

Installation Guide

MILOU 2.2

Manufacturer:

Neoventa Medical AB
Lilla Bommen 1
SE-411 04 Göteborg
Sweden

Phone: +46 – 31 758 32 00

Fax: +46 – 31 758 32 99

Internet: www.neoventa.com

E-mail: info@neoventa.se

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1 THE ARCHITECTURE OF MILOU

1.1 Overview

MILOU is a distributed system that on a number of workstations, monitors real-time data from a number of Fetal Monitors. In MILOU, data from all Fetal Monitors can be reviewed in real-time on all clients. The Fetal Monitors can be connected to any computer(s) in the system. The device communicates with the computer via the standard com-port.

1.2 The MILOU Client

A MILOU client can be set to view data from all or a subset of all Fetal Monitors in the MILOU system. All Fetal Monitors can be monitored simultaneously.

Usually a MILOU Client acts as a user-interactive station but it can also be set as a pure central review station without user-interaction, only showing the active devices in the system. Every MILOU Client has a connection to the MILOU database.

1.3 The MILOU Server

The MILOU Server (a.k.a. The Real-time Server) collects real-time data from all computers in the system that has devices connected to it. The Server distributes this data in real-time to all clients connected to this Server.

The MILOU Server broadcasts state updates in MILOU, keeping the status updated on all the clients. The Server also holds semaphores for all operations, preventing two users to alter the same data.

Note: The MILOU Server handles only real-time data and has no connection to the MILOU database.

1.4 The MILOU Database

All data that is collected by the MILOU system is permanently stored in an ODBC compatible database without distortion. It is therefore possible to easily make a thorough research or collect statistic data from the stored patient records.

1.5 The Network

MILOU communicates over TCP/IP on standard switched Ethernet networks.

2 PC REQUIREMENTS

2.1 Hardware Requirements

2.1.1 MILOU Client

- Pentium II or later
- 450 MHz Processor speed or higher
- 128 MB RAM dedicated for MILOU
- Screen resolution 1024x768 or higher (1280x1024 recommended)
- Minimum 65536 number of colours.
- 200 MB Hard Disk Space
- Network Interface Card

2.1.2 MILOU Server

- Pentium II or later
- 450 MHz Processor speed or higher
- 128 MB RAM if number of devices less than 10, otherwise 256 MB dedicated for MILOU
- 200 MB Hard Disk Space
- Network Interface Card

2.1.3 Database Server

- Pentium II or later
- 450 MHz Processor speed or higher
- 128 MB RAM if number of clients less than 10, otherwise 256 MB dedicated for MILOU
- 2GB Hard Disk Space
- Network Interface Card

2.1.4 Network

- Switched network minimum 10 Mbit
- Recommended; Dedicated network bandwidth of 100 Mbit between switch and MILOU Server/Database Server

2.2 Software Requirements

2.2.1 MILOU Client

- Windows NT 4.0 SP 6 or Windows 2000 SP 2 or higher
- Internet Explorer 5.01 or higher
- TCP/IP
- NetBIOS Interface

2.2.2 MILOU Server

- Windows NT 4.0 SP 6 or Windows 2000 SP 2 or higher
- Internet Explorer 5.01 or higher
- TCP/IP
- NetBIOS Interface

2.2.3 Database Server

- Windows NT 4.0 SP 6 or Windows 2000 SP 2 or higher
- Server or Workstation/Professional
- Internet Explorer 5.01 or higher
- TCP/IP
- Supported DBMS:
 - Microsoft SQL Server version 7.0
 - Microsoft SQL Server 2000
 - Sybase SQL Anywhere version 5.5.05 Build #2739

3 INSTALLING THE SOFTWARE

3.1 Installation files

The MILOU installation consists of the following files:

- Setup.exe Installer stub that launches Windows Installer.
- Setup.ini Installation configuration settings used by Setup.exe
- Milou.msi Windows Installer installation database for MILOU.
- Instmsiw.exe Windows Installer 1.1 runtime (for Windows NT4)
- md5sums Contains checksums for the installation files.

These are available in the root directory of the distribution media (CD-ROM).

