh	test2	000100	A,P,e	?	?	?	??	?	Rel	?
?	0307-011	QCMAT	?	?	?	?	??	?	Rel	?
?	786987698	000100	A,P	?	?	?	??	?	Rel	?
?	Lot2	ChemQCMat1	P	?	?	?	??	?	Rel	?

## Other minor changes

### QC population fields "Material" and "Cluster name"

The fields **Material** and **Cluster name** have been moved to the **More** tab page of the QC population editor.

### Improvement for Levey-Jennings graph (GLIMS\_QC-00675)

When opening a Levey-Jennings graph starting from a QC result, GLIMS will now check the related QC population configuration to decide if the **Precision** or **Accuracy** tab page of the graph should be shown by default.

### "Create new lot" for Qualitative and Titer QC populations (GLIMS\_QC-00677)

It was not possible to use the Create new lot function for QC populations of type **Qualitative** or **Titer**.

This has been corrected.

## New option "Show moving average" in QC graph (GLIMS\_QC-00680)

### Introduction

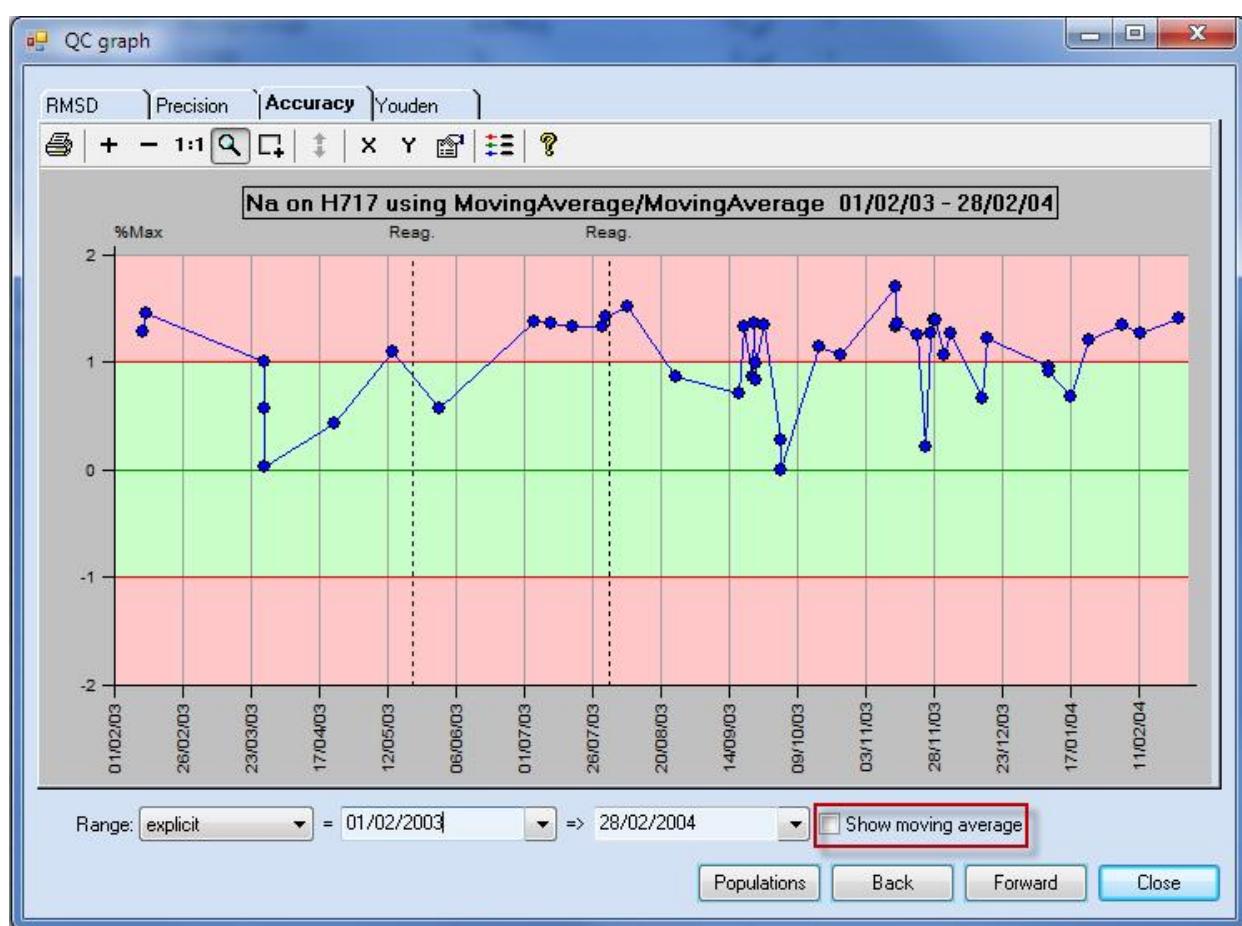
A QC population of type **Moving average** can contain a lot of results. Loading and displaying this data can have a negative impact on the performance of the QC graph. Moreover, the 'normal' results might be hardly visible among all the moving average results.

### New feature

By default, when displaying a QC graph for more than one QC population (including a QC population of type **Moving average**), the QC population of type **Moving average** will now be skipped.

### Show moving average

In order to display the QC population of type **Moving average** on the QC graph, use the new option **Show moving average** in the **Accuracy** tab page of the Levey-Jennings graph.



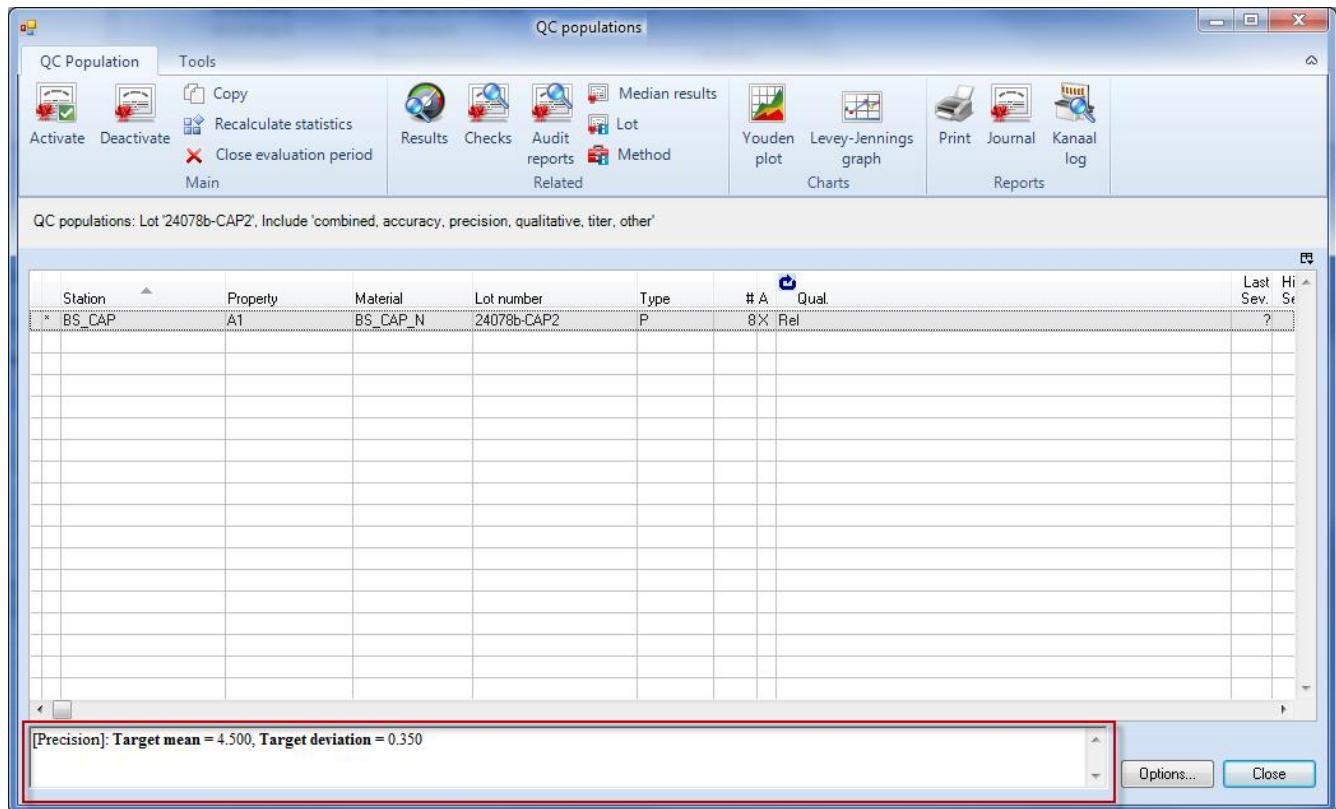
### Notes

1. The QC population of type **Moving average** will be displayed immediately on the QC graph (**Accuracy** tab) if it is the only QC population selected for display.
2. The **Show moving average** setting is not stored as a user preference.

## Data visualization in detail box of QC population browser (GLIMS\_QC-00681)

### Background information

The QC population browser, when opened from e.g. a QC lot, contains a detail window with information on the selected QC population.



The formatting of the values in this detail box (e.g. for **Target mean**, **Target deviation**) was not identical to the formatting applied in the QC population editor. E.g. trailing zeros after the decimal separator were dropped. Although mathematically correct, this could confuse the user if he/she expected values with a larger precision.

### Solution

The **Target mean** and **Target deviation** values in the detail box of the QC population browser (and in the QC population editor) will now be displayed with the same number of decimals (i.e. digits after the decimal separator) as the calculated **Mean** displayed in the QC population editor.

## Corrections for QC population browser (GLIMS\_QC-00702)

In the QC population browser:

1. It was not possible to sort on the **Last severity** and **High severity** columns.
2. No color scheme was applied for the **Last severity** and **High severity** columns in case of aberrant QC results.

This has been corrected.

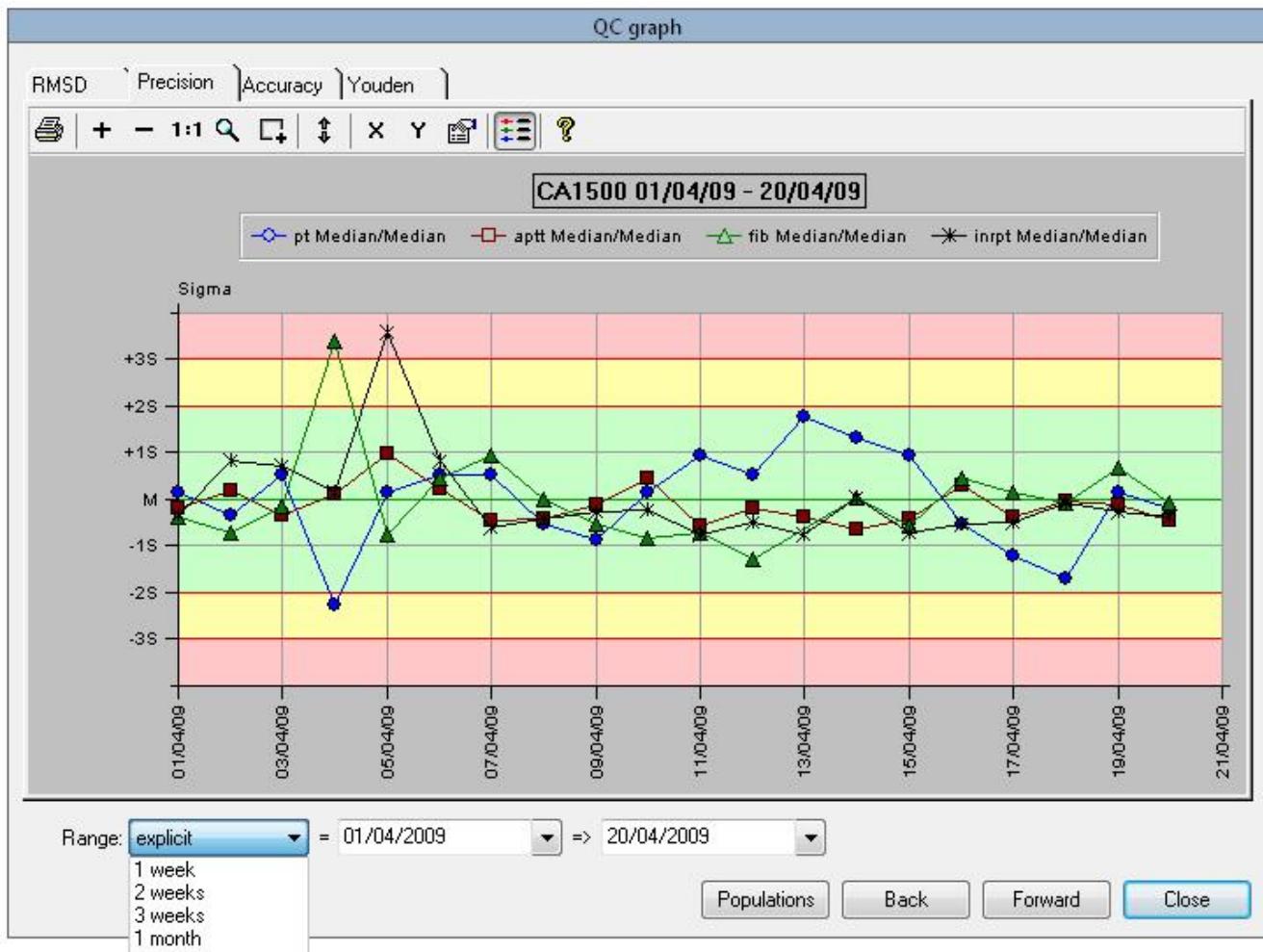
#### Note

Problem occurred since GLIMS 9.5.

## Correction to allow updating "Range" in QC graph (GLIMS\_QC-00708)

An issue was reported where the **Range** option in the **QC graph** (e.g. opened via the **Show QC graph** context function from a **Result**) could not be modified.

This has been corrected.



#### Note

Problem occurred since GLIMS 9.5.

## QC audit report does not show mean and standard deviation (GLIMS\_QC-00709)

When at least one of the results in a QC population had a mantissa value equal to 0, then the mean and standard deviation were not displayed on a QC audit report.

This has been corrected.

## **Use result measurement times from instrument for QC results (GLIMS\_QC-00710)**

---

### **Problem description**

QC results from POCT devices are typically uploaded to GLIMS when the device is in its docking station. The object time of the QC result in GLIMS is the time the QC result was uploaded to GLIMS. This leads to incorrect data as there can be a significant difference between the actual measurement time and the upload time.

### **Solution**

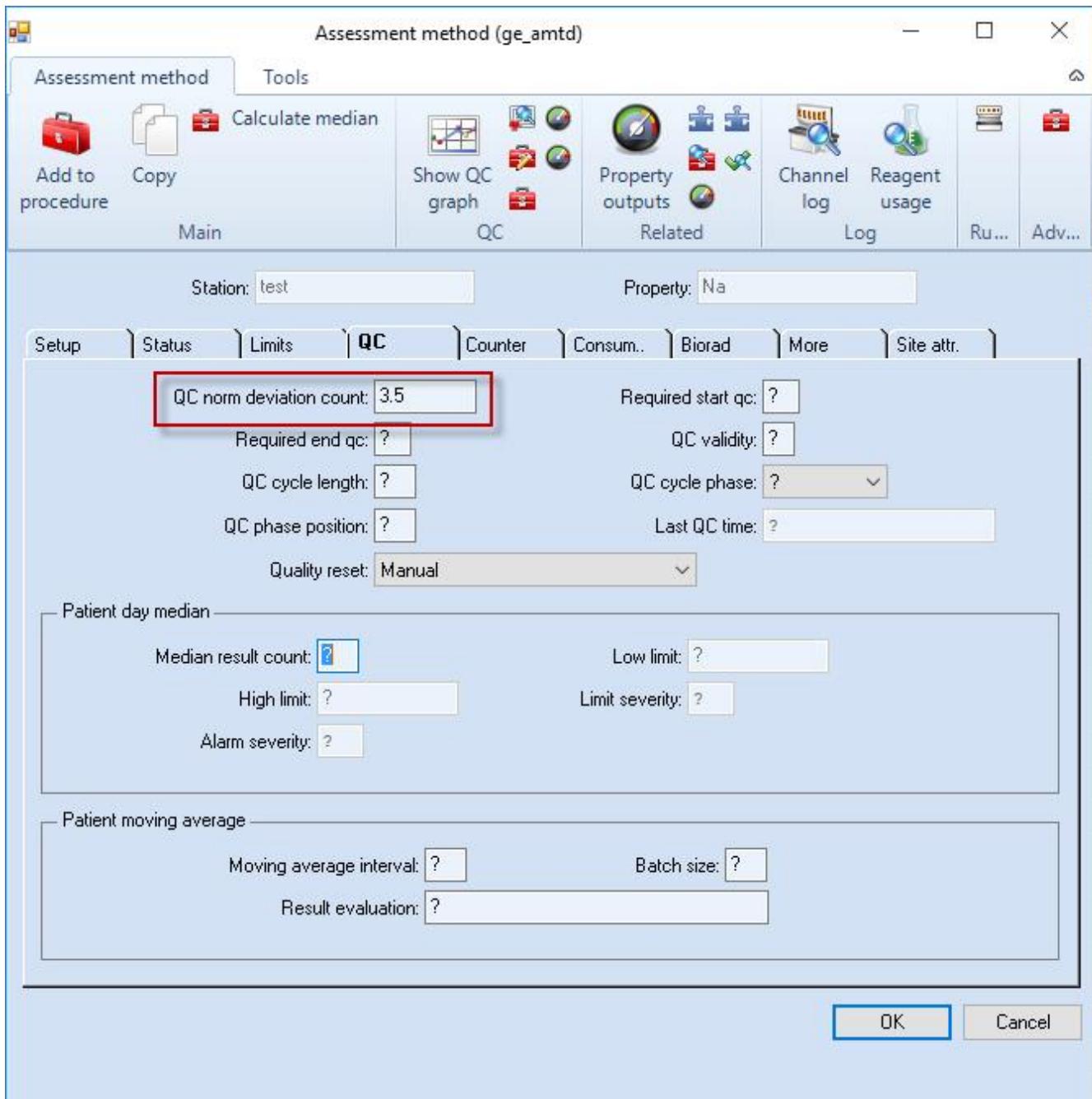
GLIMS already stores the result measurement times (started and completed) received from the device. These will now be used if they are within 24 hours of the current time:

1. If the "measurement completed" time is known and lies in the 24h time frame, it will be used for the object time of the QC result.
2. If the "measurement completed" time is unknown, the "measurement started" time will be used for the object time of the QC result, if it lies in the 24h time frame.
3. If both times are unknown or outside the 24h time frame, the time the QC results were uploaded to GLIMS is used.

## **Allow fractional number for QC norm deviation count (GLIMS\_QC-00711)**

---

The assessment method field **QC norm deviation count** (used to show the reference range for QC results) now allows to specify a fractional number such as 3.5.



#### Note

The default **QC norm deviation count** specified in the general settings ([Start -> System management -> Customize -> GLIMS QC](#)) also allows to specify a fractional number.

### **QC setup screen does not show saved changes (GLIMS\_QC-00721)**

When saving changes to the **QC setup** screen via [Start > Quality control > Configuration > QC setup](#) and reopening the screen, the updated values were not visible, although they had been saved. As a result, the user got the impression that his / her changes had not been saved.

This has been corrected.

**Note**

Problem occurred since GLIMS 9.5.

## **QC severity should not be set for patient results (GLIMS\_QC-00734)**

### Background

GLIMS allows configuring station flags for which a **Severity for QC** can be specified. This severity will be taken into account when calculating the **QC severity** of QC results marked with this flag.

### Issue

However, the **QC severity** was also set for patient results marked with this flag. This has been corrected.

## **Import QC configuration from Sysmex in XML format (GLIMS\_QC-00735)**

GLIMS now allows to import QC data provided by Sysmex through an XML file.

**Warning**

The XML format uses the  $10^3/\mu\text{L}$  unit, while the Excel format used  $10^3/\text{uL}$ . The code set of the coding system used for the import needs to be updated!

**Note**

The QC lot MISPL function is executed for each LotNumber/Mode/Level combination. Unlike the Excel import file, an XML import file can have multiple levels for a LotNumber.

## **Schedule microbiology QC tests to be executed every six months (GLIMS\_QCMB-00033)**

Microbiology QC tests can now also be scheduled to be executed once every six months:

Microbiology qc test

Microbiology qc test		Tools	
Levey-Jennings graph	Schedule	Microbiology QC results	Microbiology QC results
Main		Results	

Name: Ecoli100 Category: ?

Active QC material: ?

Reagent: ? Reagent 2: ?

Frequency: Semi annual Responsible: ?

Execute on new reagent lot

Comment:

Incubation period: ?

Outcome

Minimal value: ?	Maximal value: ?
Range severity: ?	Choice list: ?

