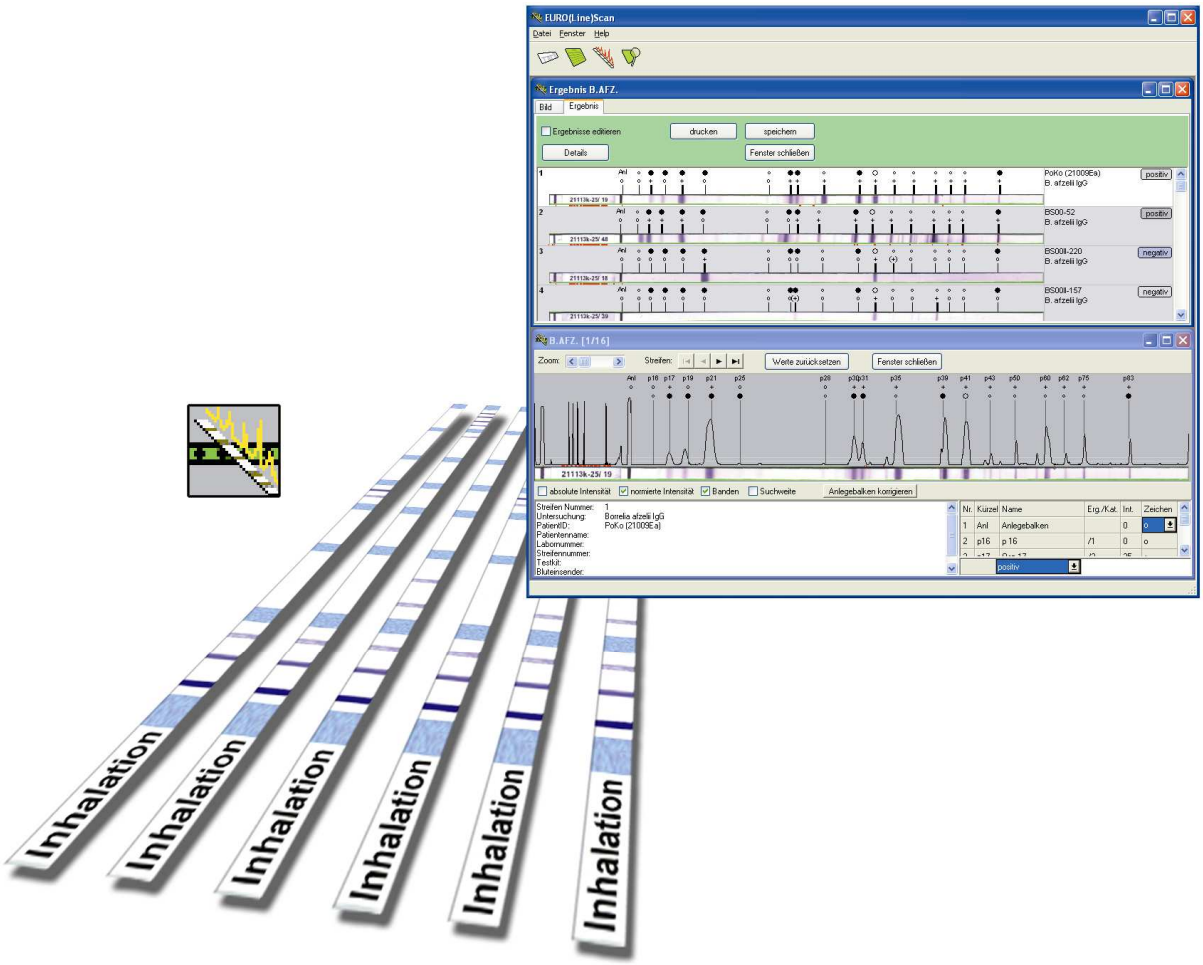
# Addendum
# EUROLineScan

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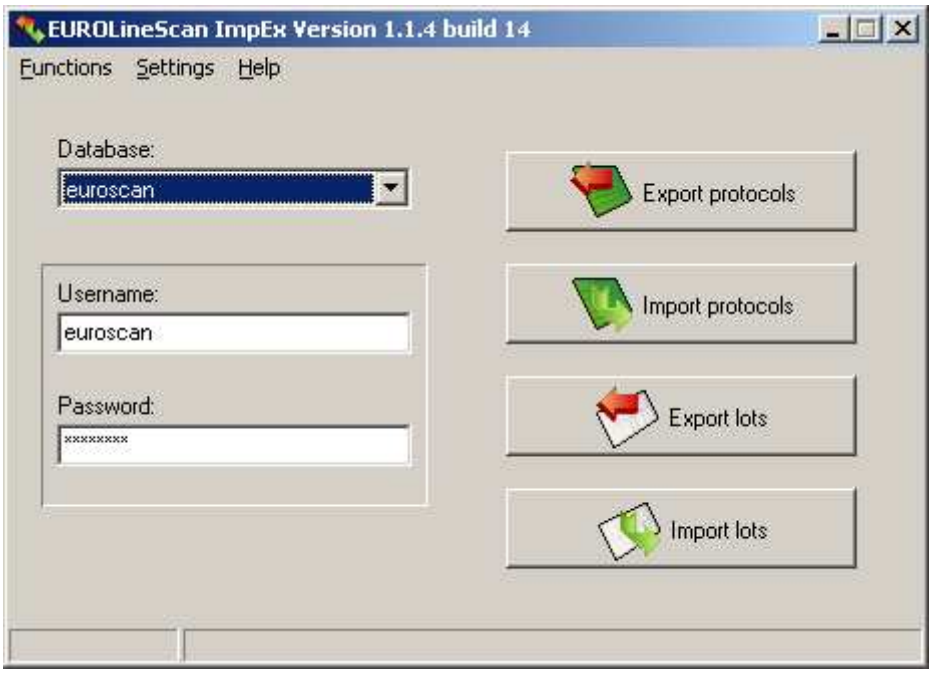
# 1 ImpEx

