Made by: 2.5.2016 JJT
Checked by: 2.5.2016 MM
Accepted by: 2.5.2016 EL

Medikro Database Transfer Tool

User's Manual

for Medikro Spirometry Software v4.0

Medikro Oy
Mail address: P.O.Box 54, FIN-70101 Kuopio, Finland
Street address: Kellolahdentie 27, FIN-70460 Kuopio, Finland
Tel: +358-17-283 3000
Fax: +358-17-283 3300
E-mail: medikro@medikro.com
Home page: http://www.medikro.com
Business ID: 0288691-7
VAT no.: FI02886917
Domicile: Kuopio

Table of Contents

1 Introduction 4
1.1 Scope 4
1.2 Who Should Use This Manual 4
1.3 Terminology, Acronyms and Abbreviations 4
1.4 Related Documents 5
2 Installation and uninstallation 6
2.1 Installation along with Measurements and Results Application 6
2.2 Manual Installation 6
2.3 Uninstallation along with Measurements and Results Application 6
2.4 Manual Uninstallation 6
3 Operation 7
3.1 Operation Modes 7
3.2 Using the FULL mode 7
3.2.1 Transfer to a single workstation database (SQLite) 7
3.2.2 Transfer to a multiple workstation database (MS SQL Server) 8
3.3 Using the LITE mode 9
3.4 Using the SILENT mode 10
3.5 Data transfer 11
3.6 Error log file 11
3.7 Transfer settings in “DB Transfer.ini” 11
4 Troubleshooting 13
4.1.1 Duplicate sessions in the database 13
4.1.2 Does not connect to target databases 13
4.1.3 Application asks for ‘SQL Server Native Client’ driver 14
5 Technical Support 15

Figures

Figure 3-1 Transfer progress window 8
Figure 4-1 Duplicate sessions error message 13

Tables

Table 1-1. The tested database versions 4
Table 1-2. Terminology, acronyms and abbreviations 4
Table 1-3. Related documents 5
Table 3-1. Transfer settings 12

1 Introduction

1.1 Scope

The purpose of this document is to define how Medikro Spirometry Software (MSS) or formerly Spiro2000, data is transferred between various types of databases. **Medikro Database Transfer Tool** supports only transferring of Spirometry result databases (having default name SpirometryResult.mdb), not Spirometry reference databases (having default name SpirometryReference.mdb).

The source database types can be MS Access and MS SQL Server and target database types MS SQL Server and SQLite. The source and destination databases may but need not to be of same type.

The tested versions of database types are listed in the table below. The conversion may well apply to also to both previous and latter versions of the databases, but no guarantee can be given.

Table 1-1. The tested database versions

DB type	Version
MS Access	1997 – 8.0.5903 2000 – 9.0.6926 2003 – 11.0.6355
MS SQL Server	2000 - 8.00.194 2005 – 9.00.1399 2008 – 10.0.1600.22 2012 – 11.0.2100.60
SQLite	3.8.5

1.2 Who Should Use This Manual

Database administrators and advanced MSS users, who want to transfer their data from old MSS (v.2.x-3.1) database to MSS v4.0 databases

1.3 Terminology, Acronyms and Abbreviations

Table 1-2. Terminology, acronyms and abbreviations

Term	Description
DSN	Data Source Name
<Installation_folder>	Absolute path to the folder, where this utility has been installed. E.g. “C:\Medikro\Medikro Database Transfer Tool”
Medikro Persons and Studies	Application that is used for managing persons and studies.
Medikro Measurements and Results	Application that is used for performing spirometry studies and analysing results.
Medikro Administration Tool	Application that is used for managing settings of Medikro Spirometry Software
Medikro Database Creator	Application that is used for creating MS SQL Server databases of Medikro Spirometry Software.

1.4 Related Documents

Table 1-3. Related documents

Product Code	Document
M8304	Medikro Spirometry Software, User's Manual
M8815	Medikro Spirometry Software Installation Guide
M8321	Medikro Administration Tool, User's Manual

2 Installation and uninstallation

2.1 Installation along with Measurements and Results Application

Medikro Database Transfer Tool is installed automatically when you install Medikro Measurements and Results application. By default it is installed to “C:\Medikro\Medikro Database Transfer Tool”.

2.2 Manual Installation

If you want to install the tool manually without Medikro Measurements and Results application, copy the folder “Medikro Database Transfer Tool” from the Installation DVD to a hard disk. Later in this document the absolute path of that folder is indicated as <*Installation_folder*>.