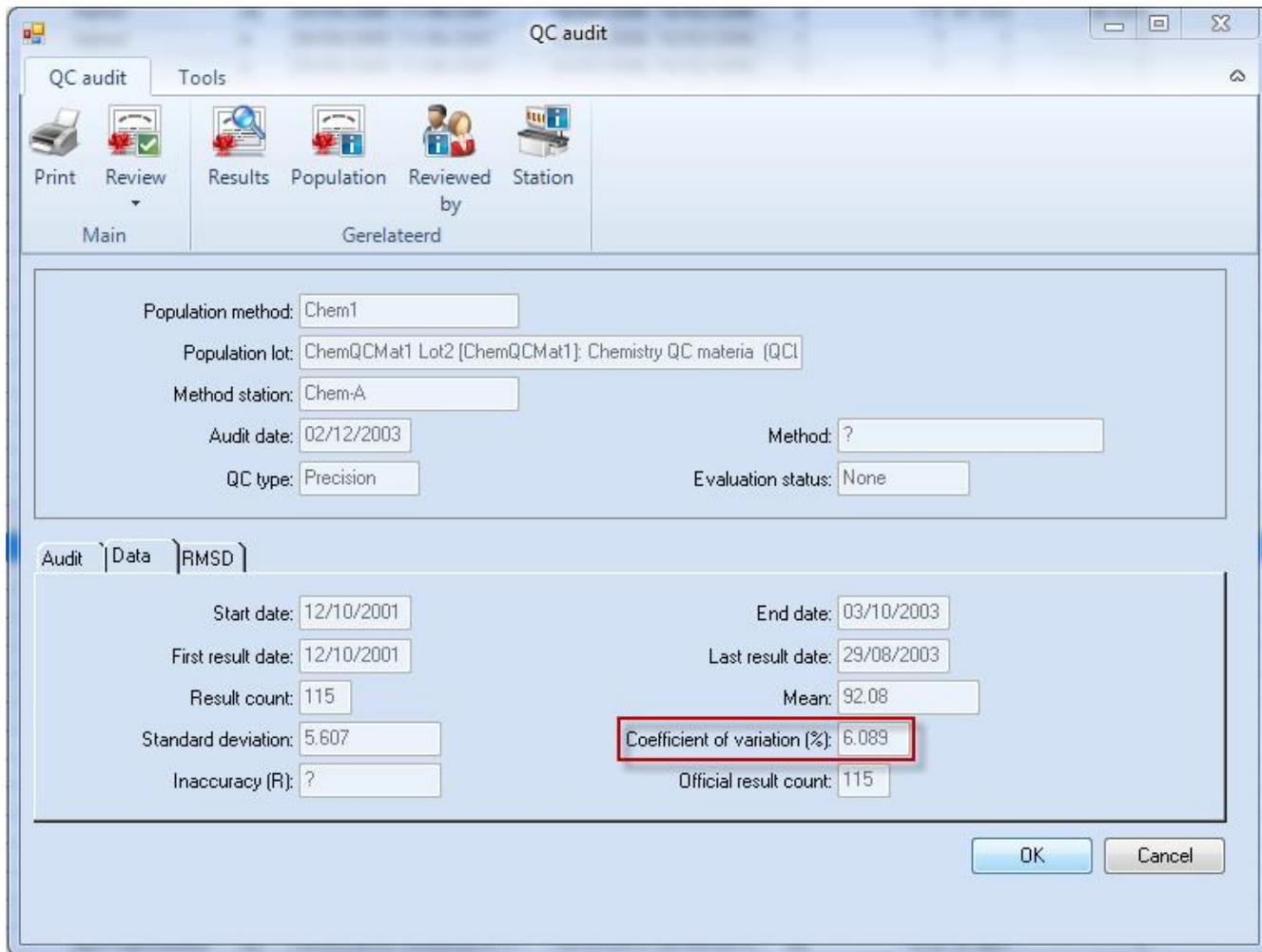
Next execution

QC Lot	Reagent lot	Schedule	Schedule end date	Initiation time

OK Cancel

### Updated field label "Coefficient of variation (%)" in QC audit editor (GLIMS\_QCR8-00003)

In the QC audit editor, the field label "Coefficient of variation" has been renamed to **Coefficient of variation (%)** in order to clearly indicate that the coefficient is expressed using a percentage.



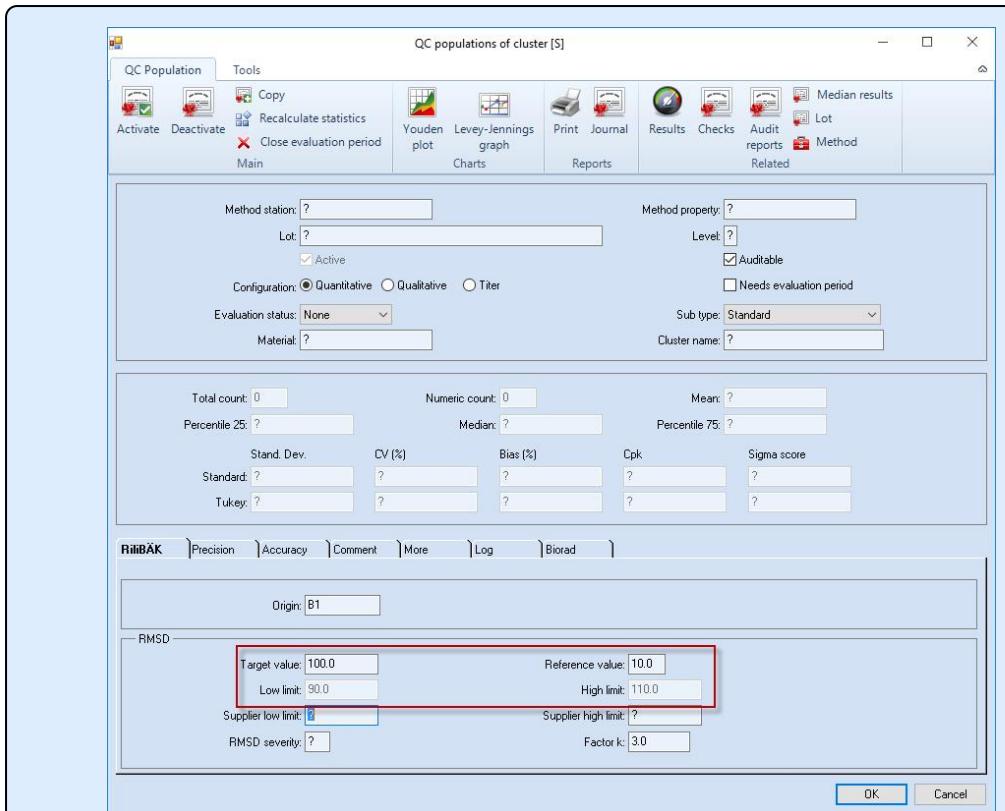
## Supplier limits versus RiliBÄK limits (GLIMS\_QCR8-00004)

For RiliBÄK QC populations, you specify a **Target value** and **Reference value**, which will be used to calculate the **Low limit** and **High limit**. However, when specifying stricter supplier limits, the low limit and high limit were not updated.

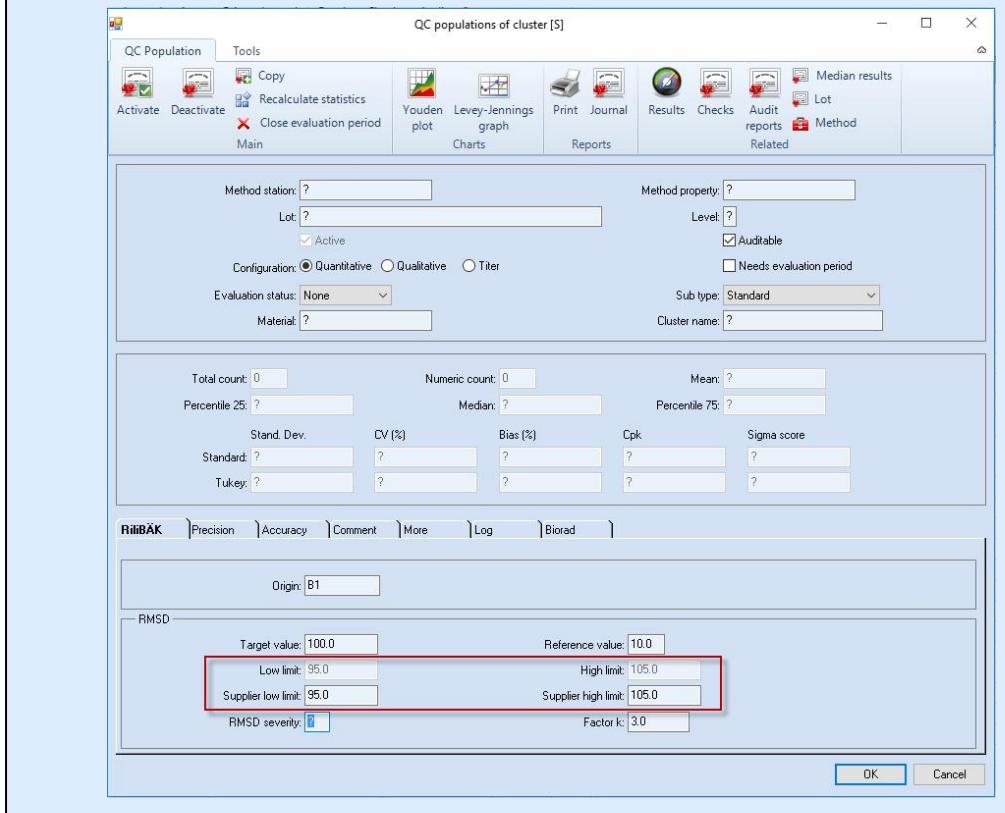
This has been changed: the strictest limits (calculated or supplier) will now determine the final low and high limit.

### Example

1. Create a QC population
2. In the RMSD settings, enter a **Target value** of 100 and a **Reference value** of 10.
3. The **Low limit** will be set to 90 and the **High limit** to 110.



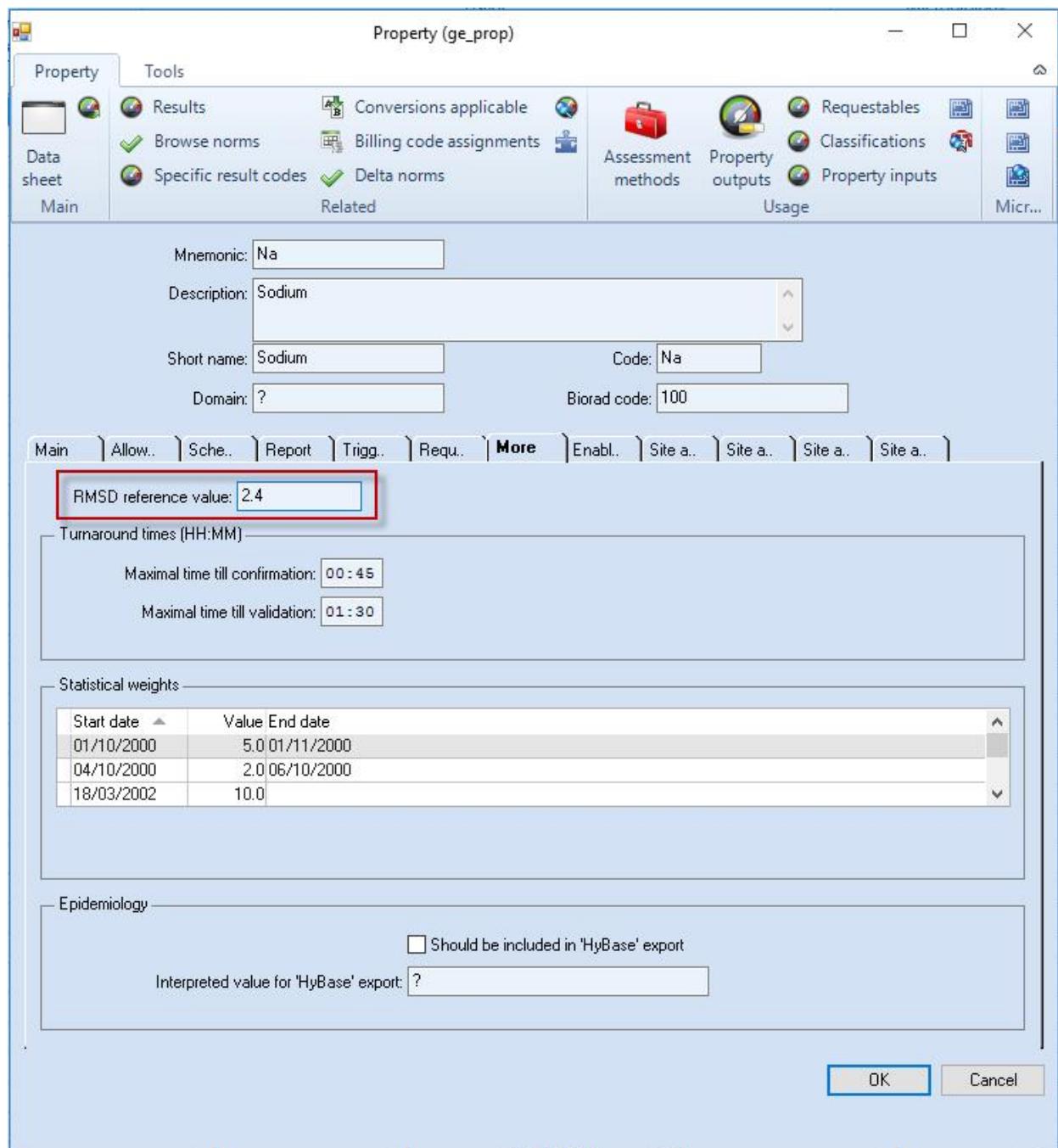
4. Now set the **Supplier low limit** to 95 and the **Supplier high limit** to 105.
5. The **Low limit** will be set to 95 and the **High limit** to 105 as the supplier limits are stricter.



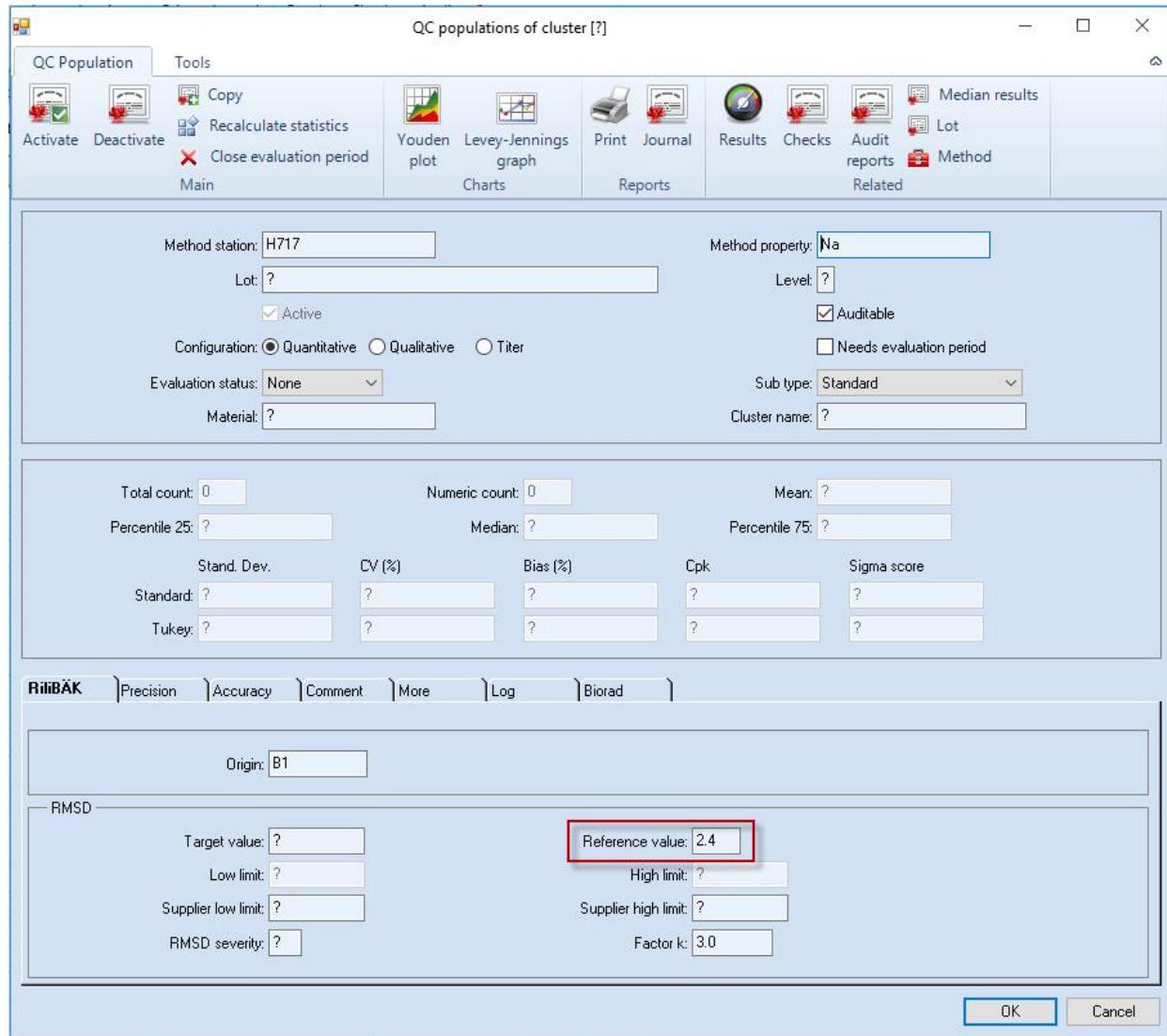
## RMSD reference value in Property configuration (GLIMS\_QCR8-00005)

To avoid having to enter a **Reference value** each time a RiliBÄK QC population is created, a new Property field **RMSD reference value** has been added. Its value will automatically be used as **Reference value** for a RiliBÄK QC population for this property (assessment method).

## Property configuration



## When creating a new QC population



## Only consider confirmed results for RiliBÄK QC audit (GLIMS\_QCR8-00006)

When printing a QC population, GLIMS allows to create a QC audit by enabling the option **Store as official audit** in the QC population print settings.

In case of a RiliBÄK QC population, GLIMS will only create a QC audit if the population contains at least 15 QC results within the date range specified in the QC population print settings.

Additionally, GLIMS will now check if there are at least 15 **confirmed** QC results. If not, the QC audit will not be created and a warning message will be shown to the user.

## Loosen restriction of 15 results for RiliBÄK QC audit (GLIMS\_QCR8-00007)

When printing a QC population, GLIMS allows to create a QC audit by enabling the option **Store as official audit** in the QC population print settings.

In previous versions, GLIMS would only create a QC audit if the population contained

- at least 15 confirmed QC results for a RiliBÄK population (within the date range specified in the QC population print settings).
- at least 20 confirmed QC results for a non-RiliBÄK population (within the date range specified in the QC population print settings).

For RiliBÄK populations, this restriction has now been loosened:

- If the date range specified in the QC population print settings covers a period longer than 3 months, the minimum of 15 confirmed QC results is no longer required. A message will still inform the user that less than 15 confirmed results are available.

## **Create control period if calculated RiliBäk limits are outside supplier limits (GLIMS\_QCR8-00008)**

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### **Problem description**

When using the contextual function Close evaluation period on a RiliBäk evaluation [QC population](#), the low / high limits are calculated. However, if the calculated limits were outside the supplier low / high limits, no control period was created.

### **Solution**

For RiliBäk QC populations, if the option [Create control period](#) is enabled in the [Close evaluation period](#) screen, a control period will now be created even if the calculated limits are outside the supplier limits.

## **Introduction of QC lot expiration severity (GLIMS\_QCR8-00010)**

---

When entering a QC result, GLIMS will now check if the QC lot is expired.