## *1.1 General information*




The ImpEx program is provided together with EUROLineScan program and can normally be found in the subdirectory „*ImpEx*“ of the EUROLineScan program. The ImpEx program was designed to enable the exporting of lot or protocol data from another database of the EUROLineScan program and to later reimport. The protocol data and lots are XML-Format secured and are automatically packed into a zip. file. When importing, a zip. archive can be selected enabling the included data in that program to then be imported into another selected database.

## *1.2 Language Settings*

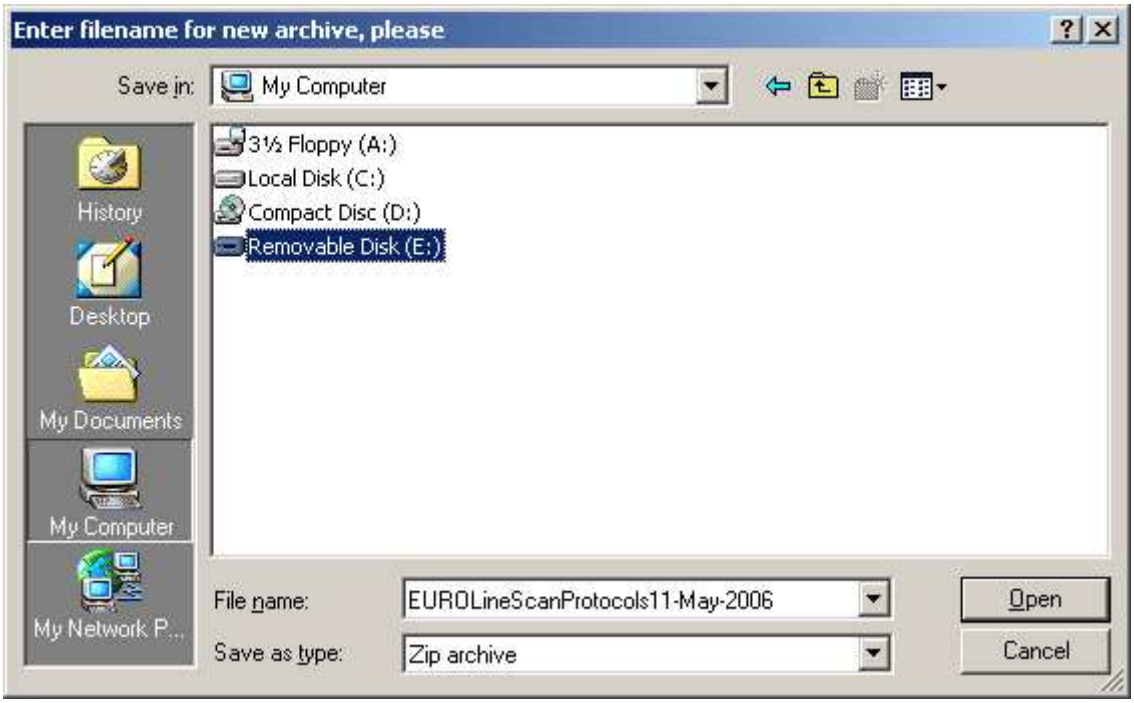
The ImpEx program can be executed in German and English. To change the language select **Einstellungen → Sprache einstellen** or **Settings → Set language** and select the desired language. Restart the program to activate the selected language.

## *1.3 Export & Import*

Before data is exported or imported, please check if the correct database, user name and password has been set.