Note! DB Transfer software requires “NI LabVIEW Runtime 2014 SP1” and “NIER Interface” installed on the same machine. In the manual installation of the Medikro Database Transfer Tool, you have install them from the Medikro Spirometry Software’s installation media. Start the installations by clicking LV2014runtime.msi from the installation disc’s Runtime Engine folder and NIER_Interface.msi from Runtime Engine\NIER_Interface folder.

2.3 Uninstallation along with Measurements and Results Application

Medikro Database Transfer Tool is uninstalled automatically when you uninstall Medikro Measurements and Results application.

2.4 Manual Uninstallation

Delete <*Installation_folder*>.

3 Operation

3.1 Operation Modes

Medikro Database Transfer Tool can be launched in three different modes, FULL, LITE and SILENT.

- The FULL mode is a recommended way of using the software. You have full options to select from source and target databases and affect their settings.
- The LITE mode is intended for simple use but it is more restricted than full mode. The user is shown the number of persons and studies to be transferred and asked whether to transfer or not. If you run Medikro Measurements and Results installer, it launches Medikro Database Transfer Tool in lite mode.
    - NOTE: In the lite mode you can transfer a local MS Access database to single workstation database (SQLite) only. Source database must be located at same drive than DB Transfer.exe. If you need more flexibility, use full mode.
- The SILENT mode is intended for simple use, like lite mode, but the transfer is run in the background without any user action needed and no user interface is shown for the user.
    - NOTE: In the silent mode you can transfer a local MS Access database to single workstation database (SQLite) only. Source database must be located at same drive than DB Transfer.exe. If you need more flexibility, use full mode.

3.2 Using the FULL mode

Launch the tool in full mode by double clicking **DB Transfer.exe**.

3.2.1 Transfer to a single workstation database (SQLite)

Use this way, if you want to transfer spirometry data to a local, single user database.

Source database

- Select the “Data source name” (DSN) of the source database. If you have Medikro Measurements and Results application installed, the DSN selection should be right by default, pointing to a database that spirometry software uses.
- If your source database is not on the list, you must add it with the Windows “ODBC Data Source Administrator” tool.
- Test the connection to source database by clicking “Test connection to source database”. A dialog will show you the connection status and how many persons and studies are in the database.

Persons are identified by

- Personal ID is a default value and typically used criteria in countries where citizens have social security number. Instead of Personal ID, Person code is commonly used in many countries.

Target database type

- Select option “Single workstation database (SQLite)“

Target database

- Select the single workstation databases (person and study) where the data is transferred from source database.
- Test the connection to target databases by clicking “Test connection to person database” or “Test connection to study database”.
- If Medikro Persons and Studies application is installed, single workstation databases exist already and these paths should be right by default.
    a. Default path and filename for person database is “C:\ProgramData\Medikro\Databases\offline.person.db”
    b. Default path and filename for study database is “C:\ProgramData\Medikro\Databases\offline.study.db”
- If the target databases do not exist in the specified path, Medikro Database Transfer Tool will create empty databases when testing the target database connection or starting the transfer.
- Please note that (application) data folder is defined during the installation of Medikro Spirometry Software and can be different than “C:\ProgramData\Medikro\Databases”.

Start data transfer

Click this button to start data transferring. A progress dialog (see Figure 3-1) is shown during the transfer.

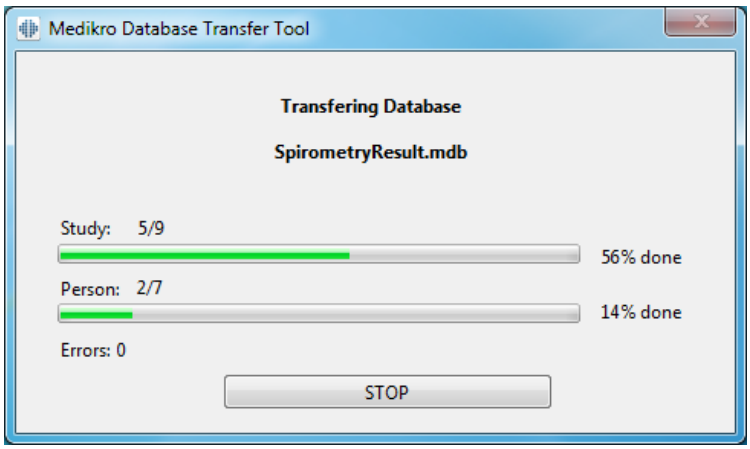

Figure 3-1 Transfer progress window

3.2.2 Transfer to a multiple workstation database (MS SQL Server)

Use this way, if you want to transfer spirometry data to server database that is shared for multiple workstations and users.