### **Expiration severity**

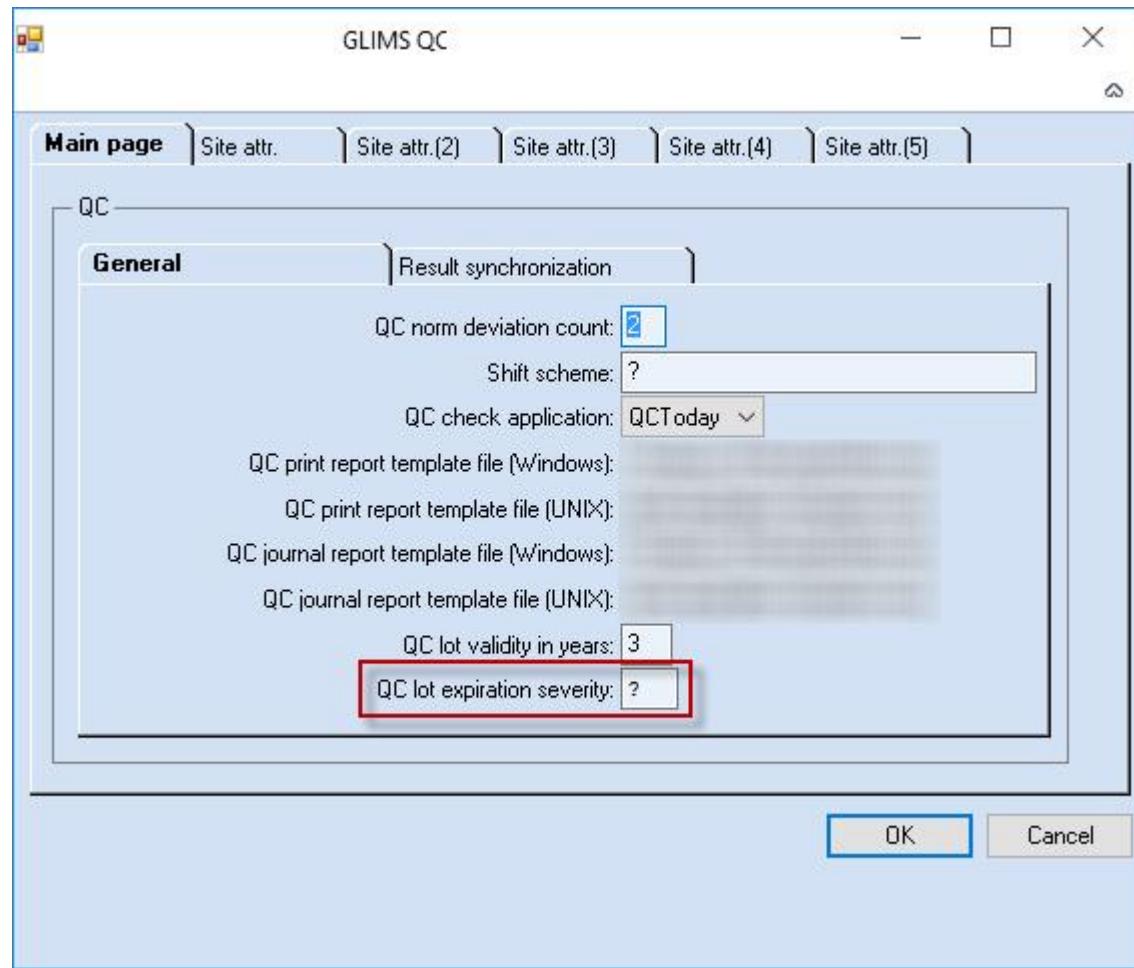
If the QC lot is expired when entering a QC result, a severity will now be applied to that QC result.

#### **Default severity**

By default a severity of [999](#) will be applied.

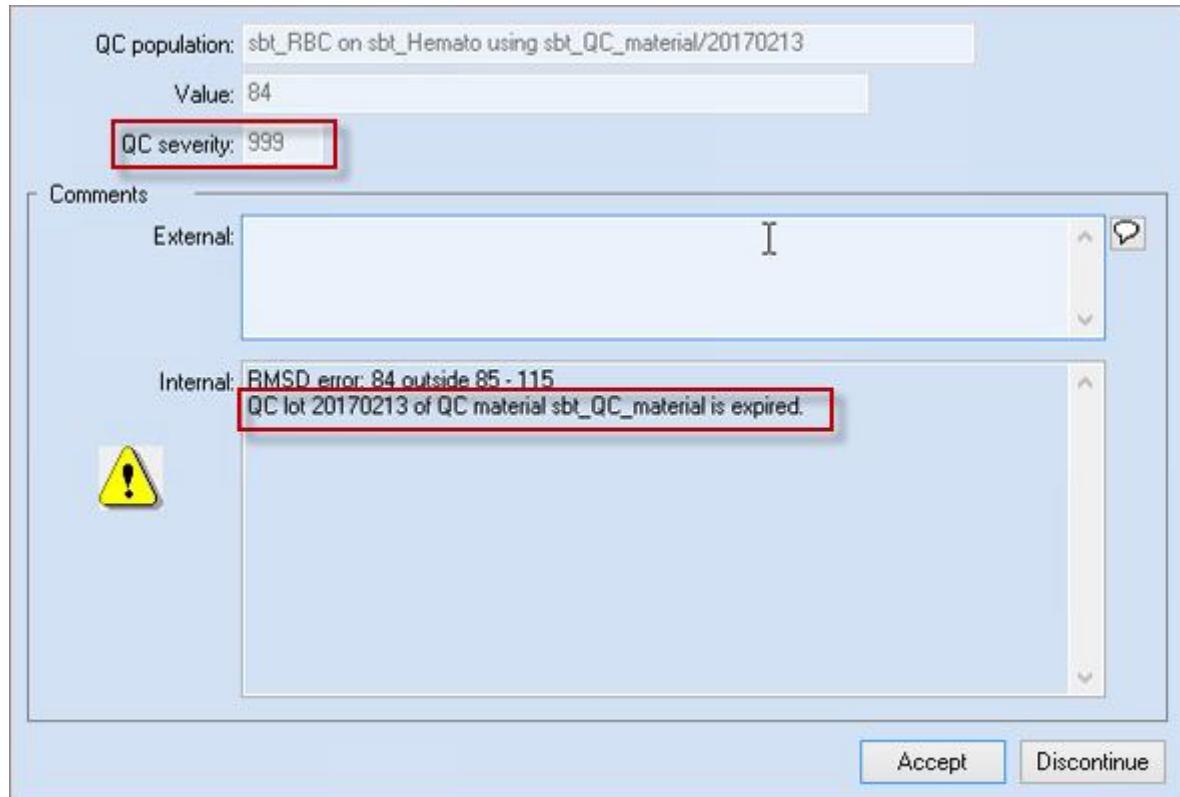
#### **Custom severity**

A custom severity to be applied can be specified in the option [QC lot expiration severity](#) of the general settings of the QC module.



#### Log in internal comment

Additionally, a log will be added in the internal comment of the QC result, indicating the reason of the applied severity.



#### Highlight expired lot in work list entry browser

In the work list entry browser (select a work list and choose the contextual function [Entries](#)), expired lots are shown in red (in the column [Action Object](#)).

### Correction for QCPopulation.RilibakOrigin field (Germany only) (GLIMS\_QCR8-00014)

#### Background information

In GLIMS 8, the site attribute QCPopulation.RMSDOrigin is a reference to the RiliBÄK test analysis tables, e.g. table B1. In GLIMS 9, this site attribute was converted to the database field QCPopulation.RilibakOrigin.

#### Problem description

After the upgrade from GLIMS 8 to GLIMS 9, the QCPopulation.RilibakOrigin field was filled with its default value "B1" for all QC populations.

As the conversion script only replaced the default value of the QCPopulation.RilibakOrigin field with the value of the QCPopulation.RMSDOrigin site attribute when the latter had a value (other than unknown), the default value of "B1" was not overwritten for all non RiliBÄK QC populations.

This has been corrected.

## **RMSD low limit not set correctly when creating a QC audit (GLIMS\_QCR8-00018)**

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An issue was reported where the RMSD **Low limit** was not set correctly when creating a **QC audit** via the Close evaluation period function (i.e. the **Low limit** was copied from the **High limit** in the **RMSD** tab page of the **QC audit** screen).

This has been corrected.

# Report Builder

## **"Reportable = When complete" of property classification title node ignored (GLIMS\_ARep-00213)**

A discrepancy was reported between [Glims Report Builder](#) and other [Report template](#) generator types: the option [Reportable = When complete](#) of property classification title nodes was ignored, and values were shown on the report even when not all results in the underlying nodes were considered complete.

This has been corrected. The result value is now hidden the same way as for other generator types.

## **GLIMS Report Builder attachments for electronic reports (GLIMS\_ARep-00220)**

A regression issue was reported where GLIMS Report Builder reports, destined as attachment for an electronic report, were accidentally deleted before they could be attached.

This regression was introduced in GLIMS 9.6.0, and has now been corrected.

## **GLIMS Report Builder: report template's result mark not applied (GLIMS\_ARep-00222)**

An issue was reported where the [Report template](#) option [Result mark](#) was no longer applied when turning off the [Report template](#) option [Remove PCL printer codes](#) since GLIMS 9.6.0.

This has been corrected.

## **GLIMS Report Builder: report template's body and trailer not applied (GLIMS\_ARep-00224)**

An issue was reported where the [Report template](#) options [Body](#) and [Trailer](#) were only applied if [Footer](#) was set when turning off the [Report template](#) option [Remove PCL printer codes](#) since GLIMS 9.6.0.

This has been corrected.

## **GLIMS Report Builder: correction for error "\*\*\* wb\_AntibiogramIsolation already exists with<id>. (132)" (Oracle databases only) (GLIMS\_ARep-00270)**

An Oracle-specific issue was reported where generating a result report with GLIMS Report Builder could cause an error if it contained an antibiogram:

\*\* wb\_AntibiogramIsolation already exists with<id>. (132)

As a consequence, the report could not be generated. This issue affected GLIMS 9.6.0 through 9.6.2 and has now been corrected.

## **Prevent Progress error due to large warning messages (MATE\_RB-00081)**

The Report Builder mechanism performs some checks if a user tries to print a report.

Previously, this could result in multiple message boxes (one for each warning) and an error could occur in case of very large messages.

We changed this with one information box where all messages are displayed together. Now the user gets a message indicating that there are warnings. The user can choose to see the warnings (all warnings in one window) or skip the messages. Additionally, only the first 30 000 characters of the messages are shown, to avoid Progress errors.

## **Report Builder: preview of report now has "Cancel" button (MATE\_RB-00129)**

### **Context**

In previous versions, all previews of reports generated via Report Builder were displayed with only a Close button - without the possibility to opt out of the report generation.

### **New functionality**

The preview window now offers users the option to cancel or proceed with printing / saving / mailing the report.

## **GLIMS Report Builder: correction for exporting reports in PDF/A format (MATE\_RB-00152)**

An issue was detected where it was no longer possible to export reports in PDF/A format via GLIMS Report Builder.

This has been corrected.

# Reports

## Resend reports when changing the object / encounter external id of an order (GLIMS-04530)

### Existing functionality

Since GLIMS 8.4 (GLIMS-04383), GLIMS supports resending electronic reports when changing the object of an order.

For more information, see Order - Change object and Person merge.

### New functionality

#### Paper reports

Resending reports when the object of an order is changed is now supported for paper reports as well. All orders of the object of the last month will be examined. These reports will be marked with **Needs checking** if they have been sent before. This will cause the reports to be resent.

#### Encounter.ExternalId

In addition, when the **External id** of an **Encounter** changes, the reports of all orders of the encounter of the last month will be marked with **Needs checking**. This will cause the reports to be resent.

## Issue with multiple report copy receivers (GLIMS-07785)

CyberLab can send order messages with multiple copy receivers. A standard report is created for each report copy receiver. Only one of these copy receivers is set as the order's report copy receiver.

### Problem description

When the order was modified, e.g. the address of the object is changed, then the reports of the copy receivers were lost, except for the report of the receiver who was stored as the order's report copy receiver.

This has been corrected.

## Issue with report copy receivers sent by CyberLab (GLIMS-07959)

CyberLab can send a list of report copy receivers for an order. These are the correspondents who need to receive a copy of the standard reports.

### Problem description

This list of report copy receivers is not stored in GLIMS and might get lost when the order is

modified (e.g. a request is added, the external comment is changed,...) and the reports need to be recreated.

This has been corrected.

## **Issue with validator of antibiogram result (GLIMS-07980)**

### **Problem description**

Antibiotic results are reported via the [Antibiogram property](#) of the micro-organism.

The department of the result for such an Antibiogram property wrongfully contained the order's department (department where the order was entered).

As a consequence, the validator of such a result (which can be printed on reports) was not always correctly calculated.

### **Solution**

The department of the result for an antibiogram property will now contain the department of the microbiology action, i.e. the department where the result was obtained.

This ensures that the correct validator is calculated and printed on reports.

## **Avoid deadlock for reports (Oracle only) (GLIMS-08041)**

### [Problem description](#)

Assume the following situation:

1. Two users are logged in GLIMS and perform the following actions simultaneously:
  1. User 1 validates result A. Result A will appear on Report X. Report X is locked as its NeedsChecking flag needs to be set.
  2. User 2 validates result B. Result B will appear on Report Y. Report Y is locked as its NeedsChecking flag needs to be set.
  3. User 1 validates result C. Result C will appear on Report Y. The NeedsChecking flag of Report Y cannot be set as it is locked by user 2.
  4. User 2 validates result D. Result D will appear on report X. The NeedsChecking flag of Report X cannot be set as it is locked by user 1.

This deadlock situation (which only occurred on Oracle systems) has now been solved.

## **Store report copy receiver list from CyberLab in GLIMS (GLIMS-08069)**

### [Background information](#)

CyberLab can send a list of report copy receivers for an order. These are the correspondents who need to receive a copy of the standard reports.

### [Problem description](#)

This list of report copy receivers is not stored in GLIMS. A number of issues have been reported about missing or unnecessary reports.

## Solution

The list of correspondent identifications, as communicated by CyberLab, will now be stored in GLIMS (in the automatically created [Order](#) site attribute [\\_ReportCopyReceiverList](#)) so that GLIMS is always able to send copies of the standard reports to the correspondents in this list.

## Backward compatibility

Storing the report copy receiver list from CyberLab in GLIMS will offer a solution for orders sent from CyberLab to GLIMS after upgrading to GLIMS 9.6.2.

Orders imported before the upgrade might still experience the reported issues.

## No deadlocks anymore when setting "Needs checking" flag (GLIMS-08393)

The [Needs checking](#) option indicates whether a report should be evaluated during report generation.

A deadlock sometimes occurred on the Oracle database when a report's [Needs Checking](#) flag was set.

This issue has been solved.

## Note

### Note

The problem occurred since version 9.5.17 on Oracle.

## Error message displayed upon approval of non-selected report (GLIMS-08458)

When

- using the contextual menu/ribbon item Approve on a report without having selected this report, and
- the report did not refer to an HC provider, for instance,

no error message was displayed.

This issue, which occurred since 9.4.0, has been corrected: an informative error message, such as "No responsible found for this report", is now displayed.

## Add report function only adds one report for multiple default reports with the same code (GLIMS-10480)

## Background

A **Default report** has a non-unique **Code**. This means that the same code can be shared by more than one default report.

#### Issue + solution

When adding reports manually using the contextual function **Add report** on **Order** and specifying a **Report code** for which multiple default reports exist, then all eligible default reports having the specified code should be scheduled. However, since GLIMS 9.5, only one was scheduled.

This has been corrected.

### Correction for exporting specimen details during report generation (GLIMS\_RX-00575)

When generating reports and enabling the option **Specimen details** in the **Items to export** window (accessible via the **Report items** button in the **Electronic** tab of the **Generate reports** screen), the reference to the specimen was not exported for results without an action (e.g. microbiology culture results). This has been corrected.

### Absolute file paths to image results during online reporting (GLIMS\_RX-00581)

#### Problem description

In case of electronic reports, when the `Result.Value` of results for properties with data type **Image** contains an absolute file path, then the value of the `ImageServerDir` environment variable (set in the application startup file: `.glimsrc` on UNIX or `progress.ini` on Windows) was added to it. As a result, an incorrect path was exported.

#### Example

- `ImageServerDir = \\Imagery\GLIMSMisclImages`
- `Result.RawValue = \\Imagery\GLIMSR esult\Images\test.jpg`
- When both are joined, an incorrect file path is composed: `\\Imagery\GLIMSMisclImages\Imagery\GLIMSR esult\Images\test.jpg`

#### Note

This problem occurred since GLIMS 9.5.1.

#### Current functionality

GLIMS will now check if the file path in `Result.Value` is absolute or not:

- If the file path is considered an absolute path, the `Result.Value` is exported directly.
- If the file path is considered a relative path, the `Result.Value` is prefixed with the value of the `ImageServerDir` variable. If the variable is not set, the relative path stored in `Result.Value` is exported.

**Note**

- GLIMS does not check whether or not the image file exists.
- Absolute paths formatted as URI (`http://`, `file://`, `ftp://`,...) are not supported.

**Warning**

We recommend using **relative paths** in `Result.Value` in combination with the `ImageServerDir` variable. This way, image files can be moved to another location, if required. Only the directory specified in the `ImageServerDir` variable would then need to be updated.

This is not possible when using absolute file paths in `Result.Value!` If used, absolute UNC paths must be used.

Relative paths cannot start with "/" or "\". Paths starting with "/" or "\"" are considered to be absolute paths.

## Report completeness in case of report condition (GLIMS\_RX-00594)

### Problem description

Paper reports and electronic reports were handled differently when it came to checking the Completeness status of a report in case a Report condition was defined on a property classification node.

### Paper reports

The property classification node's **Report condition** is evaluated before the report's **Completeness status** is checked.

### Electronic reports

The report's **Completeness status** was checked before the property classification node's **Report condition** was evaluated.

Consequently, results that would have been skipped because of the **Report condition** still influenced the report completeness status, which is not correct.

### Solution

This has been corrected. For both paper and electronic reports, the **Report condition** will now be evaluated before the **Completeness status** is checked.

## Discriminator of LOINC code not taken into account (GLIMS\_RX-00597)

When sending out result reports for which the LOINC code must be exported, the **Discriminator** defined for the LOINC code was not taken into account when determining the appropriate LOINC code for the result.

This has been corrected.

## Solution for missing data in generated online reports (GLIMS\_RX-00600)

## Background

GLIMS supports electronic online reports. These reports are not compatible with the **Repeat per specimen** function of the Property classification nodes. Indeed this function is only intended for text reports.

## Issue

Some customers use the same property classifications for text and online reports and activate the **Repeat per specimen** function on the property classification nodes. As this function is not compatible with online reports, this lead to result data missing in these reports.

## Solution

From now on, when the **Repeat per specimen** function is activated on a property classification node, the system ignores it during the generation of an online report. The function is only taken into account during the generation of text reports.

## **Correction for result report generation (MATE-04642)**

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An error occurred when result reports were generated in preview. This has been corrected.

# Results

## **Executing department not taken into account in "Incomplete results" query (GLIMS-07844)**

An issue was reported where the parameters **Executing department (group)** were not taken into account when using the **Incomplete results** query.

This has been corrected.

### Note

Problem occurred since GLIMS 9.5.

## **Incorrect display of "Modify validated result" window in "Results of order" browser (GLIMS-07860)**

### Problem description

The following issue was reported:

- In the **Results of order** browser, enter a result value.
- Confirm the result via the **Confirm all** button.
- Use F6 on the result to enter an external comment.
- Validate the result via the **Validate all** button.
- Click in the result value cell, then in the property cell.
- Although the result has not been changed, a **Modify validated result** window appears asking for a justification.
- Fill in a justification and click **OK**.
- The warning **Input value is an invalid numeric result** is shown.
- When choosing to store the result, the result value was prefixed with "\*\*\*".

This has been corrected.

### Note

Problem occurred since GLIMS 9.

## **Impossible to zoom in on value of confirmed / validated results (GLIMS-07929)**

It was impossible for a user without result confirmation / validation privileges to zoom in (via F6) on the value of a confirmed / validated result (e.g. opening the **Result** editor from a patient's **Result overview** and using F6 in the **Value** field to fully display a long result value).

### Note

Problem occurred since GLIMS 9.5.

## Correction for phone status of results marked as not to be phoned (GLIMS-08022)

An issue was reported where the **Phone status** of results which were manually marked as not to be phoned, was reset to **Yes** when a new request was added to the order.

This has been corrected.

### Note

Problem occurred since GLIMS 9.

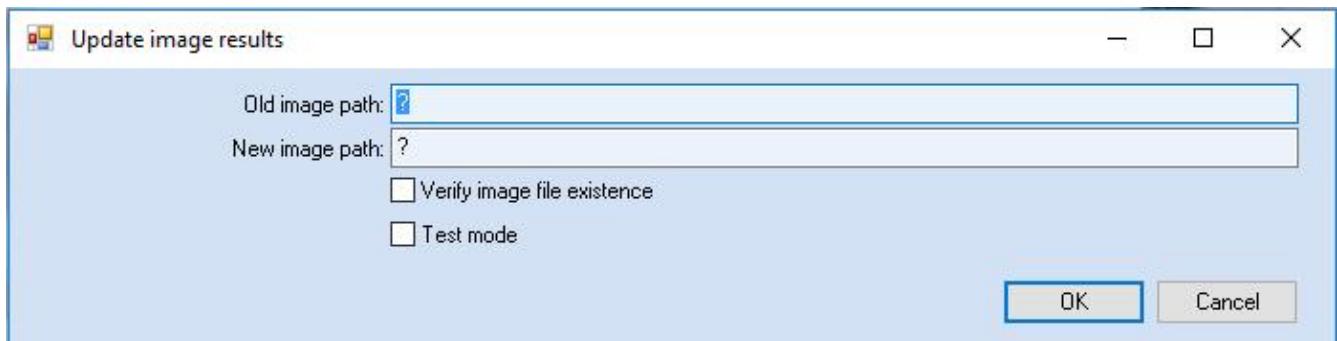
## Tool to change path of image results (GLIMS-08087)

### Introduction

The value of an image result may contain the path to the actual image file. If one decides to move all image files to a new directory, it must be possible to update all image results in GLIMS to refer that new directory.