### 1.3.1 Protocols/ Exporting lots

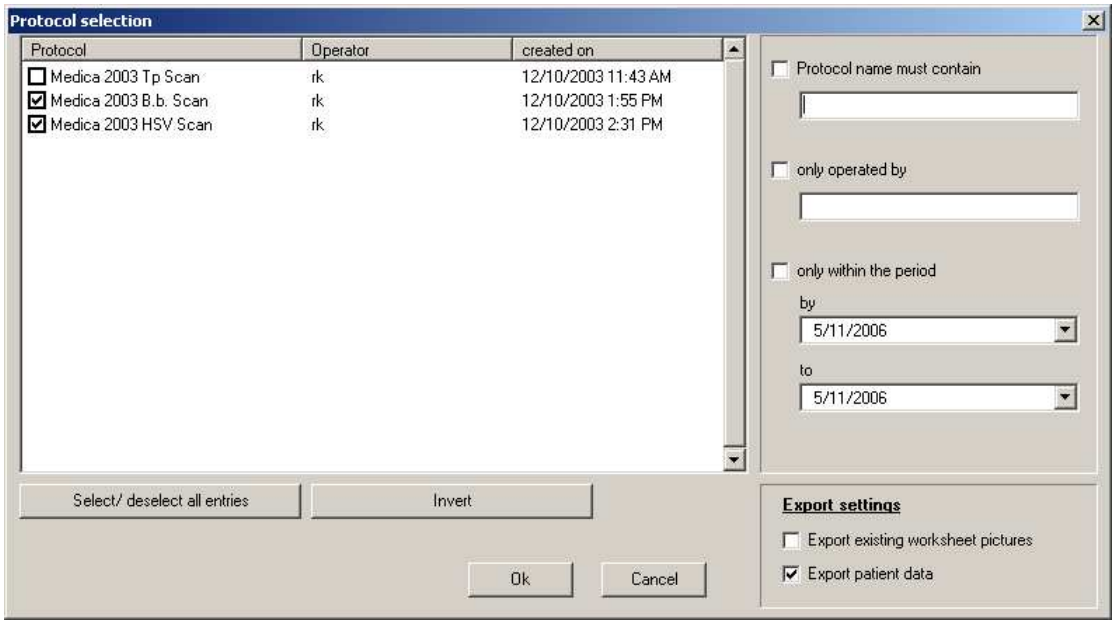
To export protocols or lots from the EUROLineScan database, please click on the corresponding button **Protokolle exportieren/export protocols** or **Chargen exportieren/export lots**. Enter the file name and the directory where the data is to be stored. Usually the export data is stored in the EUROLineScan installation directory: „*ImpEx\Archiv*“.




- To store the exported data on your *Desktop*, select D*esktop* first then enter the desired file name.
- To store the exported data on a removable disk (**USB-Stick)**, first select *Arbeitsplatz /My computer* then select removable disk and enter the file name.

Now click to save. In the following window you can select the **protocols and/or lots** that are to be exported. Input fields can be filled on the right side which enables only selected protocols and lots to appear in the list. Please give attention not only to the protocols that are to be exported, but also the the **export settings**:

- **Export existing protocol images**
  When choosing this setting, the protocol images that were scanned in and saved in the EUROLineScan program will be exported.
- **Export patient data**
  When choosing this setting, data such as patient name, birth date, lab etc. will be exported with the protocol. Should the patient data NOT be exported, then deactivate this setting.

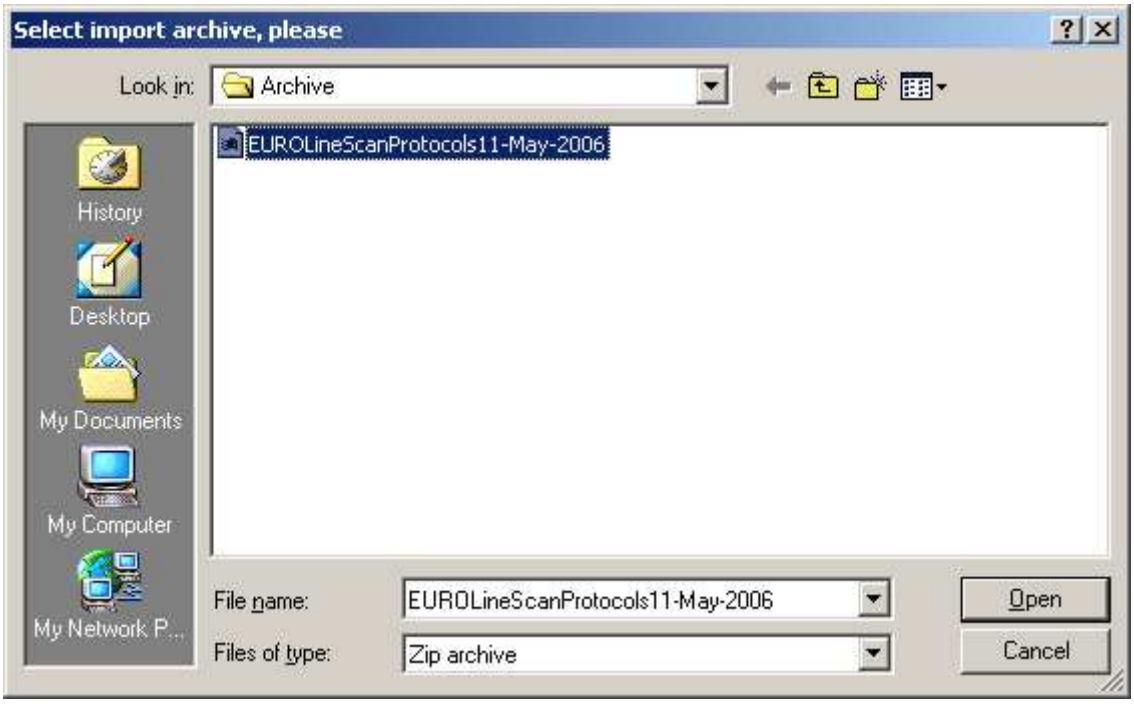


Click Ok to start the process. During this process you will see the following window. This process may take a while depending on how many protocols or lots have been selected.