Prerequisite

- The databases must be created to database server before transferring data. The databases are created with Medikro Database Creator –installer, found from the installation media (see the Medikro Spirometry Software Installation Guide).

Source database

See the source database selection in chapter 3.2.1.

Persons are identified by

See the person identification selection in chapter 3.2.1.

Target database type

- Select option “Multiple workstation database (MS SQL Server)“

Target database

- NOTE: The online databases must be created before transferring. The Databases are created with the Medikro Database Creator –installer (see the Medikro Spirometry Software Installation Guide).

- There are two possibilities to define the target databases.

    a. By using the DBConnection.ini (recommended)

        1. Select “Create Data Source Names (DSN) automatically using DBConnection.ini”. The DBConnection.ini is created with the Medikro Database Creator –installer.

        2. Set username and password which was created with the Medikro Database Creator –installer.

        3. Test connection to databases.

    b. By using Data source name (DSN)

        1. Select “Use your manually created and configured DSNs”

        2. Select the right data source names for person and study databases.

        3. Set username and password. The user has to have rights to modify the person and study tables.

        4. Test connection to databases.

Start data transfer

- Click this button to start data transferring. A progress dialog (see Figure 3-1) is shown during the transfer.

3.3 Using the LITE mode

Launch in lite mode from the command line:

DB Transfer.exe -l

After launching, the tool opens a dialog showing the number of persons and studies to be transferred and the source and target database information. Also, user has to select the criteria by which persons are identified in your source database. To accept transferring, select “Yes”.

3.4 Using the SILENT mode

Launch in silent mode from the command line:

DB Transfer -s SOURCE_DB_DSN="[DSN name]" TARGET_DB_PATH="[base path]" STUDY_LIMIT=[max number of studies]

Optional parameters:

- SOURCE_DB_DSN="[DSN name]"
    a. DSN Name of the source database.
    b. By default it is checked from the system.
- TARGET_DB_PATH="[base path]"
    a. Path to the directory where target single workstation database are located.
    b. Default value is C:\ProgramData\Medikro.
- STUDY_LIMIT=[max number of studies]
    a. If the number of studies exceeds the number of [max number of studies] the transfer will not be launched. This can be used to avoid long silent transfers. If the value is 0, tool does not transfer anything.
    b. Default value is unlimited (-1).

NOTE: DB Transfer.ini-file contains more settings that affect to transfer. See Chapter 3.5.

3.5 Data transfer

You must have full permission to <*Installation_folder*>, its subfolders, source database(s) and destination database. It is recommended that the database(s) to be transferred are not accessed by other users during transfer.

The data transfer may take from minutes to several hours or even days depending on database sizes, data communication speeds, system performance rates etc. The transfer may be interrupted and, if restarted, the transfer starts from where it was stopped. (If you want to transfer the whole database from the start after the interruption, you must first transfer it completely.)

In the case of person identification conflict (for example there are multiple persons in target database that match to incoming person), the manual check window is displayed. The operator can resolve the conflict by changing person identification settings temporarily.

3.6 Error log file

The data transfer tries a recovery in case of possible database connection (and other) errors. The number of occurred errors is shown in the transfer progress window, see Figure 3-1. If one or more errors occur, an error log file "<*Installation_folder*>\ErrorLog.xml" is created.

If you run the application in silent mode, transfer process is stopped, if person identification conflict occurs and error is written to log file. That's why it's important to check has the transfer generated an error file when running the application silently.

3.7 Transfer settings in "DB Transfer.ini"

The transfer settings are found in the file "DB Transfer.ini". They are similar to respective HIS settings of Medikro Spirometry Software or Spiro2000 software. They are listed in the Table 3-1 and explained below.

WARNING: The default settings are planned for a quick and smooth data transfer. They should be adjusted only for weighty reasons (e.g. Patient Code is used instead of Personal ID or if there are conflicts in the person identification).

Import mode

Insert. The source data is discarded in a conflict with the destination database. Incoming person information will be discarded for the persons existing in the destination database. Similarly, incoming sessions' information will be discarded for those sessions, which exist in the destination database.

Update. The source data overrides database information. Incoming person information will replace personal information for the persons existing in the destination database. Similarly, incoming sessions' information will replace the sessions, which exist in the destination database. This is a default setting and recommended to use.

Check identification

It can be configured, whether the identification of a transferred person is always manually checked.

WARNING: the check is unpractical for large databases.

PersonalId, PatientCode, Last Name, First Name and/or Date of Birth

- The default identification criteria can be chosen. Persons can be identified by PersonalId, PatientCode, Last Name, First Name and/or Date of Birth. This setting can be changed in user interface of the application but the change in user interface is not saved to “DB Transfer.ini”

- Personal ID is a default value and typically used criteria in countries where citizens have social security number. Instead of Personal ID, Person code is commonly used in many countries.