### Tool to change path of image results

A tool is now 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**.



### Old image path

Original directory where the images are stored.

### New image path

New directory where the images are stored.

### Verify image file existence

If enabled, GLIMS will check (for each image result) if the image file actually exists in the new directory.

#### Note

This information will be shown in the log file. If the image file cannot be found in the new directory, the image result will be updated anyway.

The log file can be used to check if all images are actually available in the new directory.

### Test mode

If enabled, all information will be stored in the log file, but the actual image results will not be changed.

### Conversion of image result values

This tool looks up all results for properties with data type **Image** where the raw value matches the specified **Old image path** and replaces the raw value with the specified **New image path** (when not in test mode).

All changes are saved in a log file with a unique file name in the session's temp folder (also in test mode).

## Correction for result overview in case of Person without Object (GLIMS-08175)

When opening the **Result overview** from a person in the **Person** browser via **Object > Show all... > Result overview** and selecting another person without an **Object**, the column headers in the result overview still displayed the information (i.e. order, specimen, object time) of the initially selected person whereas they should have been cleared.

This has been corrected.

## Calculated results requested first also refer to a specimen (GLIMS-08344)

### Issue

When a calculated result was requested before any other result, it did not refer to a specimen.

### Cause

To reference a root specimen, results take the parent specimen of their input specimen. However calculated results have actions whose inputs are not specimens but results. They thus need to get a root specimen from other requested results. The system was set in such a way that calculated results could only get a root specimen from results requested before them. When a calculated result was requested first, there was obviously no specimen available yet.

### Note

#### Note

The problem occurred since version 8.

### Solution

Root specimens now set the root specimens of all results and specimens which derive from them. That way, even if a calculated result is required before any other result, its root specimen will be set.

## **Correction of identical field names in Result editor (GLIMS-08397)**

In the **Severity** tab of the Result editor, two fields were labelled **Norm**.

This has been corrected: one of the two fields was renamed **Norm severity**.

## **Display and translation of severity result flags (GLIMS-08399)**

This modification solves two issues regarding the display of severity result flags in Result browsers:

- The result flag column in some browsers was not large enough to display all possible flags.
- The English result flags N, D, S, M, Q, P were not translated in other languages.

These issues have been corrected. The list of translated result flags is provided in the chapter Result browsers of the manual.

## **Severity applied to result when result value is not in choice list (GLIMS-08488)**

### **Background**

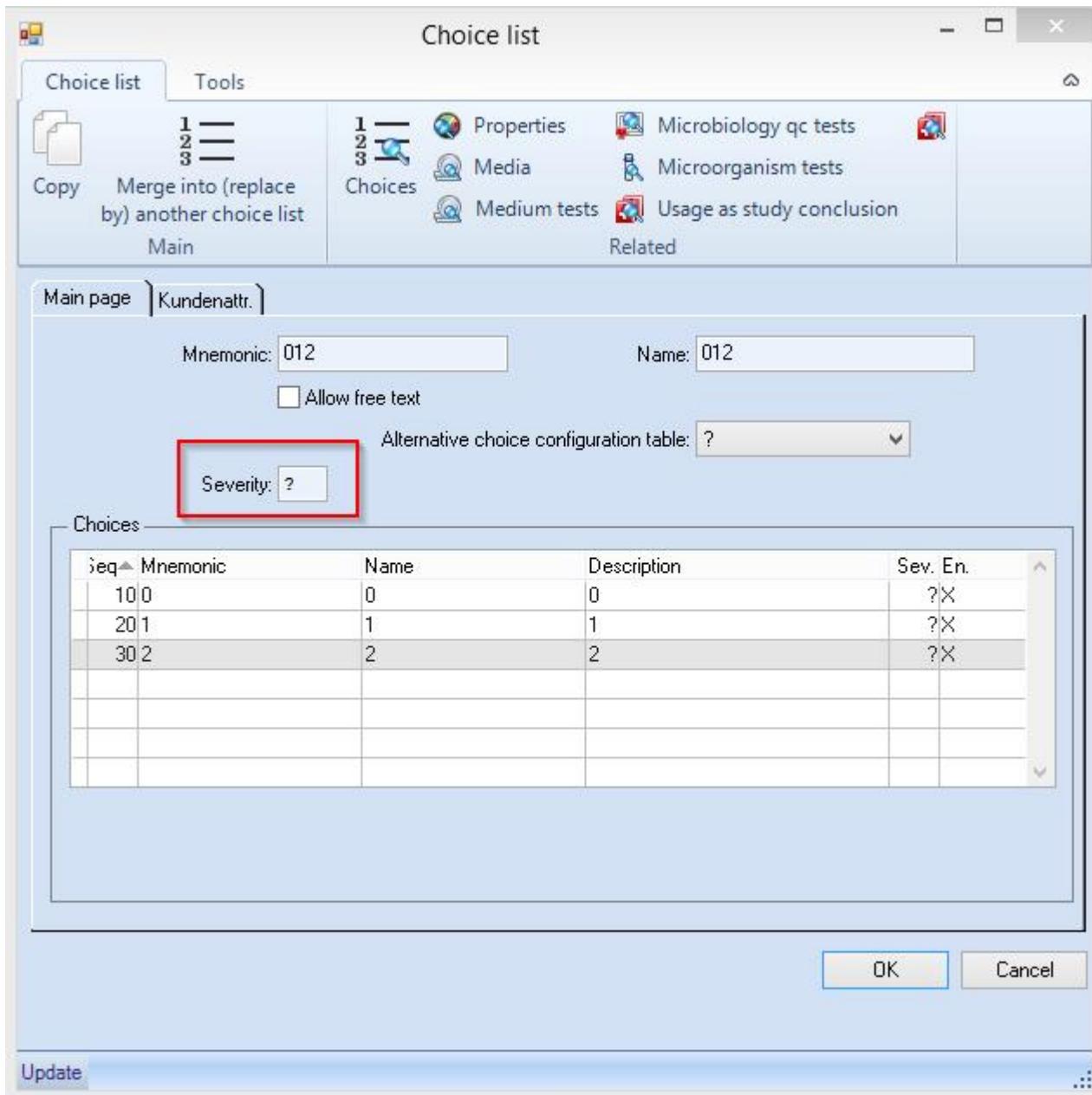
GLIMS offers the possibility to define choice lists for result values. Choice lists are linked to properties via property editors.

### **Issue**

When a result value entered for a property did not belong to the choice list linked to that property, GLIMS automatically applied a severity of 0 to the result. As a consequence, all results with non-listed (and thus unexpected) values were considered acceptable and automatically validated.

### **Solution**

When creating a choice list, it is now possible to specify a severity. This severity will be applied as norm severity to the results whose value does not belong to the choice list. If no severity is specified in the choice list editor, the norm severity applied to the results is 0.



## **Locking issue during result confirmation or validation (GLIMS-08508)**

Database locks could occur during result confirmation or validation which could lead to deadlocks in a multi-user environment.

This has been corrected.

## **Result erroneously detected as changed lead to discontinue-repeat (GLIMS-08522)**

An issue occurred in which certain result values were erroneously detected as changed. This lead to the discontinuation-repetition of the results.

The issue has been solved.

## Correction for truncated result value in result browser (MATE-04345)

When using the F5, CTRL-F5, SHIFT-F5 keys or the **Query - Refresh / Query - Reopen** options in the contextual Tools ribbon while the cursor is in the result value cell of a result browser, the text in the result value cell is truncated when it is too long to be fully displayed. However, the truncated value was saved into the database.

This has been corrected. The truncated value is still shown on screen, but never saved into the database.

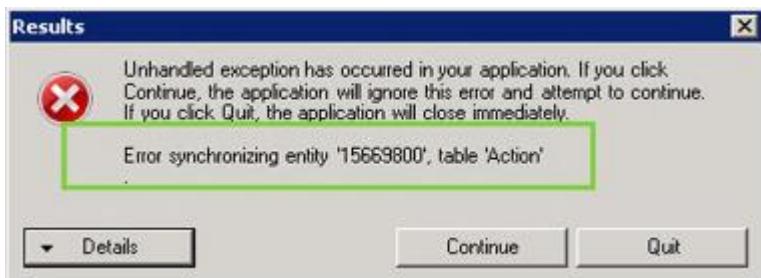
## Correct error message when value lies outside low/high reject range (MATE-04574)

### Context

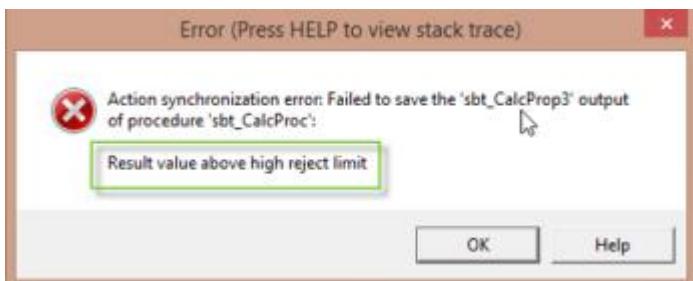
In the assessment method editor, the **Low reject** and **High reject** fields allow the definition of a range of values that are acceptable for the corresponding property. When actual values are situated outside this range, an error message is displayed.

### Issue and solution

When a calculated result entered was outside the range of accepted values, a wrong error message was displayed:



This has been corrected. The correct error message is now displayed:



When working in batch, the same correct error appears in the log file of the service.

# Security

## **Access profile field available in Employee assignment editor of Security center (GLIMS-10451)**

When the Employee assignment editor was opened from the [Employee assignment](#) tab of the Security center, it did not contain any editable [Access profile](#) field.

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

## **Improved version of Security Center when AppServer is unavailable (MATE-04392)**

The Security Center in GLIMS has been improved so that it can now also be used when the AppServer is unavailable.

## **No error messages anymore when closing Security center (MATE-04674)**

When closing the screen of the Security center while tabs such as [Roles](#) and [Users](#) were open, error messages appeared and GLIMS had to be restarted.

This issue occurred in the GLIMS versions using OpenEdge 11.6. It has been corrected.

## **Enhancements for user authentication via LDAP (MATE-04677)**

### **Context**

GLIMS supports user authentication via LDAP. Some enhancements have been implemented which only apply when using an [unencrypted](#) connection.

### **Domains with more than 2 components**

In previous versions, domains with more than 2 components were not handled correctly. This has been corrected. A domain specification like mysub.domain.be should now work correctly.

### **-noAD option**

It is now possible to use the -noAD option for non Active Directory LDAP applications. Use this option if your LDAP configuration is not Active Directory compliant.

When using this option, the UserAccountControl attribute for enabled/locked accounts will no longer be verified as UserAccountControl is Active Directory specific.

### **OU=Users**

For a non Active Directory LDAP configuration, OU=Users will also be verified when attempting the bind (authenticating user name / password).

### **-trace / -debug options**

Both options give feedback about the user authentication process via LDAP.

# Setup

## **Improvements for auto db upgrade mechanism on Oracle (MATE-04371)**

Some improvements have been implemented for the auto db upgrade mechanism on Oracle:

- The SQL statements are included in the log file.
- On UNIX, the feedback messages are now always shown.

# Specimens

## Link between result and root specimen (GLIMS-07743)

When adding property requests on a sub specimen of an existing order, the result records did not refer to the root specimen. Instead they referred to the sub specimen they were requested on. A similar issue was reported for auto prompt results.

As a consequence, those results were not validated when using the **Validate this screen** function in the **Pathology work screen** (for a **Genetics** department).

This has been corrected.

### Note

Problem occurred since GLIMS 9.4

## Correction for specimen query in command (GLIMS-07935)

When using the specimen query in a command and specifying a query parameter set with a specimen status range from **Available** to **Available**, the warning **Invalid query specification** was displayed when the command was executed.

This has been corrected.

## Error when using Specimen function "Change sampling time" (GLIMS-08013)

Problem description:

- Select an order.
- Select the contextual function **Specimens**.
- Select a specimen.
- Select the contextual function **Change sampling time**.
- Do not enter a **New time**, but enable the option **Sampling time confirmed**.
- An error occurred and the specimen was not marked as **Sampled**.

This has been corrected.

### Note

Problem occurred since GLIMS 9.6.1.

## **Correction for locking issue during specimen review (Oracle databases only) (GLIMS-08123)**

A locking issue was detected during specimen review when using GLIMS in combination with an Oracle database. This has been corrected.

### **Note**

Problem occurred since GLIMS 9.5.6.

## **Specimen size indicated by CyberLab not recalculated in GLIMS (GLIMS-08209)**

CyberLab can send order messages to GLIMS. When such a message was sent for a new order in which the size of the specimen was specified, the order creation postprocess in GLIMS would recalculate the specimen size.

This was not desirable and has been corrected.

### **Note**

#### **Note**

The problem occurred since version 9.5.

## **Change sampling time function takes predefined parameters into account (GLIMS-08268)**

Predefined parameter sets for the specimen change sampling time function were overridden by the default parameters of the function.

This has been corrected.

## **Specimen reception scan: new option to keep material button screen open (GLIMS-08487)**

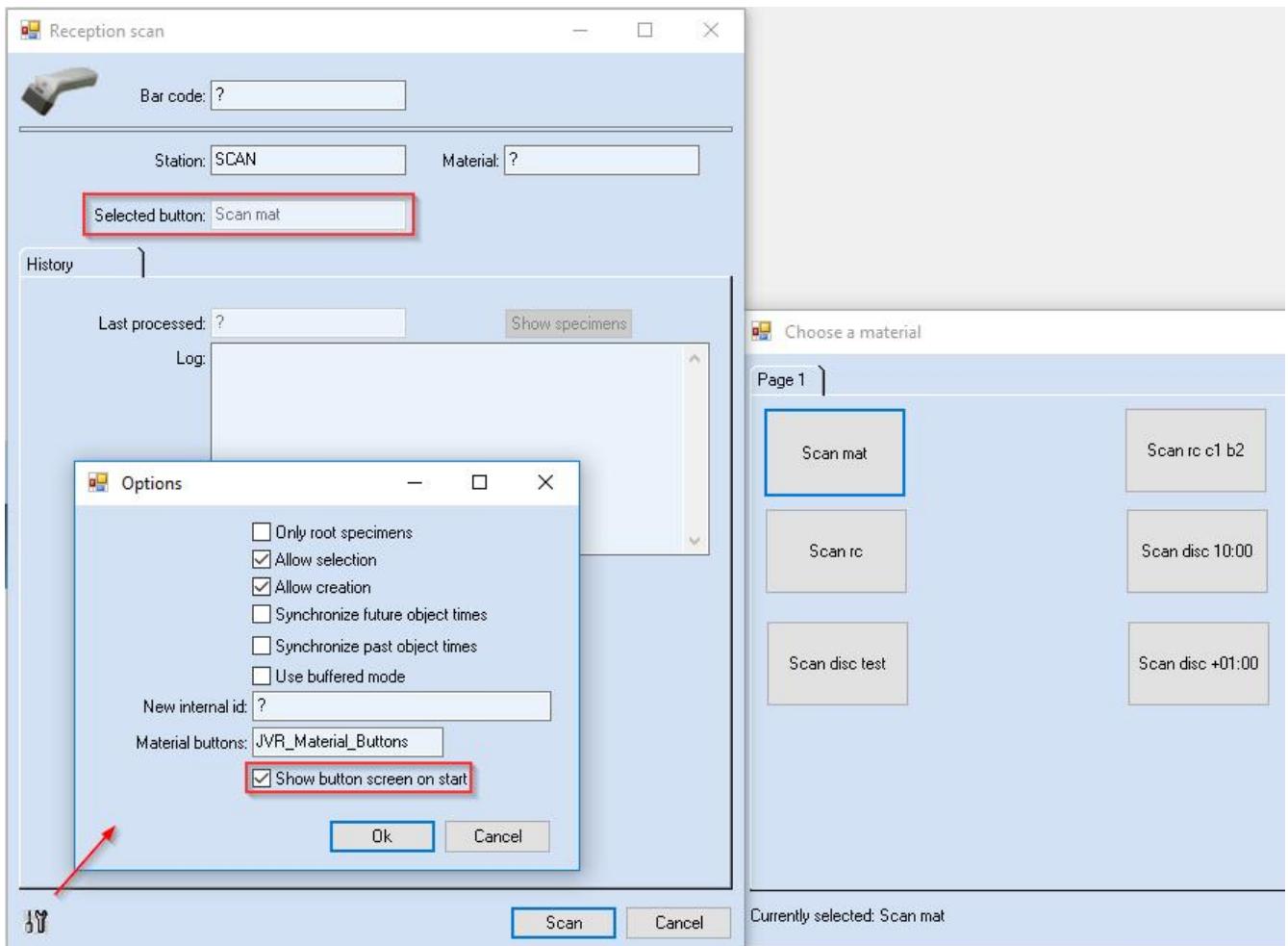
### **Context**

The specimen reception scan program allows to select a material button screen to be used when scanning specimens. This allows choosing a material after having scanned a new specimen (not yet known in GLIMS) via a screen with buttons where each button represents a material. This can be more efficient for the user than filling out the material field each time, especially when using a touch screen.

Up until now, this functionality consisted in the material button screen opening after scanning a new specimen and closing after choosing the material (button) for the scanned specimen.

### **New functionality**

A new option **Show button screen on start** is now available.



When this option is enabled and a material button screen is selected in the [Options](#) of the specimen reception scan program, the selected material button screen will be opened when opening the specimen reception scan program and will stay open as long as the specimen reception scan screen is open. Instead of having the material button screen pop up at each scan, the user can now click once on a material button in order for the selected button to be taken into account for several scans. The [Selected button](#) will also be visible in the specimen reception scan screen. If a [Material](#) is specified in the specimen reception scan screen, the currently selected button will be ignored.

## **Extra info field of specimen variable allows longer sequence of characters (GLIMS-10555)**

In GLIMS, the specimen variable editor contains an [Extra info](#) field. This field could only contain 40 characters. This was too little to store certain comments sent from CyberLab. The allowed amount of characters has therefore been increased to 255.

The information contained in the [Extra info](#) field is also displayed elsewhere in GLIMS. Some of these places have also been adapted to allow longer texts: the specimen information box in the specimen review program, the specimen variable [Info](#) field in order entry and the [Material](#) column in the item storage browser.

# Statistics

## Size limitation for user-defined statistics rows and columns (GLIMS-10378)

### Background

In the Statistics module, the content of rows and columns can be tailored to the user's need. Next to standard classification options (such as Days, Status and Issuers), it is possible to display user-defined classifications, using a MISPL function.

### Issue and solution

The fact that the string returned by the MISPL function is limited in length was not mentioned in the GLIMS manual. As a consequence, some users reported that the content of rows or columns was sometimes truncated.

This omission has been rectified: the maximum length of the returned string and the way it is calculated are now presented in the chapter Statistics: layout screen of the manual.

## Correction for export of statistics in CSV format (MATE\_STAT-00156)

The export of statistics in CSV format did not properly escape line breaks or quote characters. This has been corrected.

## Order statistics: population-based or sample-based coefficient of variation (MATE\_STAT-00157)

### Context

The production statistics for orders already offer the possibility to calculate a population- or sample-based standard deviation and a population- or sample-based variance. However, there was only one option to calculate the coefficient of variation, which was population-based.

### Population- or sample-based coefficient of variation

In the production statistics for orders, it is now possible to select a population-based or a sample-based coefficient of variation. These options can be selected as **Table cell contents** if **Base value** is also selected.