As soon as the process is completed you will be informed if the export was successful or not. Should an error occur an export file will not be created.

### 1.3.2 Importing protocols and lots

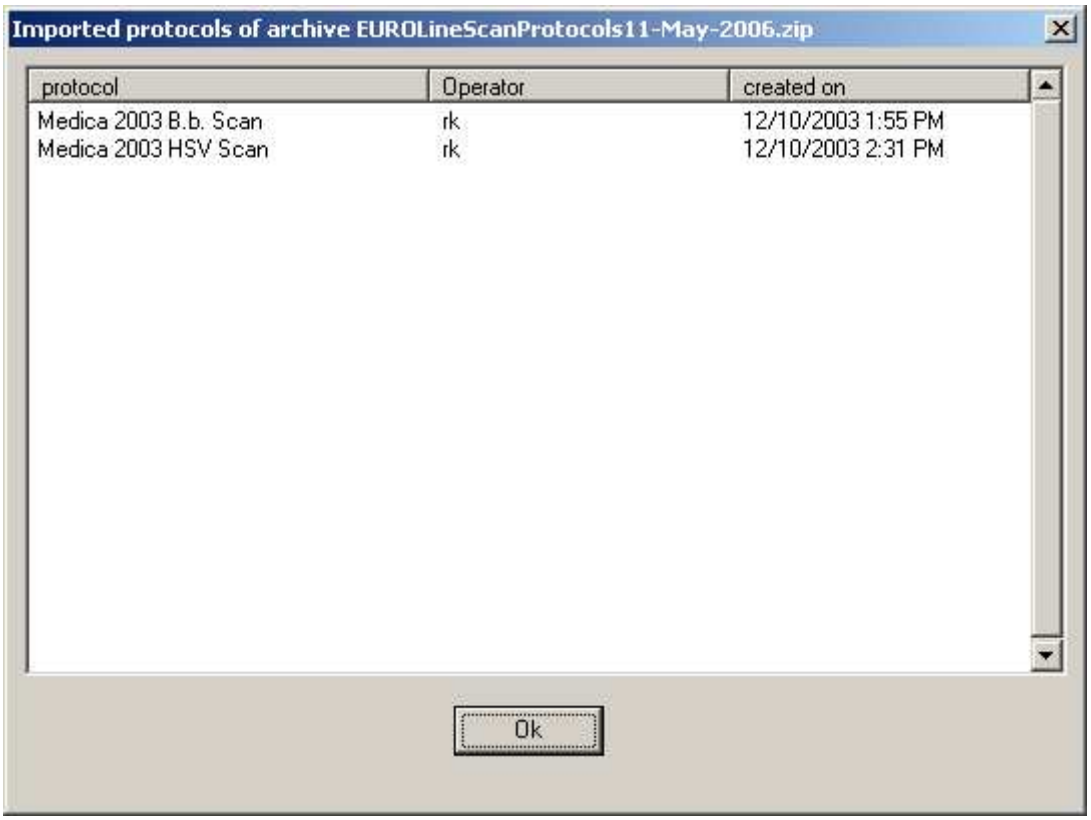
To import protocols and lots from an export file back into the EUROLineScan database click on the respective button **Import protocols** or **Import lots**. In the next window enter in the export file of which data is to be imported. Usually the export data is stored in the EUROLineScan installation directory: *\ImpEx\Archiv*, for this reason the program initially offers the archive directory for selection of the export file.




- To open an export file stored on your **Desktop**, first select *Desktop* and then the respective file.
- To open an export file stored on an removable disk (**USB-Stick)**, first select *Arbeitsplatz/My computer*, then removable disk and the respective file.

Click on open to start importing the data. The following window will appear during the import. This process may take a while depending on how many protocols or lots have been selected.


As soon as the process is completed you will be informed if the export was successful or not. Should an error occur the import up to that point will be cancelled, so that the EUROLineScan database is in the same state as it was in before the import process began. A list of all the imported data is shown if the import was successful.



# 2 Online connection

The EUROLineScan program can exchange data with other programs, concerning the compilation of a protocol (import) and the issuing of evaluation results (export).
On the „Connection“ page you can select which option is to be used. On the sub-pages further settings can be made to each option.

## *2.1 GDT connection*

Data exchange occurs through individual files for each strip of the protocol. The data is based on a GDT (Gerätedaten-Träger) format. A detailed interface description is available on the website: http://www.gms-de.org/gdt/gdtenglisch.zip .