Table 3-1. Transfer settings

Setting	Values and their meaning	Default
Import Mode	1 = Insert 2 = Update	2
Check identification	0 = no manual identification check 1 = manual identification check for each patient	0
Personal ID Check	0 = not used in identification 1 = used in identification	1
Patient Code Check	0 = not used in identification 1 = used in identification	0
Last name Check	0 = not used in identification 1 = used in identification	0
First name Check	0 = not used in identification 1 = used in identification	0
Date of Birth Check	0 = not used in identification 1 = used in identification	0

StudyLimit

The number of the maximum studies to be transferred in silent mode. If the number of studies exceeds this number the transfer will not be launched. -1 is for unlimited and the transfer will always occur. If you set this value to 0, transfer will not occur.

4 Troubleshooting

4.1.1 Duplicate sessions in the database

In the beginning of the data transfer process, Medikro Database Transfer Tool checks input database's structure. If for some reason Session table contains duplicate values, the tool informs user with an error message (see Figure 4-1). This error is a rare special case, but if it occurs you need to fix the database manually by removing the duplicate sessions. You need to be very careful when removing sessions from the database and keep the original database in a safe place.

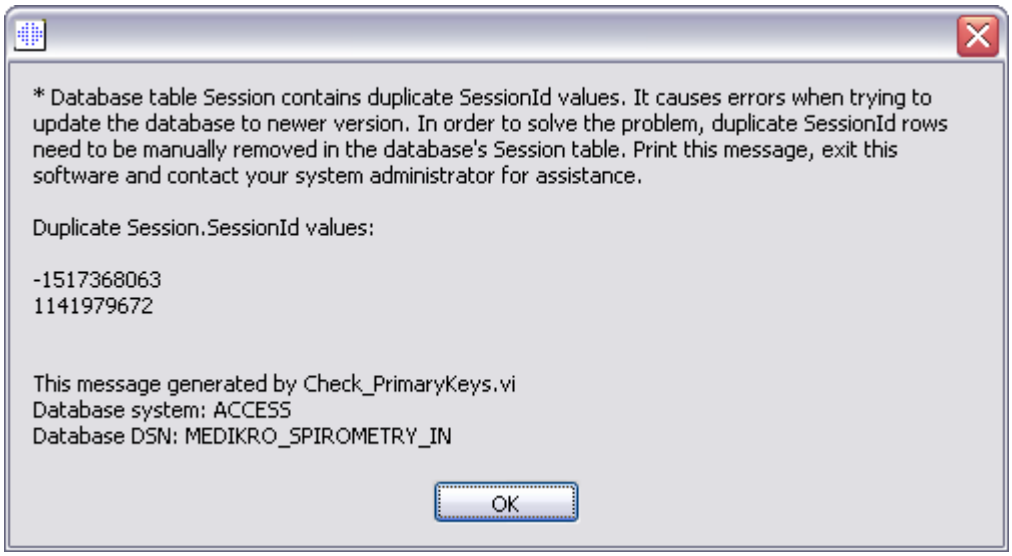

Figure 4-1 Duplicate sessions error message

Error message displays Session table's SessionId values of the conflicting sessions. Record these values and click OK. Data transfer process is aborted.

Open the database with the database managing tool. Find the duplicate SessionId rows in the session table. You need to decide which of the duplicate rows to delete and which one to leave. If the rows have exactly the same content, it is same which one to delete.

After removing duplicate sessions save and close the database and run the Medikro Database Transfer Tool again.

4.1.2 Connection to target databases fail (MS SQL Server databases)

Medikro Database Transfer Tool will show a description of the error in most common cases.

Typical problem is that you haven't typed a right username and password for the database user. When you create the MS SQL Server databases using Medikro Database Creator, you create an SQL server user that has privileges to use the databases. Use that username and password pair.

Check that your "DBConnection.ini" has exactly right IP-addresses to your target databases (person and study). If they are incorrect, edit the "DBConnection.ini" manually and retry connection with Medikro Database Transfer Tool.

4.1.3 Application asks for 'SQL Server Native Client' driver

To transfer data to MS SQL Server databases, you need to have ODBC driver "SQL Server Native Client" installed. Install the driver and restart Medikro Database Transfer Tool.

5 Technical Support

If you have any questions or problems regarding how to use these conversion utilities, please contact our technical support.

Web: http://www.medikro.com

Tel: +358 17 283 3000

Fax: +358 17 283 3300

E-mail: technicalsupport@medikro.com