#### Note

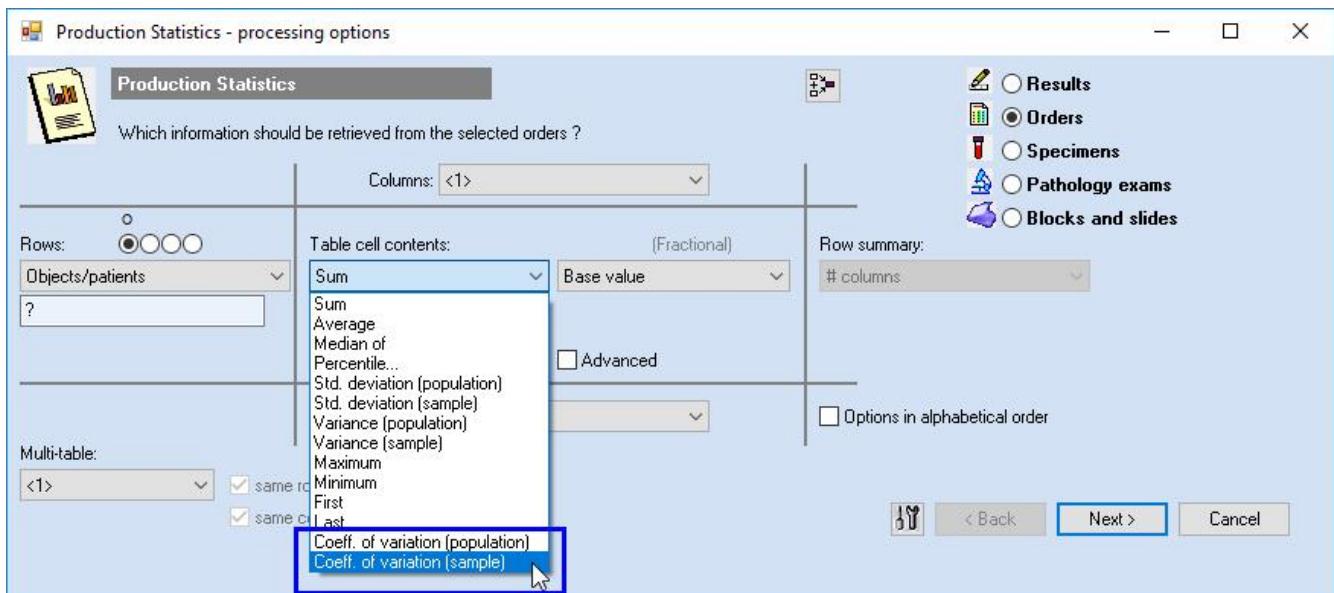
The coefficient of variation (expressed in percentage) is calculated as follows: (Standard deviation / Mean) \* 100.

### Coeff. of variation (population)

Is calculated using the population-based standard deviation.

## Coeff. of variation (sample)

Is calculated using the sample-based standard deviation.



# Stock management

## Support for invoice and payment information per delivery (GLIMS\_STCK-00548)

### Context

In previous versions, invoice and payment information in the stock management module was only purchase order-scoped, meaning that invoice and payment information could only be entered once for a purchase order. However, as a purchase order is very often delivered through multiple deliveries, the invoice and payment information should also be delivery-scoped, meaning that it should also be possible to enter invoice and payment information for a purchase order per delivery.

### New table "PurchaseOrderInvoice"

In order to support this, a new database table **PurchaseOrderInvoice** has been added which links to both the **PurchaseOrder** and the **Delivery** table. It contains the purchase order invoices per delivery.

It can be accessed from a **Purchase order** and from a **Delivery** via the contextual function **Show all > Purchase order invoices**.

The screenshot shows a software interface titled "Purchase order invoice". The window has a toolbar at the top with various icons for New, Save, Duplicate, View, Edit, Delete, Record, Navi..., Data, Sele..., Action, Audit, and View. Below the toolbar, there are several input fields and a checkbox:

- Purchase order: 180
- Delivery courier: DHL
- Delivery shipment no: 20080519\_002
- Invoice no: ?
- Invoice date: / /
- Payment no: ?
- Payment date: / /
- Cost location: ?
- Checked

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

#### Note

Normally, it will not be necessary to access this table. However, occasional corrections to the invoice and payment related fields are possible. It is strongly recommended to protect these fields with a privilege.

### Embedded browser with invoice and payment related information

An embedded **Billing** browser (displaying the invoice and payment information of the **Purchase order invoice** records) is now available in the following screens:

#### Purchase order

The embedded **Billing** browser will only have records for purchase orders with status **Partial** or **Complete**.

#### Note

The invoice and payment information (invoice no, invoice date, payment no, payment date) can be updated in this browser as long as the purchase order does not have status **Checked** or **Closed**.

#### Check in

For each purchase order that is selected for check in, a new record is added in the **Billing** browser. The invoice and payment information (invoice no, invoice date, payment no, payment date) can be filled in this browser. When clicking on the **Check in** button, the **Purchase order invoice** records are created.

Check in

**Delivery**

Courier: DHL Comment: Received at: 03/01/2018 13:50  
Shipment no: ? by: John

**'dspec' products of purchase order '1003'**

**Check in:**

Supplier: ROCHE Work place: dwp1 Stock: dbs1.1 Purchase order: ?

Scan by:  Package  Product External id: ?  
Scanned qty: ? of: 1 Lot: ?  
 Unique external id  Auto confirm Production date: / /  
Bar code: ? Confirm Expiration date: / /

Internal id	External id	Lot	Produced	Expires	Stock
Package 1	?	?			dbs1.1

**Items**

Purchase order	Article no	Name	Package code	Ord	Avl	Dlv	Price	Cur	Status
1003	?	dspec	?		0	0	5.00	EUR	None

**Billing**

Purchase order	Invoice no	Invoice date	Payment no	Payment date	Cost location	Checked
1003	1	03/01/2018	1	03/01/2018	?	No

**Note**

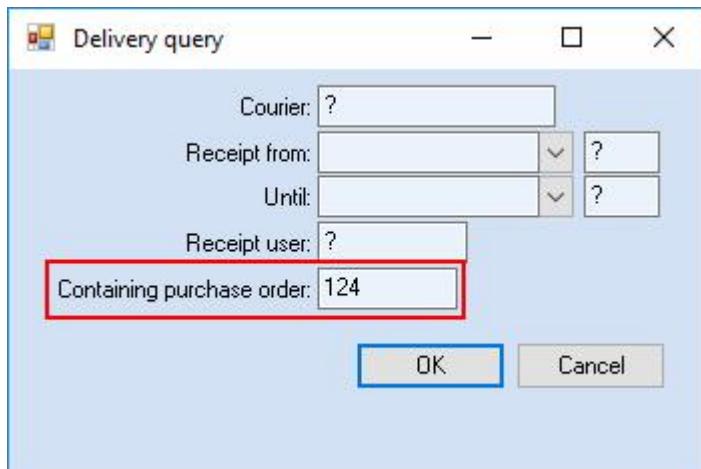
Initially, the **Checked** option of the **Purchase order invoice** record is set to **No**. The **Check** function on **Purchase order** can be used to mark the purchase order invoices and the purchase order as **Checked**.

**Check in** **Close**

## Additional (query) options

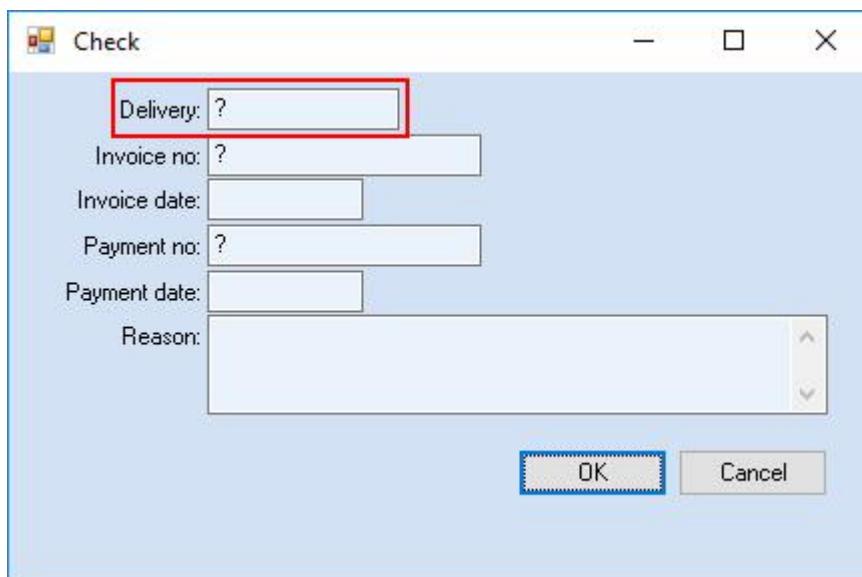
### Delivery query

The Delivery query has a new query parameter **Containing purchase order**. When specified, only deliveries will be selected with a **Purchase order invoice** record for the specified purchase order.



#### "Check purchase order" function

The Check purchase order function now has an additional parameter **Delivery** to select the **Purchase order invoice** record that needs to be updated / checked. Using this function marks the selected **Purchase order invoice** as **Checked**. When all purchase order invoices are **Checked**, then the purchase order status will also be set to **Checked**.

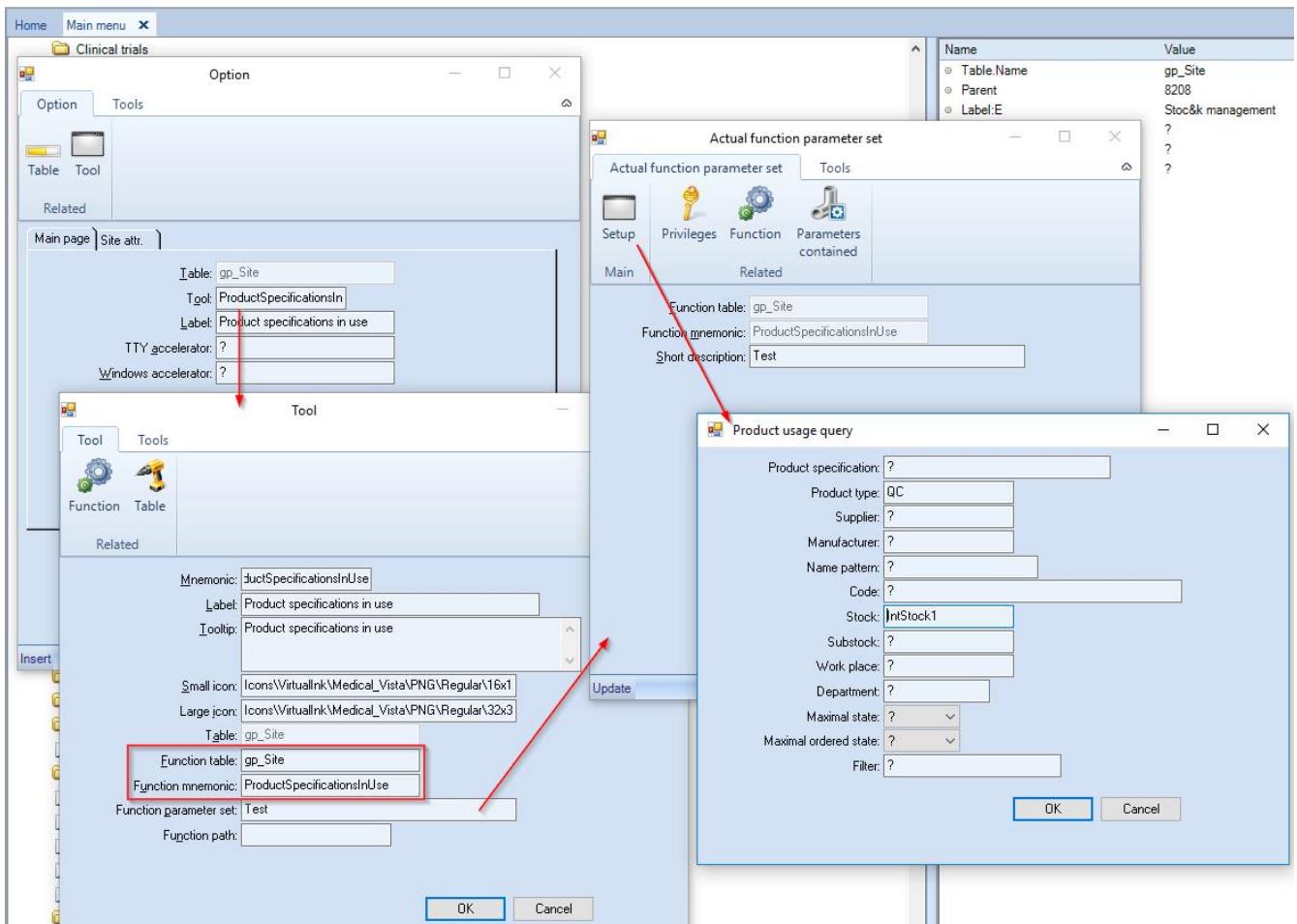


#### Addition of invoice information on purchase order forms

It is now also possible to display invoice information on purchase order forms (see [GLIMS\\_STCK-00551](#)).

#### Function "Product specifications in use" is now preconfigurable ([GLIMS\\_STCK-00549](#))

The product specifications in use function can now be pre-configured, which means that it is possible to define a menu option / ribbon item with a tool that has a parameter set:



## New contextual function "Return to stock" on Product (GLIMS\_STCK-00550)

### Context

In the stock management module, delivered products can be checked out, discontinued, transferred or exchanged via the product check-out screen. However, reversing these actions if performed erroneously was not possible.

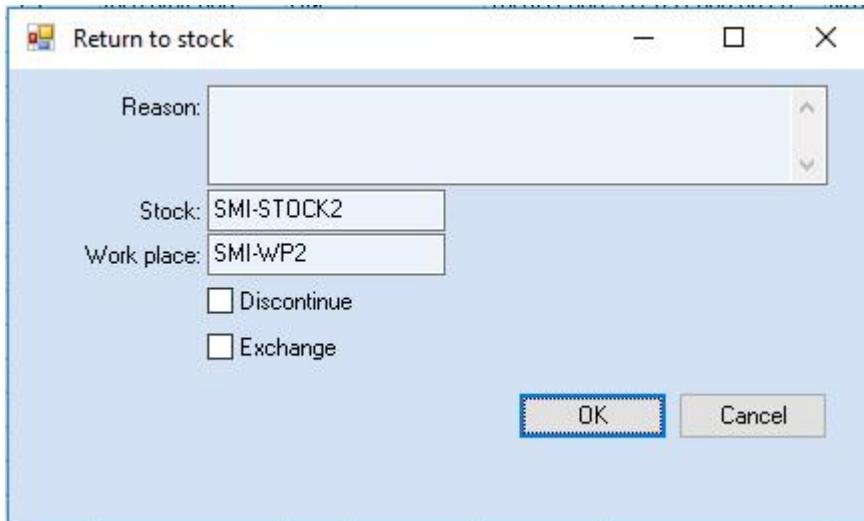
### New contextual function "Return to stock"

A new contextual function **Return to stock** is now available. It can be used for **Checked out**, **Exchanged**, and **Discontinued** products in case a check out, discontinue, transfer or exchange action was performed erroneously and needs to be reversed.

### In general

If the function is executed while the **Discontinue** or **Exchange** option is disabled (see [Function parameters](#) below), the status of the product will be changed to **Delivered**. Moreover, the fields **Check out time**, **Check out user** and **Check out reason** will be cleared. In case the function is executed for a discontinued product, the fields **Discontinuation time**, **Discontinuation user** and **Discontinuation reason** of the product will also be cleared.

### Function parameters



## Reason

Specify the reason why this function is executed for the selected product. This field is mandatory. The specified reason will be logged (see [Logging](#) below). When the **Discontinue** option is enabled, the specified reason will be set as the product's **Discontinuation reason**.

## Stock

The product will be transferred to the specified **Stock**.

## Work place

The product will be transferred to the specified **Work place**.

## Discontinue

If enabled, the status of the checked out, exchanged or discontinued product will be changed to **Discontinued**. The product's **Discontinuation reason**, **Discontinuation time** and **Discontinuation user** will be set. This option allows to combine the return to stock and the discontinue actions.

## Exchange

If enabled, the status of the checked out, exchanged or discontinued product will be changed to **Exchanged**. This option allows to combine the return to stock and the exchange actions.

## Logging

The product log will be updated and can be consulted by using the **View log** contextual function on **Product**.

## Correction and extension for the generation of purchase order forms (**GLIMS\_STCK-00551**)

### Introduction

Purchase order forms are reports that are generated and sent to a supplier to order products.

This modification solves one issue regarding the generation of purchase order forms and extends this functionality (see also release note [GLIMS\\_STCK-00548](#)).

### Issue and solution

When GLIMS was started using the European locale, i.e when the -E parameter was indicated in the session.pf file (see the chapter "The parameters in session.pf" in the System manual), calculated purchase item prices on generated PDF order forms were 1000 times too high.

The issue has been fixed: calculations are now also correct when GLIMS uses the European number format.

### Note

#### Note

It might be necessary to do some conversions in IReport to display prices in European format.

### Functionality extension

Purchase order forms are, by definition, used to order products. Since invoicing occurs after product delivery, purchase order forms did not need to contain any billing information. Some users however wish to use purchase order forms as general reports and to generate them at any time, even after delivery. Therefore, a subreport for purchase order invoices (PurchaseOrderInvoices.jrxml) can now be added to purchase order forms. This is illustrated here:

The screenshot shows a Purchase Order form with the following details:

**MIPS NV**  
**Department: Laboratory**  
**Delivery: Delivery desk (1st floor)**  
**OPEN: 8h-18h**  
Industrielaan 132  
04001 BASEL  
Tel.: +31(9)220.23.21  
Fax.:

**PurchaseOrder.jrxml**  
Customer nr. : Test  
Address:  
Tel. :  
Fax. :  
Email:

**PurchaseItems.jrxml**  

Article Number	Product Name	Unit	Quantity	Price	Total price
AVLABP9930	AVL A-LINE Combisampler Comm.: sdfsfdsdrrtyr		10		

  
Number items: 1  
Total amount: 0.00

**PurchaseOrderInvoices.jrxml**  

Delivery courier	Delivery shipment	Invoice no	Invoice date	Payment no	Payment date
DATACTION	sdfsd	Test inv	28/02/2007	Test paym	08/03/2007

## Generating and sending purchase order forms using a command (GLIMS\_STCK-00555)

### Problem description

An issue was reported where it was not possible to use the **GenerateOrderForm** function in a command in order to automate the sending of purchase order forms. As there was no **Send** option available, the **Output options** could not be customized when defining the function parameter set.

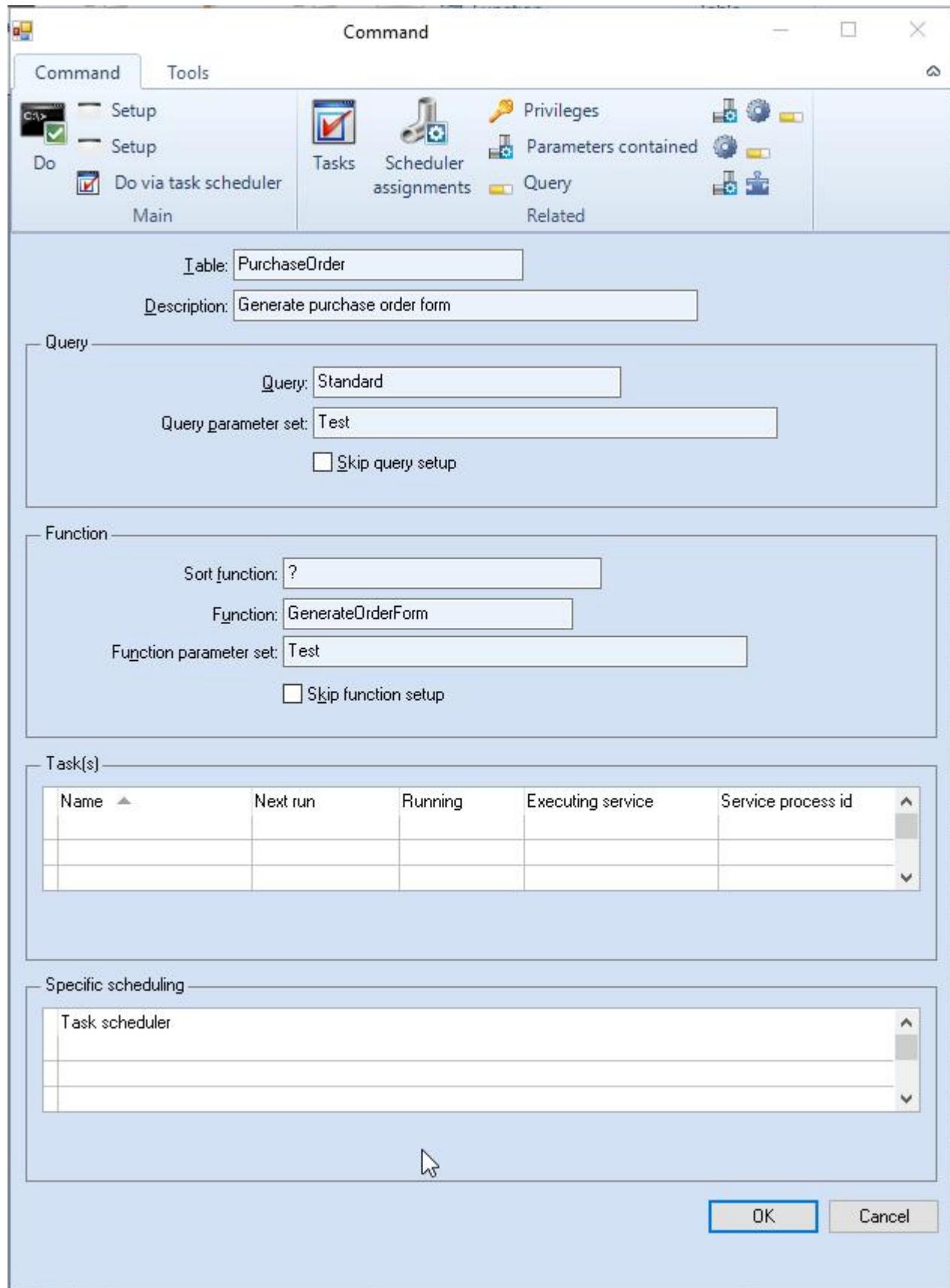
#### Note

This problem occurred since GLIMS 8.8.0.