### 2.1.1 Settings

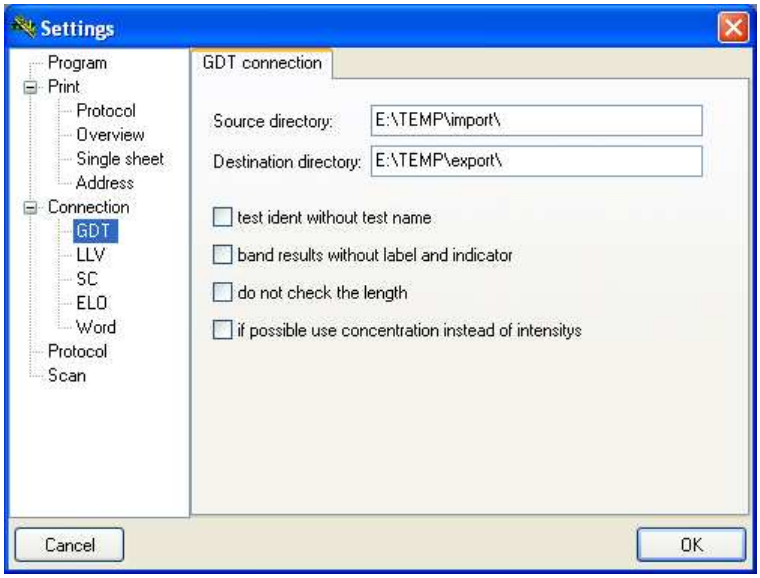



**Illustration 1 GDT settings in EUROLineScan**

The settings for the GDT connection can be entered in the directory for the import (“Source directory”) and export (“Destination directory”). These directories cannot be the same. If “test ident without test name” has been chosen, the test will be left out before the band name in field 8410.
To skip the label, alignment bar and indicator bands when listing the bands the checkbox „band results without label and indicator“ must be selected. Furthermore, when selecting „do not check the length“ a warning can be disabled during verification of the field 8100.
For allergy strips the concentration levels can be entered instead of the intensity when “if possible use concentration instead of intensities” is selected.

### 2.1.2 Importing protocol configurations

All data in the import directory with the ending „gdt“ are sorted and read alphabetically. After reading, the files are deleted by the EUROLineScan program. A file must exist for each strip of the protocol. Record type 6302 is used (“New Test Request”).
eg. „unter000.gdt“ (field identification in bold type):

```
013800006302
014810000116
014921802.10
014300012345
019310 1Mustermann
014310 2Peter
017310 313012000
011841 0BG
```

The fields 8000, 8100, 9218 are standard fields and are sufficiently described in the GDT format documentation.
The EUROLineScan program requires the patient ID for field 3000. This will clearly identify the patient in the database. This field can contain up to 64 characters as opposed to the official GDT format.
Also in the fields 3101 and 3102 for the last name and first name of the patient 64 characters are available. Patient birth date is entered into field 3103.
A test abbreviation is required from the test list for field 8410. (See chapter 2.1.4)
Furthermore the following fields can be entered:

| Field | Content |
|---|---|
| 6330 | Contains the character string „Labornummer“ |
| 6331 | Alphanumerical content for the lab number with max. 32 characters |
| 6332 | Contains the character string „Einsender“ |
| 6333 | Alphanumerical content for “Sent from” with max. 32 characters |
| 6334 oder 8300 | Contains the character string “Einsenderdatum” |
| 6335 oder 8301 | Date of receipt sample in format DDMMYYYY |
| 6336 | Contains the character string „SID“ |
| 6337 | Alphanumerical content for test kit with max. 32 characters |

### 2.1.3 Exporting the evaluation results

For each strip of the protocol a file is created with the file format name „unter000.gdt“. The numbers „000“ represent successive numbering that are chosen to prevent overwriting of the existing files. Deleting files must be done manually or with a different sofware.
The evaluation for EUROLINE and Westernblot must be differentiated. For the EUROLINE each individual band represents one result, whereas in Westernblot only from all of the bands can one or several results be concluded.
Record type 6310 is used („Test Data Transfer“).
eg. „unter000.gdt“ (field identification in bold type):

```
013800006310
014810000936
014921802.10
021010300EUROLineScan
022300021009Ea  30µl
015840200ALLG00
017620012082004
015620100125417
016633000PRT/STR
015633101534/0
011841000VG
033841100Borrelia EUROLINE-WB IgG
017843212082004
015843900125417
016848000positive
012841000Al
021841100Alignment bar
010842000
019842100Intensität
010848000
012841000p17
013841100p 17
```

```
011842024
019842Intensität
010848+
012841p19
013841p 19
011842034
019842Intensität
010848+
012841p21
013841p 21
012842143
019842Intensität
010848+
012841p25
020841p 25, Osp C
010842041
019842Intensität
010848o
012841p30
013841p 30
012842128
019842Intensität
010848+
012841p31
020841p 31, Osp A
011842051
019842Intensität
010848+
012841p39
020841p 39, Bmp A
012842159
019842Intensität
010848+
012841p83
013841p 83
011842084
019842Intensität
010848+
013841VIsE
013841VIsE
012842111
019842Intensität
010848+
```