### Solution

Generating and sending purchase order forms can now be automated using a command:

1. Create a **Command** on the **PurchaseOrder** table
2. Select the **Standard** query and define a **Query parameter set**
3. As function, choose **GenerateOrderForm**
4. Define a **Function parameter set**



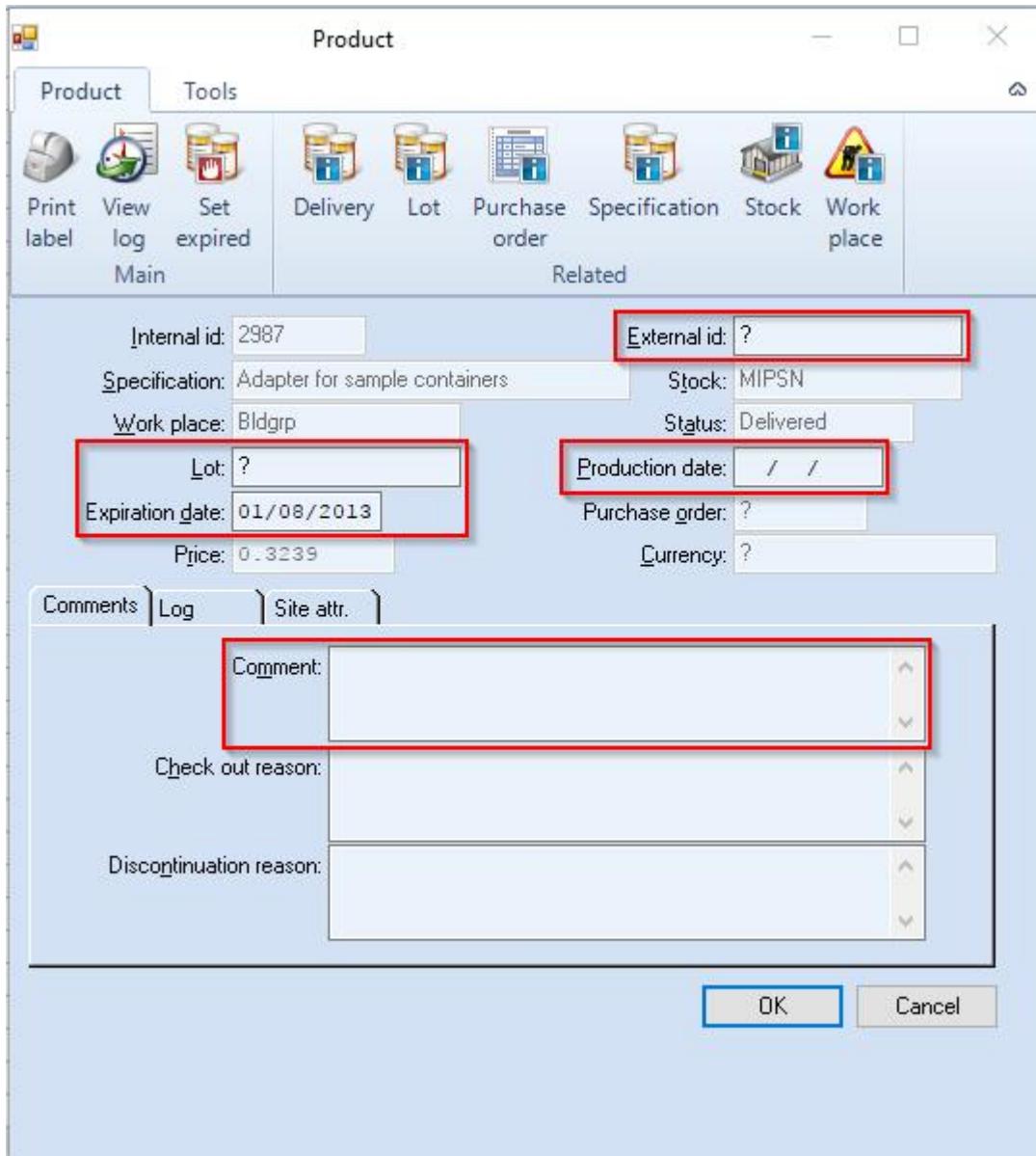
**Note**

1. In order to obtain a supplier specific purchase order form, you should leave the **Purchase order form type** parameter blank (i.e. specify "?") in the function parameter set.
2. Since the **GenerateOrderForm** function with a function parameter set offers the same functionality, the functions **SendOrderForm** and **ResendOrderForm**, which could not be used in a command, have been removed.

## **Product editor allows to edit some fields (GLIMS\_STCK-00573)**

In the stock management module, the **Product** editor now allows users to update the following fields in order to allow occasional corrections :

- External id
- Lot
- Production date
- Expiration date
- Comment



#### Note

Changes to these fields are logged in the product audit log ([Log type = Audit Product](#)) and can be consulted by using the [View log](#) contextual function on [Product](#).

#### Tip

It is recommended to protect these fields via a privilege.

## New functionality: product lot verification ([GLIMS\\_STCK-00574](#))

### Introduction

Stock management product lots are implicitly used in other modules, such as QC. In order to make sure that these lots are usable in these modules, it can be useful to add a verification step when products of these lots are checked in or checked out.

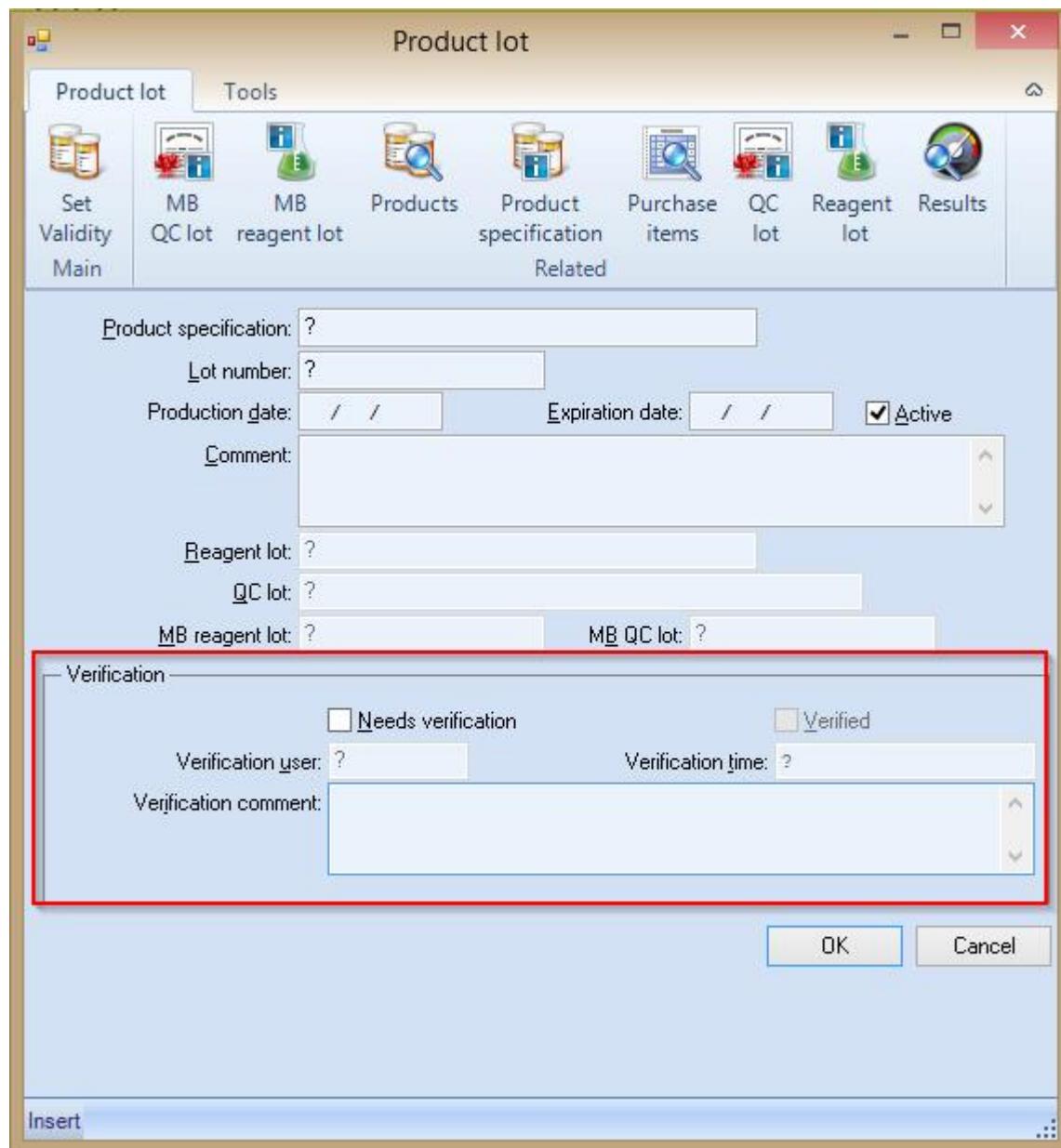
## Configuration

### Product specifications

If all the lots created on a given product specification need to be verified, activate the option **Requires lot verification** on the **Storage** tab page of the **Product specification** editor. By default, the **Needs verification** option of all the product lots of this specification will automatically be activated.

### Product lot fields

The product lot editor contains new fields related to the verification:



### Needs verification

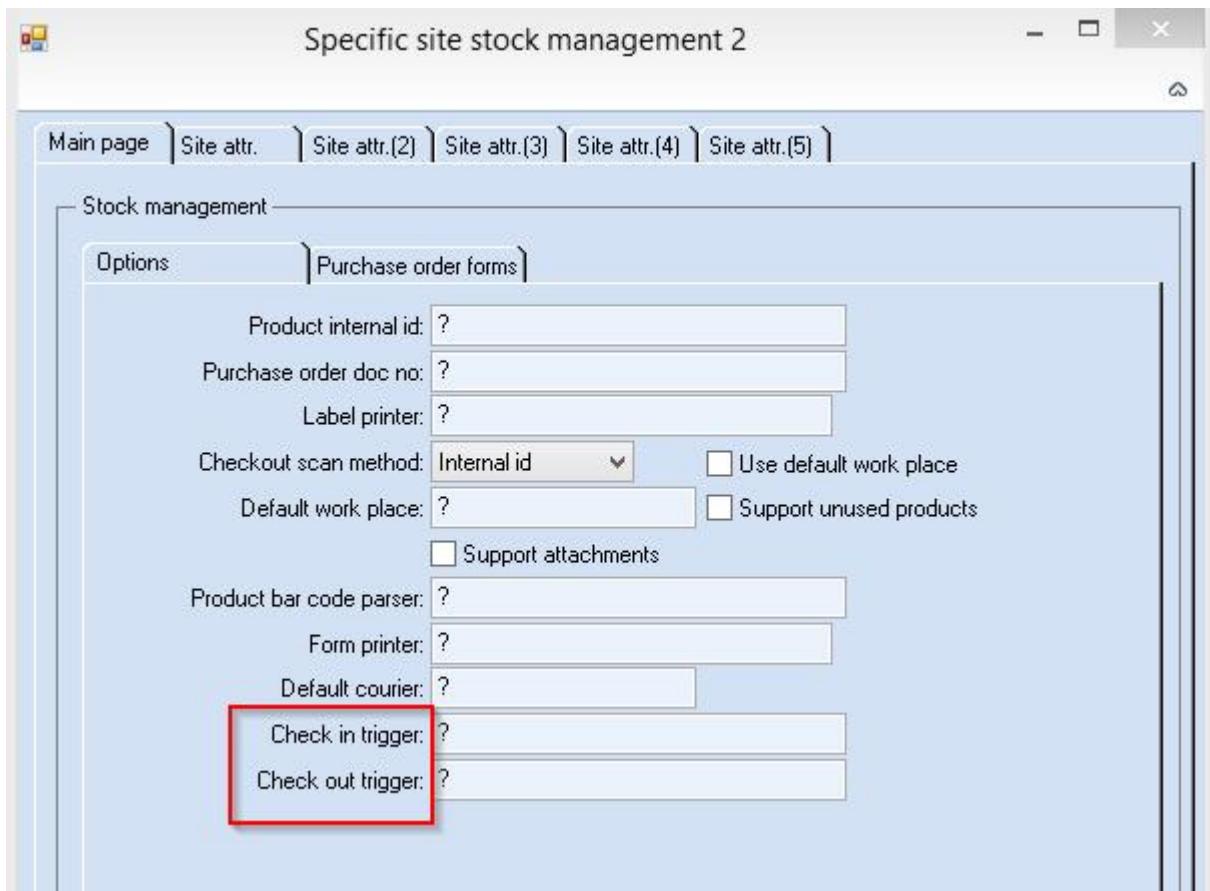
The value of this field is inherited from the value of the **Requires lot verification** on the **Storage** tab page of the **Product specification** editor. It can however be changed at any time.

### Verified - Verification user - Verification time - Verification comment

These fields are automatically set / filled in or updated when the product lot is (un)verified.

### Stock management general settings

Two optional fields have been added to the general settings of the Stock management module: **Check in trigger** and **Check out trigger**. Both triggers are w\_Product-based site functions executed upon product check-in and check-out, respectively. The w\_Product table is a temp table, which allows checking product data that are not yet stored in the database, such as the external id, expiration date and lot number.



### Examples

#### Examples

1. The following check-in trigger allows displaying the message "New product lot from stock management" when checking in a product:

```
message("Trigger " + .Specification.Name);  
IF .Lot = ?  
THEN message ("New product lot from stock management");  
ENDIF;  
RETURN TRUE;
```

2. The following check-out trigger allows displaying the message "The lot to which this product belongs has not been verified":

```
message("check out trigger");

IF .Lot.NeedsVerification and .Lot.Verified = NO
THEN message("The lot to which this product belongs has not
been verified");
RETURN FALSE;
ENDIF;

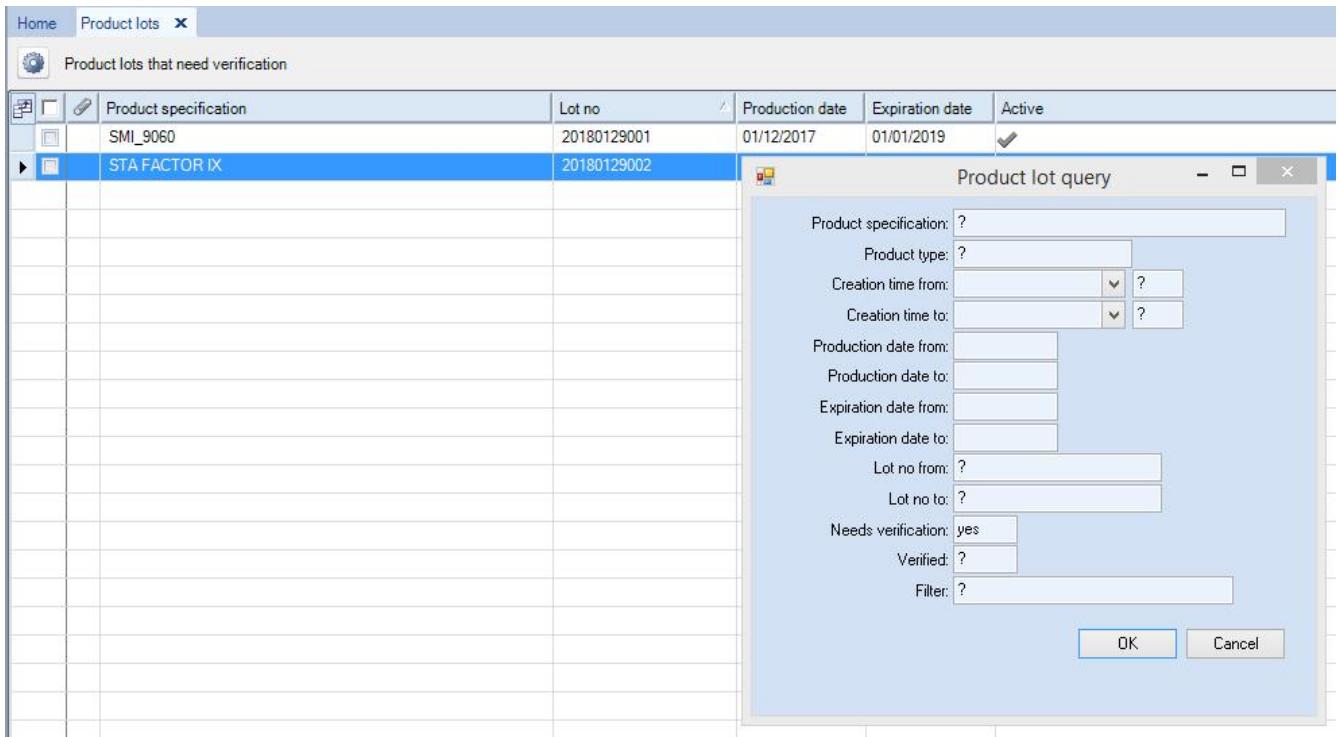
RETURN TRUE;
```

## Routine

### Product lot query and browser

The new **Product lot** query screen and browser allow looking up product lots that need verification. They can be opened in several ways:

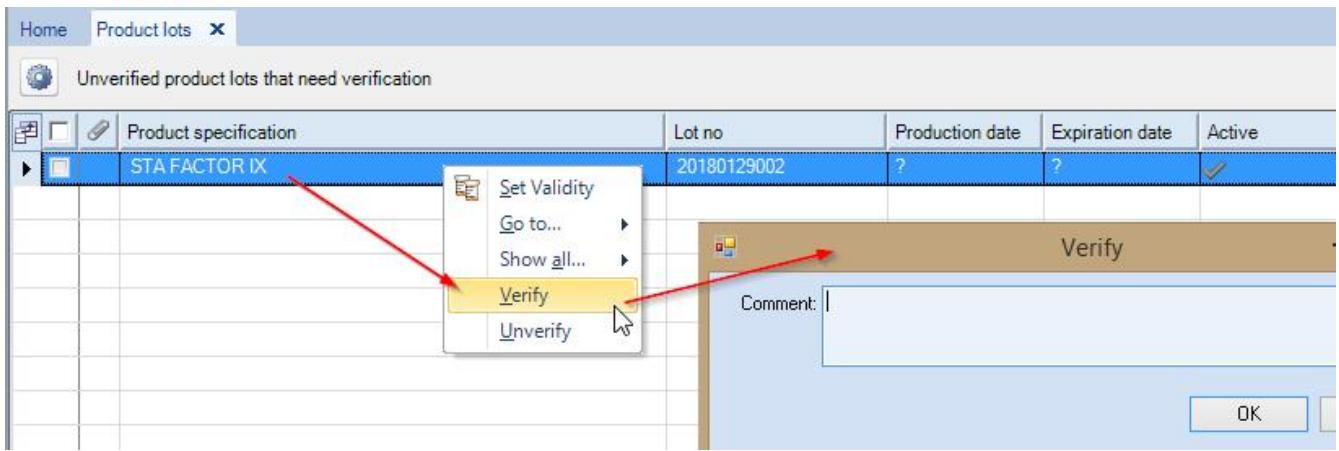
- via **Start -> Stock management**,
- using the contextual menu/ribbon item **Lots** on a selected product specification,
- by double-clicking in the **Lot** field of the [Product query](#).



### Product lot (un)verification

#### Verification

In order to verify a product lot, select it and use the contextual menu/ribbon item **Verify**. Then enter a comment.

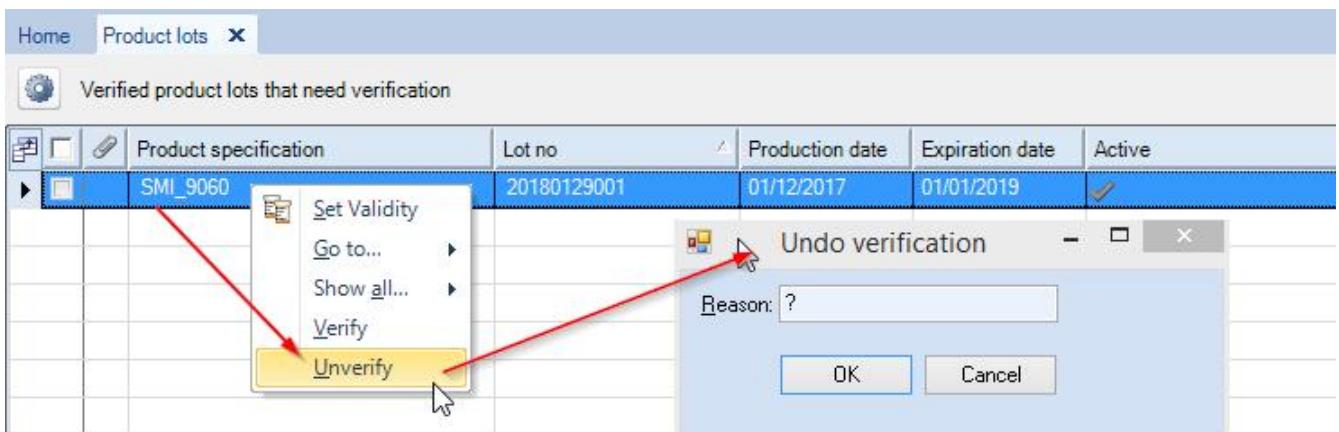


When clicking **OK** in the **Verify** screen,

- the **Verified** flag of the product lot is set,
- the **Verification user**, **Verification time** and **Verification comment** **fields** are filled in,
- a log entry is added to a log of type **Product lot verification**.

### Unverification

The product lot verification can be undone by selecting the product lot and then clicking on the contextual menu/ribbon item **Unverify**. When undoing a verification, the user is asked to provide a reason.



When clicking **OK** in the **Undo verification** screen,

- the **Verified** flag of the product lot is deleted,
- the **Verification user**, **Verification time** and **Verification comment** **fields** are cleared,
- a log entry is added to a log of type **Product lot verification**. The log entry mentions the reason provided for the unverification.

### Product check-in

When a product (or package) is checked in (via barcode scanning or manual entry), the function indicated in the **Check in trigger** field is executed. This makes it possible to block the check-in of products belonging to certain lots or to display warnings.

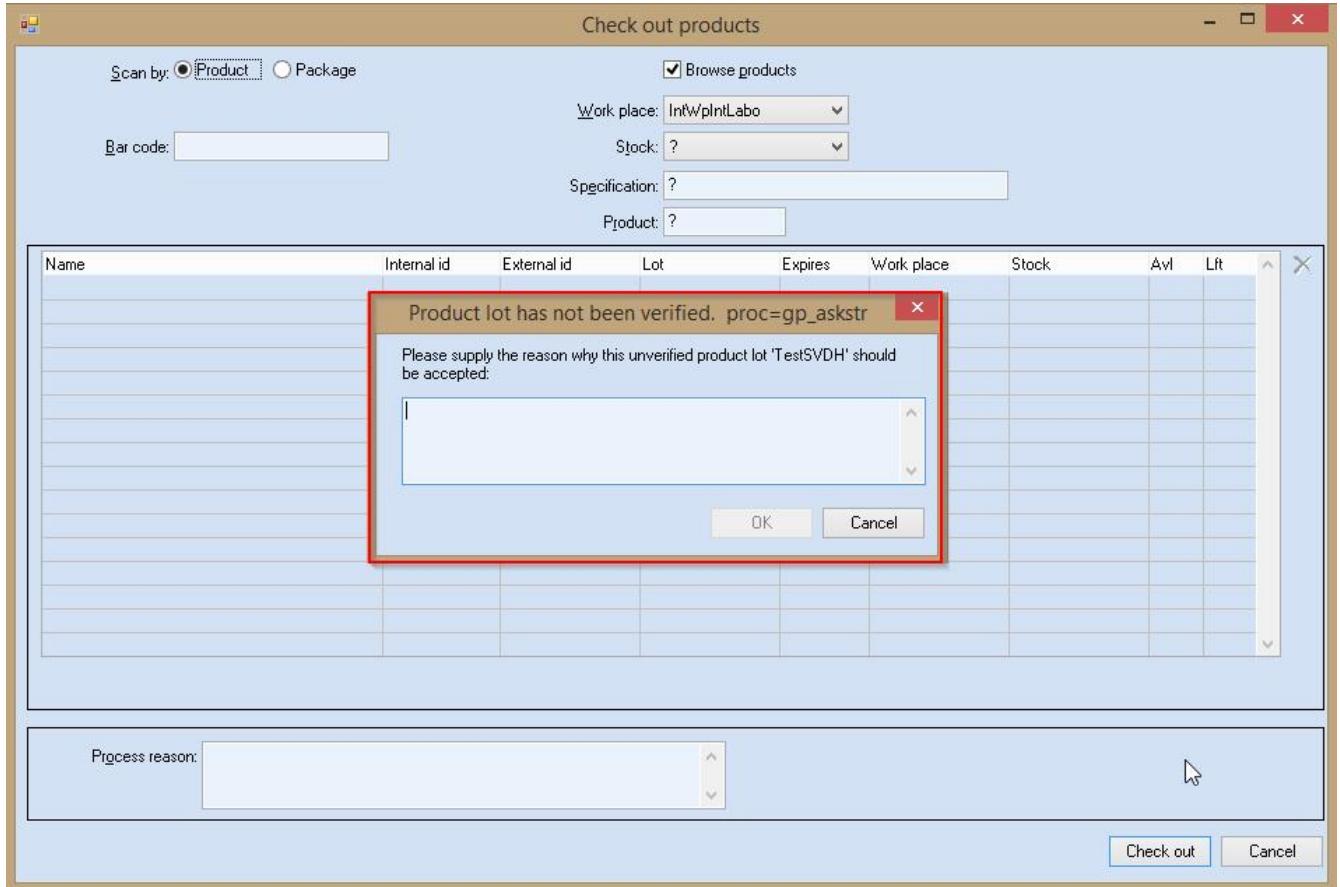
### Product check-out

When a product (or package) is checked out, the function indicated in the **Check out trigger** field is executed. This makes it possible to block the check-out of products belonging to certain lots or to display warnings.

Note that when

- scanning a product (or a package) in the check-out screen, and
- the product belongs to a lot on which the option Needs verification is activated, and
- the Verified flag of the product lot is not set,

a warning is automatically displayed and a reason must be provided for checking out this product:



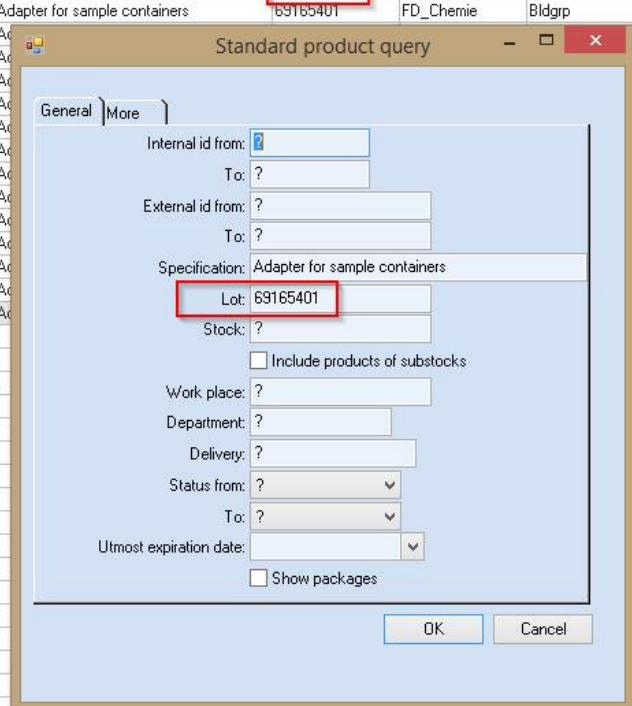
This reason is stored in the **Comment** field of all checked out products of this lot as well as in their logs.

#### Product query and browser

Additionally to the introduction of the product lot verification functionality, a **Lot** field has been added to the Product query. This allows looking up products of a specific lot:

'Adapter for sample containers' products with lot '69165401'

Internal id	External id	Specification	Lot no	Stock	Work place	Status	Produced	Expires	Last updated	by
10985	03576698190	Adapter for sample containers	69165401	FD_Chemie	Bldgrp	Dlv	31/01/2008	12/08/2009 14:11	steven	
10986	03576698190	Adapter for sample containers	69165401	FD_Chemie	Bldgrp	Dlv	31/01/2008	12/08/2009 14:11	steven	
10987	03576698190	Ad				Dlv	31/01/2008	12/08/2009 14:11	steven	
10988	03576698190	Ad				Dlv	31/01/2008	12/08/2009 14:11	steven	
10989	03576698190	Ad				Dlv	31/01/2008	12/08/2009 14:11	steven	
10990	03576698190	Ad				Dlv	31/01/2008	12/08/2009 14:11	steven	
10991	03576698190	Ad				Dlv	31/01/2008	12/08/2009 14:11	steven	
10992	03576698190	Ad				Dlv	31/01/2008	12/08/2009 14:11	steven	
10993	03576698190	Ad				Dlv	31/01/2008	12/08/2009 14:11	steven	
10994	03576698190	Ad				Dlv	31/01/2008	12/08/2009 14:11	steven	
10995	03576698190	Ad				Dlv	31/01/2008	12/08/2009 14:11	steven	
10996	03576698190	Ad				Dlv	31/01/2008	12/08/2009 14:11	steven	
10997	03576698190	Ad				Dlv	31/01/2008	12/08/2009 14:11	steven	
10998	03576698190	Ad				Dlv	31/01/2008	12/08/2009 14:11	steven	
10999	03576698190	Ad				Dlv	31/01/2008	12/08/2009 14:11	steven	



# System management

## Improve performance of upgrade from GLIMS 9.5 to GLIMS 9.8 on Oracle (MATE-04368)

The performance of the upgrade from GLIMS 9.5 to GLIMS 9.8 on Oracle systems has been improved.

### Note

In GLIMS 9.6, the Oracle schema is simplified and all columns that were once 'logically' deleted (by creating views without the column), are now effectively deleted.

Not only do we apply SET UNUSED() on these columns, the values are effectively removed by ALTER TABLE.. DROP UNUSED COLUMNS ;

The latter operation is strictly speaking not necessary and can be postponed to a later time. In doing so, the migration time with Oracle from GLIMS 9.5 to 9.8 should be drastically reduced.

## Higher default value for -c parameter for Oracle connections (MATE-04659)

### Issue

An issue was reported where the error **ORACLE error -1007 see "ORACLE Error Messages and Codes Manual". (1252)** occurred frequently.

### Solution

For Oracle connections, the default value for the -c (cursor limit) parameter in the glims.cpf file (in the GLIMS "dat" directory) has been increased from -c 900 to -c 1500. A higher value than the default value can be specified; it will not be lowered by the application.

## Update of the [WinChar Startup] section in the progress.ini file after OpenEdge upgrade (MATE-04686)

Since GLIMS 9.5.4, the GLIMS services use \_progres.exe instead of prowin32.exe. While prowin32.exe uses the [Startup] section in the progress.ini file, \_progres.exe uses the [WinChar Startup] section. We therefore made sure that, after an upgrade to a new OpenEdge version (e.g. from OE 11.3 to OE 11.6), the [WinChar Startup] section is updated. That way, the definition of DLC points to the installation directory of the new OE version, c:\dlc116 for instance.

# User interface

## Focus issue in order browser (GLIMS-07838)

### Problem description

1. Open the **Orders by short ID** browser.
2. From an **Order**, choose the **Results** context function.
3. When scrolling through the order browser using the arrow keys, the focus sometimes switches to the **Results** window.

This has been corrected.

## Synchronization issue between Correspondent and Payment browser (GLIMS-08038)

When opening the **Payment** browser (e.g. via **Show all > Payments received**) from a **Correspondent** browser (e.g. **Firm** browser), the Payment browser was not synchronized when selecting another Correspondent in the Correspondent browser.

This has been corrected.

## Browsers available in .NET (GLIMS-08200)

### Introduction

MIPS is in the process of redesigning the GLIMS browsers using the .NET format.

This release note provides the list of GLIMS browsers that have been redesigned in version 9.8. The features of .NET browsers are presented in the documentation.

### List of browsers available in .NET

- Correspondents
  - OfAccountAccount
  - OfAccountFeeaccount
  - OfBillingcodegroupByInternalId
  - OfBillingdocumenttemplate
  - OfDiscountcode
  - OfIdentificationtype
  - OfLabByInternalId
  - OfMunicipalityByInternalId

- OfPricelistByInternalId
- OfTranslator
- OfUserByInternalIdCoordinator
- OfUserResponsible

## Notes

### Notes

- The performance when sorting correspondents records by [AddressLine 1](#) has been improved.
- The Sort indicator now matches the default sort order on entry to the browser.

- Payment agreements

- OfCorrespondent
- OfFundByMatriculation
- OfNobody
- OfPaymentagreement
- OfPolicyname
- OfPricelist

- Persons

- ByKeyword
- OfCompany
- OfHCprovider
- OfPersonMother
- OfPersonRealIdentity

- Specimens

- OfMaterialByInternalId
- OfObjectBySamplingTime
- OfSpecimen -> right-click -> Subsamples

- Station runs

- StationrunsOfAssessmentmethodByStartTime
- StationrunsOfStationByStartTime
- UnprocessedStationRunsOfStation

## Note

### Note

- Station run browsers are now refreshed after using the contextual menu option [Start run](#).

- BloodSelections
- DomainAuthorizationsByLoginName
- HCprovidersOfOrganizationByMnemonic
- LicensesByResource
- MandatesOfCorrespondentCreditor
- MessagesByName
- ProceduresOfStation
- PropertyclassificationnodesOfPropertyBySequencer
- PropertyclassificationnodesOfPropertyclassificationBySequencer
- PropertyclassificationsByName
- RequestformassignmentsOfRequestform
- SpecimenauditsOfSpecimenByEventTime
- StationsOfStationByMnemonicLASstation
- TasksBeingExecuted
- TasksByNextRun
- TasksOfCommandByName
- TasksOfService
- ThirdPayerPaymentagreementsOfCorrespondent
- TranslatorsOfCommunicationengineByName
- UsersOfLanguagesByLoginName (also known as UsersSpeaking)

#### [Known issue](#)

On certain browsers, such as Person and Stationruns browsers, sorting by **First name**, **Municipality** and **Address Line 1** requires some time.

#### [Notes](#)

The new .NET design has been applied to the main browsers (Start menu) and child browsers (right-click on editor or main list) listed above. Most lookup browsers (double-click or F9 inside a field) are still displayed in the classic format, even if the corresponding main or child browsers have been converted.

If a browser has been redesigned, then its .NET version opens by default.

Some other browsers are also available in .NET format. However, their performance is not yet as satisfying as that of their classic counterparts. When a user tries to open one of these browsers, a warning is displayed and gives the user the choice between the .NET or the classic version.

## **German order entry labels displayed entirely (GLIMS-08357)**

In the German version of the GLIMS user interface, some labels of the Order entry screen were not entirely displayed.

This has been corrected.

## **Update of Quick report when other order is selected (GLIMS-08409)**

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In the following scenario,

1. an order is selected in an order browser,
2. the result overview is opened,
3. a result is selected,
4. the **Quick report** function is launched from the ribbon,
5. another order is selected in the order browser while the Result browser and the Quick report are still open,
6. the results in the Result overview are automatically updated,
7. a result is selected,

the Quick report was not updated.

This has been corrected: the correct report is displayed for the newly selected order.

## **MISPL filter in certain redesigned browsers is not taken into account properly (GLIMS-10450)**

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An issue was detected in the following redesigned (.NET) browsers when using a **Filter** (MISPL) in the query options. It happened that the specified filter was not taken into account properly. As a consequence, not all records satisfying the filter were shown.

- Incomplete results
- Extended result query
- QC populations

This has been corrected.

## **Access list browser: department remains unchanged when selecting a class (GLIMS\_SHLD-00017)**

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In the access list .NET browser, previously specified departments were reset to **?** upon double-click in class cells to select a class.

This has been corrected.

## **Validation of background / foreground color when defining styles (MATE-04278)**

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When defining styles, an error message will now be shown when an invalid HTML color name or an invalid hexadecimal color value is entered in the **Background color** or **Foreground color** fields.

## **Fast-positioning in browsers using the "#" character (MATE-04283)**

---

An issue was reported where German users could not fast-position (i.e. looking up a record in a browser by typing the first characters) using the "#" character (e.g. in the [Texts by mnemonic](#) browser).

This has been corrected.

**Note**

You can fast-position on a question mark (?) if the question mark is not the first character of the string you search for.

## **Error when clicking on ribbon item in context ribbon of parent window (MATE-04295)**

The following scenario could result in the error [Unhandled exception has occurred in your application...](#) :

1. From an order browser, click on the [Microbiology actions](#) ribbon item in the context ribbon.
2. From the microbiology action browser, open the microbiology screen.
3. Close the microbiology screen.
4. Click on a ribbon item in the context ribbon of the order browser (e.g. Outline, Quick report,...).

This has been corrected.

## **Cursor in correct position after using search function in editors (MATE-04301)**

### **Background**

The values of certain editor fields can be chosen from a list. It suffices to double-click in a field to open the corresponding value list. It is also possible to type (part of) the value in the field and to then double-click to look for this value in the list.

### **Issue and solution**

When the value list opens, the cursor should be placed on the list item corresponding to the value (partially) entered in the editor field. This was however not always the case: in certain lists, the cursor was simply placed on the very first list element, forcing the user to enter the value again.

This issue has been corrected: the cursor is now always positioned on the value corresponding to that (partially) entered by the user.

## **Progress bar visible when launching batch processor via do command from ribbon (MATE-04306)**

When a command was launched from the ribbon using [Do command](#), no progress bar was shown.

This has been corrected.

## **Focus issue when opening same browser twice (MATE-04320)**

When opening the same browser twice (e.g. the urgency monitor) with different query / filter options, it happened that when switching between the two browsers, the focus would continuously go from one browser to another.

This has been corrected.

### **Note**

Problem occurred since GLIMS 9.6.

## **Support for keyboard shortcut CTRL + arrow key in tree views (MATE-04325)**

It is now possible to use the keyboard shortcut CTRL + arrow key to move the nodes in the tree views (redesigned in GLIMS 9.6.0).

## **Correction for inserting a node in a tree view (MATE-04348)**

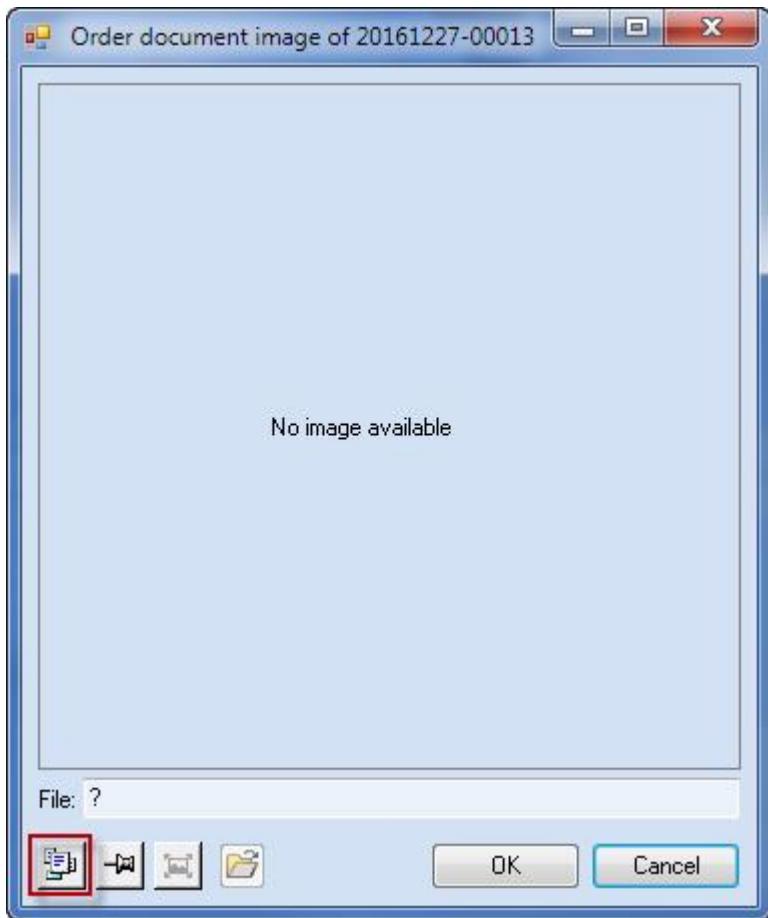
An issue was reported where inserting a node in a tree view (e.g. the property classification tree view) would cause the node to be inserted at the end instead of right after the initially selected node.

This has been corrected.

## **Correction for "Stay on top" button in image preview (MATE-04359)**

From an [Order](#), the [View order document](#) function can be activated in the context ribbon / menu e.g. to show the image of the originally scanned order form in a new window. However, an issue was reported where the [Stay on top](#) button in this window did no longer work. As a result, the image preview always disappeared when clicking in the order entry screen e.g. to add data.

This has been corrected.



### **Correction for order outline (MATE-04374)**

An issue was reported where the right pane of the order outline was displayed in black. This has been corrected.