The fields 8000, 8100, 9218 are standard fields and are sufficiently described in the GDT format documentation.
In field 0103 „EUROLineScan“ is assigned as the software. The PatienID with the field identification 3000 then follows.
„ALLG00“ is assigned for equipment and procedure specification identity (field identification 8402).
For the day and time required for data collection (6200 & 6201) the establishment date of the protocol is used.
Vacant categories follow thereafter. The combination 6330 and 6331 define the internal program IDs for the protocol and the strip number (format: protocol number/strip number). All evaluated results of one protocol must have the same protocol number. The count of the strip numbers of each protocol begins with 0 and increases consecutively. The second vacant category (6332 and 6333) is used for the lab number.
Possible existing results of the strips will follow next. (field 8480).
For the Test-Ident a test abbreviation is required from the test list for field 8410. (See chapter 2.1.4)

In field 8411 the description taken from the list is entered. The incubation date of the protocol is used for the acceptance date and time (8432 & 8439). One or several fields with results will follow.
Thereafter a list with all of the bands of the strip will follow.
In the fields 8410 and 8411 the short and long syntax of the band is included. The measured intensity for these bands is given as a whole number from 0 to 255 in field 8420. The unit used is “Intensität” (field identification 8421). For the result text in field 8480 the symbol from the details view is used.

### 2.1.4 Tests

| Abbreviation | Description |
|---|---|
| AP3a | Ana Profile3 (13 Ag, SS-A and Ro52) |
| APa | Ana Profile 1 (10 Ag, SS-A and Ro52) |
| At | Allergy EUROLINE Atopy |
| Cr | Allergy EUROLINE Cross reactions |
| E1a | Ena ProfilePlus 1 (6 Ag, SS-A and Ro52) |
| EBV | EBV Profile 1 EUROLINE |
| EBV2 | EBV Profile 2 (5 Antigens) EUROLINE |
| FO | Allergy EUROLINE Food |
| In | Allergy EUROLINE Inhalation |
| Ins | Allergy EUROLINE Insects |
| Pd | Allergy EUROLINE Pediatric Inhalation |
| TOR | T.O.R.C.H. Profiel |
| BG | Borrelia burgdorferi IgG |
| BM | Borrelia burgdorferi IgM |
| YA | Yersinia enterocolitica IgA |
| YG | Yersinia enterocolitica IgG |
| PA | Helicobacter pylori IgA |
| PG | Helicobacter pylori IgG |
| GG | Borrelia garinii IgG |
| GM | Borrelia garinii IgM |
| HG | Herpes simplex Virus IgG |
| HM | Herpes simples Virus IgM |
| EG | EBV Westernblot IgG |
| EM | EBV Westernblot IgM |
| AG | Treponema pallidum IgG |
| AM | Treponema pallidum IgM |
| FG | Borrelia afzelii IgG |
| FM | Borrelia afzelii IgM |
| KG | Echinococcus granulosis IgG |
| KM | Echinococcus granulosis IgM |
| CG | Cytomegalovirus IgG |
| CM | Cytomegalovirus IgM |
| VG | Borrelia EUROLINE-WB IgG |
| VM | Borrelia EUROLINE-WB IgM |
| Leb | Leber Profile |
| Med1 | Allergy EUROLINE Mediterranean Inhalation |
| AP3b | Ana Profile3 (14 Ag, PCNA) |
| APb | Ana Profile 1 with nucleosomes |
| Blnk | a blank Westernblot strip |
| ANCA | MPO_PR3 EUROLINE |
| FO2 | Allergy EUROLINE Korea Food2 |
| ISEA | Allergy EUROLINE Inhalation SEA |
| FSEA | Allergy EUROLINE Food SEA |
| Ped | Allergy EUROLINE Pediatric |
| Med3 | Allergy EUROLINE Mediterranean Inhalation |
| IN1 | Allergy EUROLINE Korea Inhalation |

### *2.2 ELO connection (EUROLabOffice)*

When using the EUROLabOffice program from EUROIMMUN data can be exchanged in a special XML format. If „EUROLabOffice“ is set for the connection an import file will be requested when establishing a new protocol. All information will be taken out of this file to create the protocol (except for the lot for Westernblot tests). The file selection can also be interrupted and the protocol can be entered manually. In the setting for the ELO connection a path can be pre-set with the file name („import file“).
To export („export path“) a path is defined to later direct the file containing the evaluation results. The file name is automatically selected „export[number].xml“ so that no other files are overwritten.

### *2.3 Word connection*

If the setting „Word“ has been selected for the connection, the EUROLineScan program will try to open the designated word file for the word connection settings through „export“. This word file can be freely formulated by the user. For information that is to be inserted from the EUROLineScan text markers must be set at these positions according to the following scheme.

| **Name of the text mark** | **Content** |
|---|---|
| strnr | Strip number |
| unterid | Test ID from the database |
| unterkuerzel | Test abbreviation |
| unterkurz | Test short description |
| unterbez | Test description |
| patientid | Patient ID |
| patname | Patient name |
| patdatum | Patient birth date |
| labor | Lab number |
| streifen | Strip number |
| testkit | Test kit |
| blutdatum | Blood sample receipt in Lab |
| bluteinsender | Blood sender |
| chargeid | Lot ID from the database |
| charge | Lot description |
| strerg | Strip results |
| bnderg | Band results |

For each strip of the protocol a word file is opened and filled. At the end the word program will open and the individual files will be displayed.