### **Display labels of nodes correctly in property classification tree view (MATE-04376)**

An issue was reported where property classification nodes of which the label contained an empty line before the actual label were not displayed correctly in the property classification tree view.

This has been corrected.

### **Text of focused cells in Security center readable again (MATE-04387)**

In the **Privilege** tab of the Security center, the content of focused **Table** cells was not readable because the background and font colors were similar.

This has been corrected.

### **Correction for Quick report ribbon item (MATE-04393)**

An issue was reported where the **Quick report** ribbon item did no longer work after having closed the **Quick report** window with the **Close** button.

#### Example

- Open the **Orders by internal id** browser.
- Click on the **Result overview** context ribbon item.
- In the **Result overview**, click on a result and choose the context ribbon item **Quick report**.
- When having used the **Close** button to close the **Quick report** window, the **Quick report** ribbon item did not work until another result was selected in the **Result overview**.

This has been corrected.

## **Keep selected record when changing sort order of browser (MATE-04398)**

When selecting a record in a redesigned (.Net) browser and changing the sort order of the records by clicking on a column header, the browser was refreshed but did not reposition to the initially selected record.

#### Example

- Open the **HC providers > By last name, first name** browser.
- Select a HC provider.
- Click on the **Address** column header to sort the HC providers by their address.

=> The browser refreshed and another HC provider is selected.

This has been corrected.

## **Clearer labels in Security center (MATE-04428)**

Some user interface labels of the Security center were unclear. They have been replaced by clearer descriptions. For instance, the label **Show selected**, which was originally used for three different lists, has been replaced by three list-specific labels: **Only show protected tables / functions / fields**.

## **Correction for resizing the microbiology screen (MATE-04436)**

#### Issue

In previous versions, when maximizing e.g. the microbiology screen, a large grey area remained unused at the right side of the antibiogram.

#### Solution

This has been corrected. All of the available space will now be used.

## **Focus issue when opening new window from "Result overview" screen (MATE-04439)**

### **Problem description**

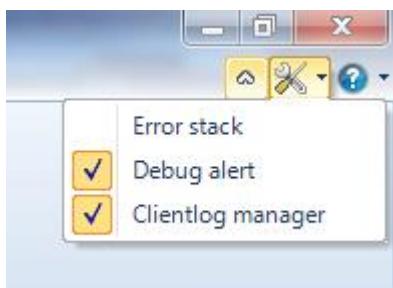
1. From an **Order**, open the **Result overview** via **Object... > Show all... > Result overview** or the contextual ribbon.
2. In the **Result overview**, click in a cell containing a result.
3. Choose a function in the contextual ribbon (e.g. **Order**).
4. Close the **Order** window.
5. In the **Result overview**, choose another function in the contextual ribbon (e.g. **View log**).
6. => The log window is not opened. In order to be able to activate another function in the contextual ribbon, another result had to be selected first.

### **Solution**

This has been corrected.

## **Regular users can activate "Client log manager" (MATE-04476)**

For diagnostic purposes, the options **Debug alert** and **Clientlog manager** in the expert settings (top right corner of main GLIMS window) are now also available for regular users (**User type = User**).



## **Screen synchronization issue (HC providers / Group memberships) (MATE-04569)**

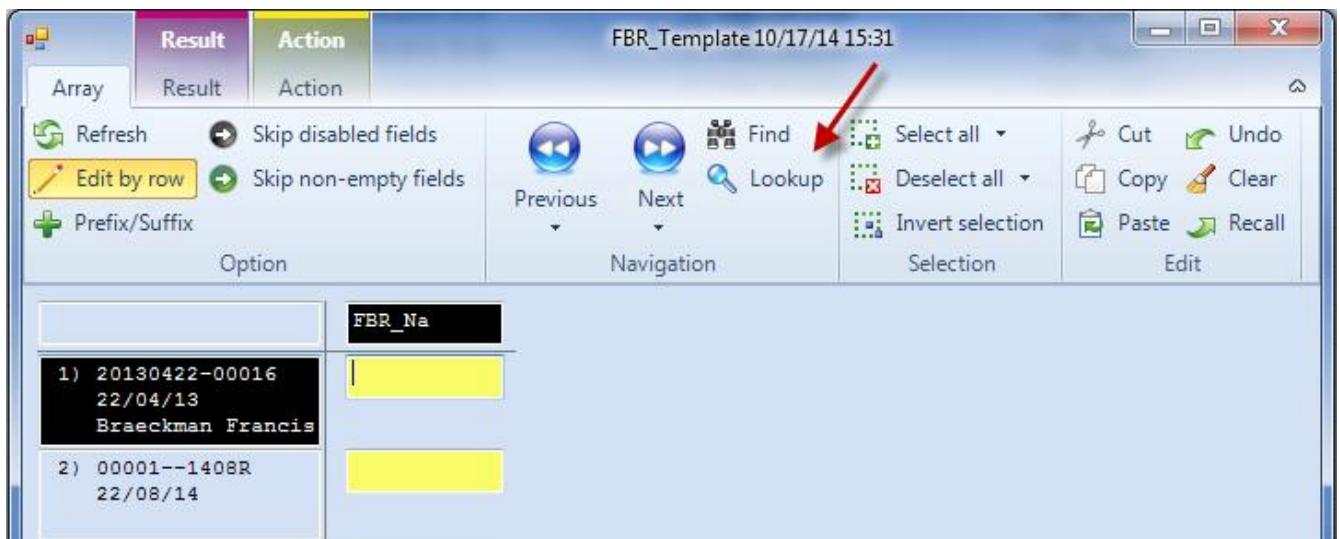
### **Problem description**

1. Open a HC provider browser.
2. Click on a **HC provider** in the browser and choose **Correspondent... > Show all... > Group memberships** in the contextual menu.
3. Scroll through the list of HC providers, select a HC provider and add a new record in the **Group memberships** window.
4. In the HC provider browser, navigate to the next HC provider and go back to the previous one, the newly added **Group membership** was not shown.

This has been corrected.

## **Lookup button for result entry via array editor (MATE-04594)**

The array editor (as used in result entry) did not have a **Lookup** button in the **Array** ribbon tab for result code / choice selection. This has been corrected.



## Error when editing menu item in tree view (MATE-04606)

An issue was reported where an "Unhandled exception" error occurred when trying to edit a menu item via **Start > System management > Menu > Edit**. The error was triggered e.g. when using F6 on a menu item node and clicking OK in the **Option** editor.

## Correctly display the value of custom columns in some redesigned browsers (MATE-04607)

### Context

The redesigned (.NET) browsers offer the possibility to add custom columns displaying the value returned by a dynamic text based on the browser's base table.

### Issue

An issue was reported where in some browsers (e.g. the result query browser, blood selections browser, urgency monitor) the value of such a custom column was not shown ("?" was displayed).

### Solution

This has been corrected.

## Correction for browser styling (MATE-04614)

An issue was reported in redesigned (.Net) browsers where the functionality to style the rows via a site function accidentally swapped background and foreground color on screen.

This has been corrected.

## New gp\_Site-based function "LaunchExecutable" (MATE-04649)

## New function "LaunchExecutable"

A new function **LaunchExecutable** has been added to the table **gp\_Site**.

### Parameters

The function parameter set for the **LaunchExecutable** function offers the following parameters:

#### Executable directory

The directory in which the executable is stored on disk. The directory must exist and the user must have Read access.

#### Executable name

The full name of the executable file, including extension. The user must have Read access.

#### Arguments

The command-line arguments to pass to the executable.

#### Working directory

The directory in which to start the executable. The user must have Read and Write access.

### Purpose

Armed with this function, system managers can create the necessary tool records, menu items, ribbon items and home page shortcuts for each of their external tools.

#### Note

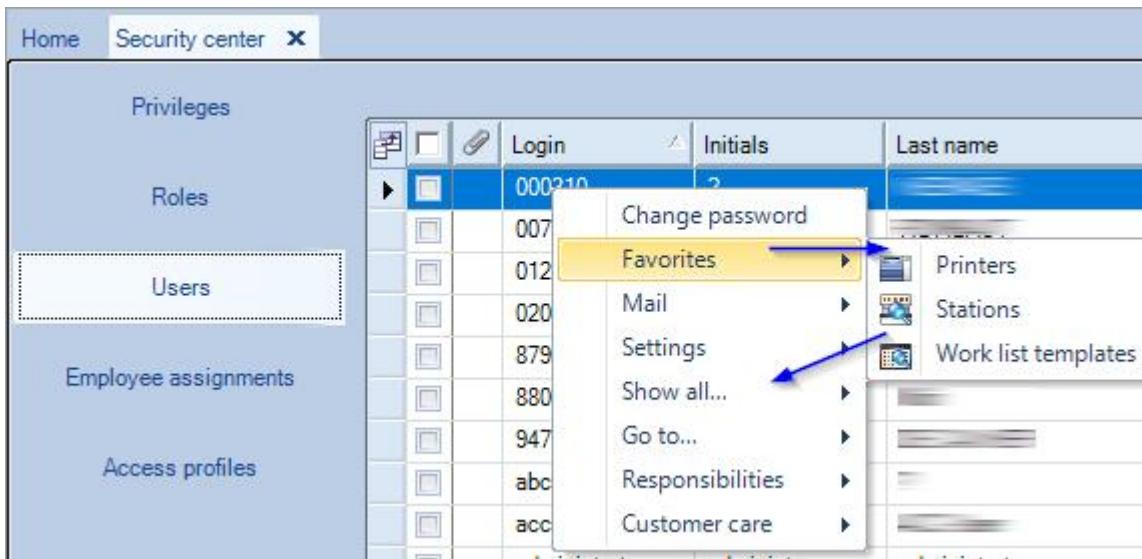
- The application doesn't handle any errors, and doesn't wait for output - in other words, the executable is started as a 'detached' process.
- This function works on Windows as well as on UNIX, but system managers will have to setup separate function parameter sets per platform.

## Disappearing contextual menus (MATE-05592)

### Problem description

Possible scenario:

1. Select **Start > System management > Security > Security Center**.
2. Select the **Users** tab page to open the **User** browser.
3. Right-click on a **User** record to open the contextual menu, choose e.g. **Favorites** and hover over the sub items.
4. When trying to navigate to e.g. the **Show all...** item in the contextual menu, the contextual menu disappeared.



## Solution

This has been corrected.

## Fast positioning in incomplete results browser (MATE-05597)

### Problem description

An issue was reported where fast positioning in the Incomplete results browser did not work when having specified a **Filter** in the query options.

## Solution

This has been corrected.

## Clear record selection after refreshing a browser (MATE-05604)

### Problem description

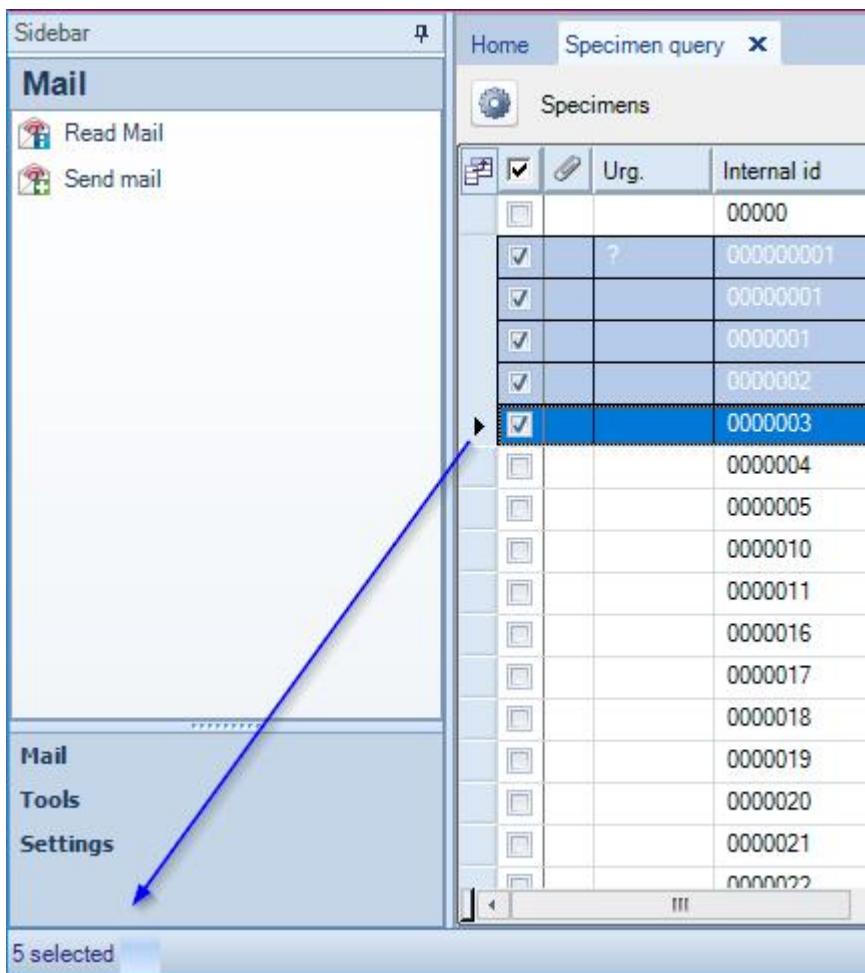
An issue was reported where records which had been selected in a redesigned (.NET) browser and which no longer met the specified query criteria were still taken into account when selecting other records in the browser and choosing a function to be executed.

### Possible scenario

- Select **Start > Routine > Specimens > Query**.
- In the query options screen, set Specimen status from **Initial** to **Available**.
- Select some records and choose a function to be executed on the selection (e.g. **Change state > Discontinue**).
- Use the F5 key to refresh the browser.
- The discontinued specimens are no longer displayed in the browser but they are still included in the number of selected records which is displayed in the lower left corner of the browser.

## Solution

This has been corrected.



## Missing data in redesigned tree views when using AppServer (MATE-05612)

An issue was reported where redesigned (.NET) tree views, such as the order outline, did not display all the data that should have been visible (e.g. the actions were missing), while the "classic" (i.e. as opposed to "redesigned") version of the tree view would display all the data correctly. Apparently, the OpenEdge Application Server connection used to retrieve the data was not taking into account the application specific settings.

This has been corrected.

## Error when consulting events of an event handler (MATE-05615)

An issue was reported where the error "\*\*\* Value 165679757 cannot be displayed using >>>>>9. (74)" occurred when consulting **Events** via **Start > System management > Events > Event handlers > By name, discriminator** > right-click **Show all...** > **Events** > F6 on an **Event** record.

The error was caused by the value in the **Record** field of the **Event** editor which was too large to display. This has been corrected. Up to 10 digits can now be displayed in order to prevent this error from happening.

## **Focus issue in "Orders by internal id" browser when image viewer is open (MATE-05626)**

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### **Problem description**

1. Open the **Orders by internal id** browser
2. Open the image viewer via the contextual function **View order document**
3. Using the space bar to select orders in the browser closed the image viewer which had to be reopened by the user.

### **Solution**

This has been corrected. Using the space bar does no longer close the image viewer.

## **PDF report disappears when clicking in file viewer window (MATE-05634)**

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### **Problem description**

1. Open an **Order** browser and select an order.
2. Select the contextual function **Quick report**.
3. A PDF report is displayed on screen.
4. When clicking in the file viewer window displaying the PDF report, the PDF report itself disappeared.

### **Solution**

This has been corrected.

## **Focus issue in "Process by number" window (MATE-05637)**

---

### **Issue**

The Process by number function is set up to e.g. easily open the order entry screen for each entered specimen id via the **Go to... > Order** function.

However, when entering a specimen id, clicking on the **Order** button, closing the order entry screen (which was opened after clicking on the **Order** button) and returning to the **Process by number** window, the specimen id in the **Barcode** field was no longer selected.

As a result, the user first had to manually select the specimen id to ensure that the next specimen id could be entered without it being appended to the previous one.

### **Solution**

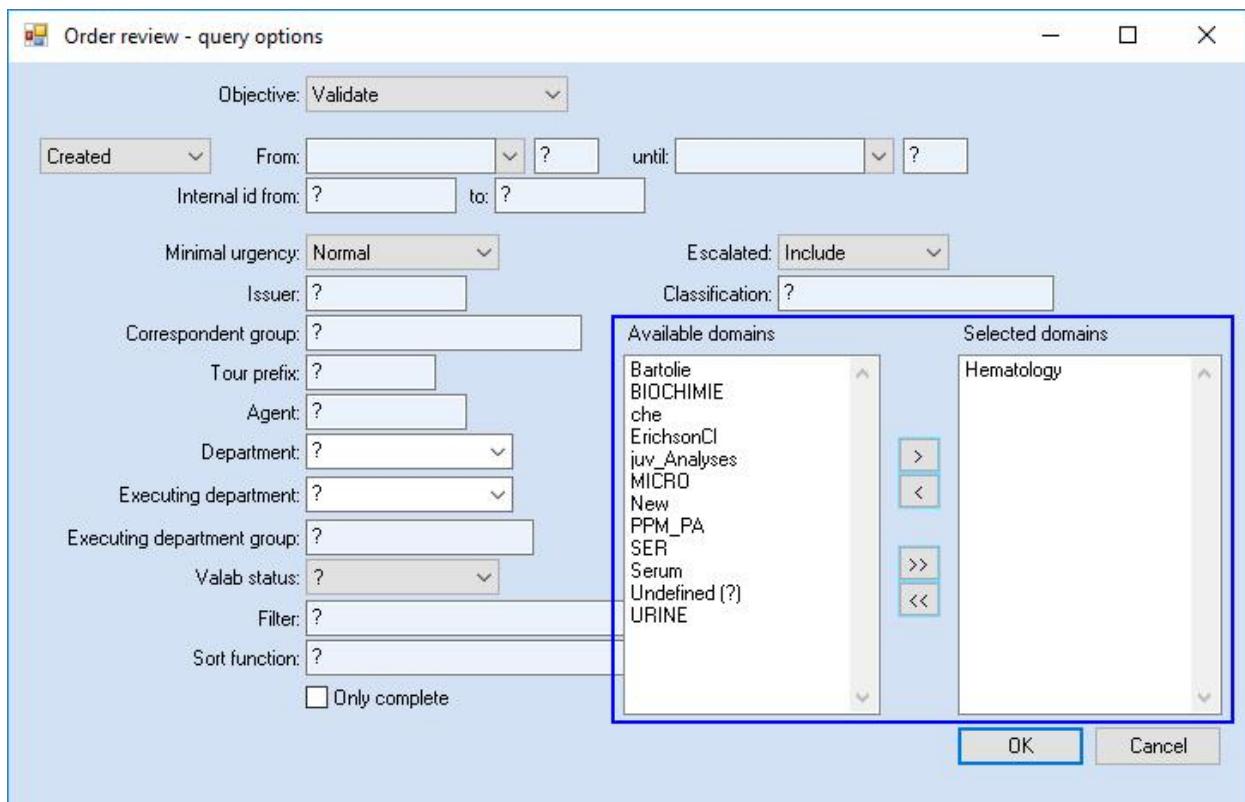
This has been corrected. When returning to the **Process by number** window after having closed the window launched by the chosen function, the user can continue entering the next specimen id without first having to clear the **Barcode** field.

# Validation

## Validation by property domain: enhancements (GLIMS-10382)

The following enhancements have been implemented for the Validation by property domain functionality:

### Easier selection of domains in order review



Adding or removing a domain to or from the list of **Selected domains** can be done by using the > < >> << buttons or by double clicking on the domain.

#### Note

- When no domains are selected, the query will take into account all available domains.
- If **Check domain authorization** is disabled in the GLIMS general settings, all available domains will now be displayed in the order review query screen (if **Objective = Validate** or **Confirm + Validate**).

### Display of selected domains in result browser of order review

Home

Order review 

Results of order 20161021-00001, Selected domains: Hematology

	Root Specimen (Internal id)	Work Specimen (Internal id)	Property	Value	Flags
>	20161021-0000101	20161021-0000101	FBR_Prop3	13 mg	

# Work lists

## **Sorting order in work list browser (GLIMS-07735)**

The sorting order of the work lists in the work list browser ([Start > Routine > Work lists > Work lists](#)) as used in GLIMS versions prior to GLIMS 9.5.0 has been restored. Work lists are now again sorted by name and then in descending order of creation time (i.e. the most recent one first).

## **Action status not promoted when generating work list (GLIMS-08295)**

Actions of procedures with the option Auto start disabled obtain the status Outputting when the actions are put on a work list. This triggers the specimen's status to be promoted to [Expected](#).

However, since GLIMS 9.6.0, the action's [Start time](#) was no longer set when generating a work list so that the actions (of procedures with the option [Auto start](#) disabled) no longer obtained the status [Outputting](#).

This has been corrected.

## **Error during work list generation (GLIMS-10401)**

An issue was reported where the error [System.ApplicationException: Action start time already set](#) occurred when generating work lists. Because of this error, GLIMS stopped working.

This has been corrected.