# 3 Client server installation

The EUROLineScan program can be installed onto several computers. The program is independently installed and does not exchange data.


**Illustration 2 Each set up administrates its own data**

It the computers are connected to a network they can use a community data source enabling work and viewing of the protocols and results on different computers.
The data that can be exchanged includes the content of the database and the images of the strips. Additionally the images to be saved for the protocol and templates can be used collectively.

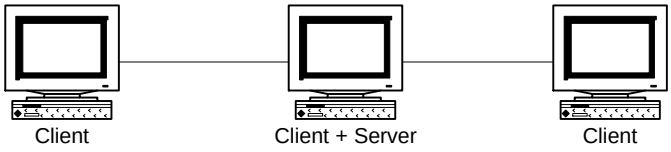



**Illustration 3 One computer takes over the administration for all of other computers**

This can be easily achieved when one computer is designated as the server and all other set ups can use the data on this computer. This enables a unified data base for all installations.
For this the strips, protocols and templates must be shared to the network. In addition access is not to be blocked from outside on port 3050 by firewalls.
The database itself cannot be released to the network. The interbase database file must always be on the local computer. The EUROLineScan can be installed normally onto the computer which is to serve as a client. A few features can be deselected when installing the interbase database (a part of the EUROLineScan installation) to save resources on the computer.

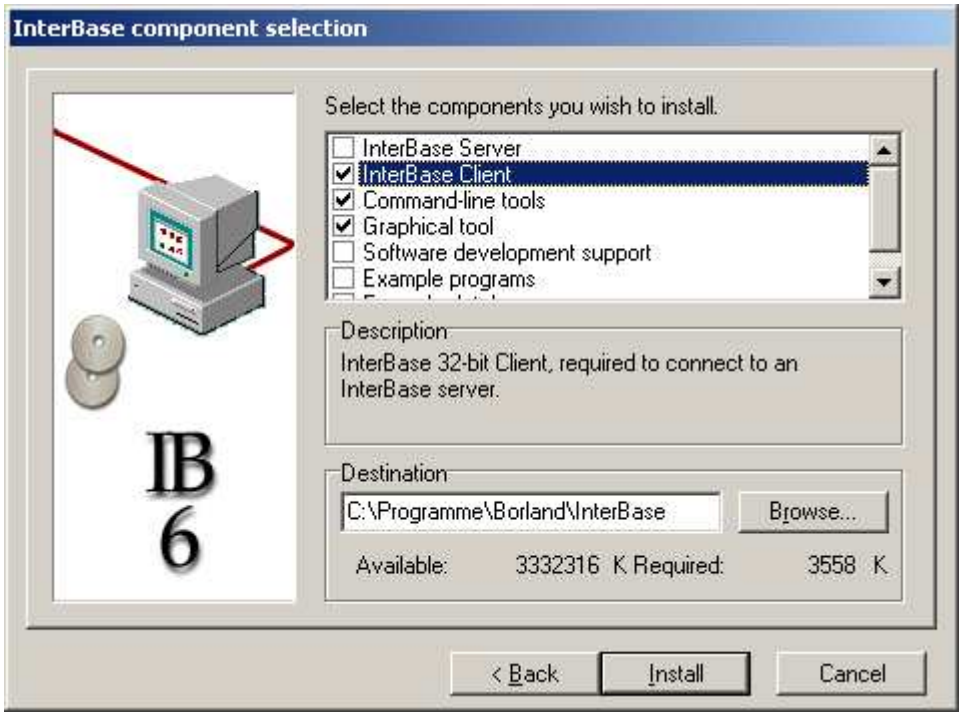



**Illustration 4 Necessary client installation settings**

After installation a few changes are necessary. Open the program „BDEADMIN“ in the directory“ C:\Program Files\Common Files\Borland Shared\BDE\“. On the left side select the entry „euroscan“. After this step, on the right side it is possible to edit the entry for „SERVER NAME“. There the IP address of the server computer must be entered. A colon and the path to database file on the server must be entered following this. The standard login for the database is „euroscan“ for the name and password.

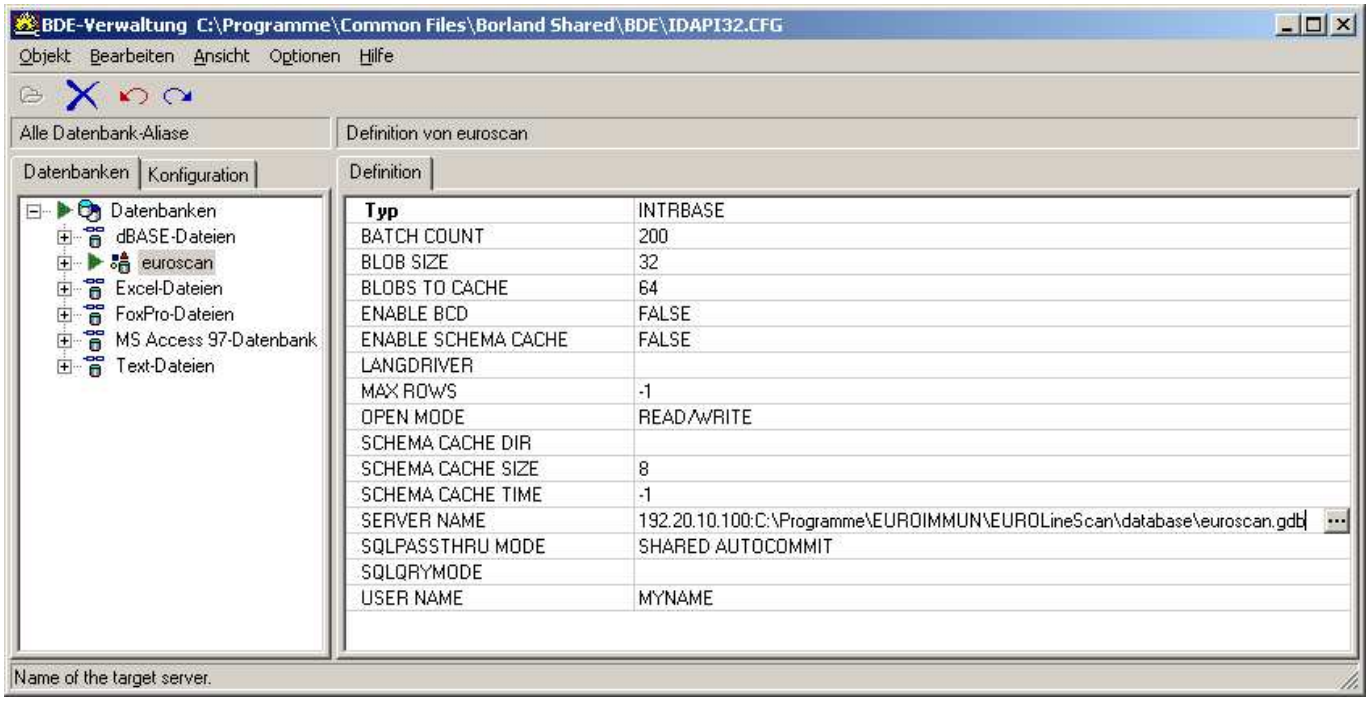



**Illustration 5 Program BDE administration**

In addition, the settings in the EUROLineScan program for the entries „Picture of strips" , "Protocol pictures“ and „Template pictures“ must be adjusted to the share from the server.


**Illustration 6 The administration of data is designated to one server**

The third possibility is to save the images and the database to a dedicated server. Another SQL database can be used instead of the interbase database. The program has been successfully tested with Oracle and MySQL databases.
To save images it is not necessary to have a Windows server. Samba under Linux are also successfully in use.

# 4 Quick Data Source Changeover

In most cases the program is run with one data source. This can be adjusted to the settings on the page “program“ with the entries to „Database alias“, „DB-Name“, „DB-Pass“, „Picture of strips“, „Protocol pictures“ and „Template picture“. If an automatic switch between the different data sources is desired, this can be made possible with a special XML file. This XML file can be entered into the program settings „Databases“. The content could look like this example:

```
<databases override="false">
 <database>
  <name>euroscan</name>
  <alias>euroscan</alias>
  <dbname>euroscan</dbname>
  <dbpass>euroscan</dbpass>
  <strips>C:\Programme\EUROIMMUN\EUROLineScan\pictures\strips</strips>
  <templates>C:\Programme\EUROIMMUN\EUROLineScan\pictures\templates</templates>
  <worksheets>C:\Programme\EUROIMMUN\EUROLineScan\pictures\worksheets</worksheets>
  <valid_from>2006-02-02T23:59:59</valid_from>
 </database>
 <database>
  <name>euro2</name>
  <alias>euro2</alias>
  <dbname>euroscan</dbname>
  <dbpass>euroscan</dbpass>
  <strips>\\terra\euroscan\pictures\strips</strips>
  <templates>\\terra\euroscan\pictures\templates</templates>
  <worksheets>\\terra\euroscan\pictures\worksheets</worksheets>
  <valid_from>2005-12-31T23:59:59</valid_from>
 </database>
</databases>
```

In this example two entries in the menu in „database“ would appear after the program has been started. With these two options it is possible to switch between two data sources without having to close the whole program. The individual data sources („database“ elements) are in a „databases“ element. Each „database“ element represents an entry in the program menu. The parameter „override“ shows if the most current data source is to be automatically selected when the program is started.
The „name“ element will take on the description for the data source that is shown in the menu. The elements „Database alias“, „dbname“ and „dbpass“ refer to database and correspond to the entries „database alias“, „DB-Name“ and „DB-Pass“ in the program settings. The directories in „strips“, „templates“ and „worksheets“ correspond to „Picture of strips“, „Protocol pictures“ and „Template pictures“.
With the entry to „valid_from“ in format „YYYY-MM-DDTHH:NN:SS“ (Y=year, M=month, D=day, H=hour, N=minute, S=second) will on the one hand indicate when the entry is valid and on the other also show how recent the entry is in relation to the parameter „override“ (see above).



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