3.2 Launching the installer

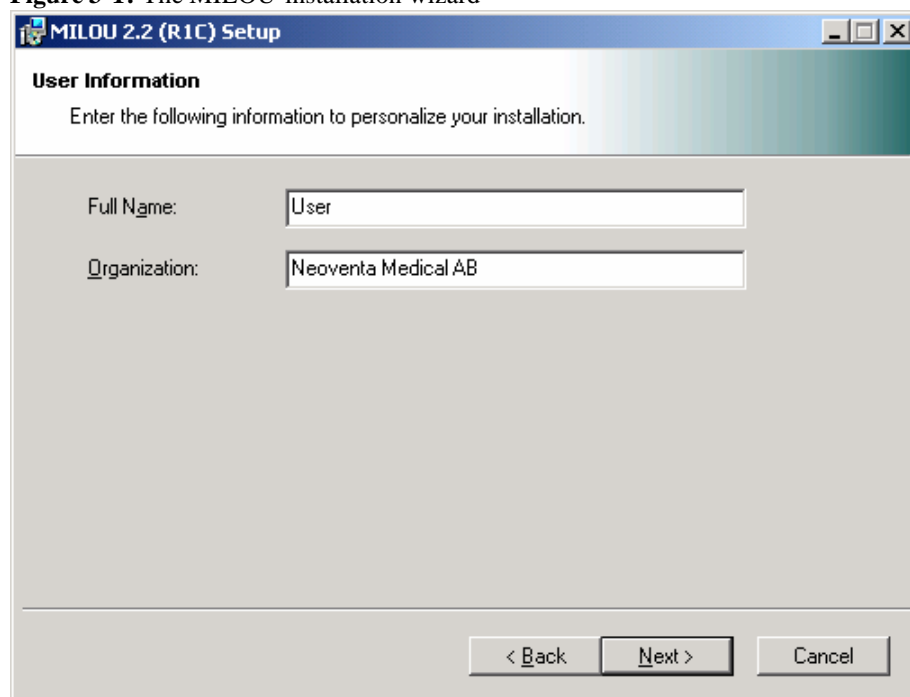
Launch the installation by running Setup.exe. If Windows Installer is not present at the time of installation, it will be automatically installed by Setup.exe. This can also be done manually by running Instmsiw.exe.

Launch the 'Setup.exe' program and check the MILOU client check box.

The MILOU installation package is a standard Windows Installer database and can also be launched by double-clicking Milou.msi or running msexec. Please consult the Windows Installer documentation for details on this.

Note: Only users with local administrative privileges can install MILOU. All users can run the MILOU application after installation.

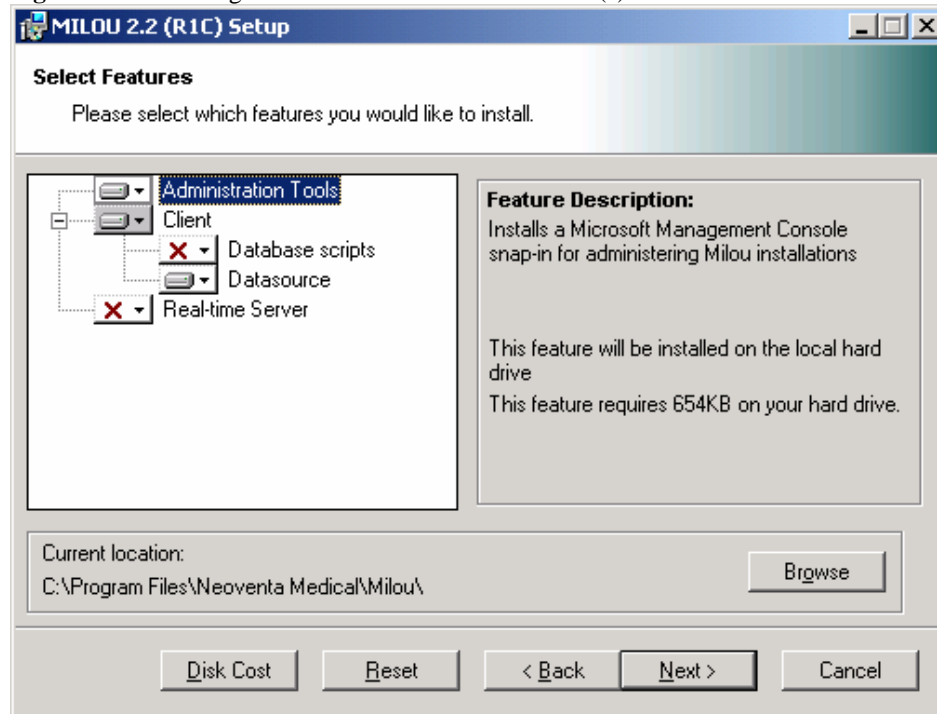
Figure 3-1: The MILOU installation wizard



Click next and follow the on screen prompts to continue the installation

3.3 Client Installation Components

Figure 3-2: Selecting features and installation location(s)



The setup consists of several independently selectable components. To change a component's installation state, click on the arrow and select between Installed on local computer, Installed on first use and Not available. Installation folders can be set by clicking the Browse button.

3.3.1 Administration tools

The administration tools consist of an MMC snap-in called MILOU Settings that allows configuration of local and remote MILOU installations. A link is installed in the Administrative Tools folder in the Start menu/Control Panel. The setup program also installs Microsoft Management Console 1.2 if it is not present on the computer.

3.3.2 Client

The Client consists of the MILOU Application and the MILOU Client Service. The MILOU Application is the main executable program on the client and handles all user interaction and communication with the database. The MILOU Client Service handles real-time data distribution and has connections to the local devices (if any), the MILOU Server and the MILOU Application.

3.3.3 Database scripts (advanced)

Installs and runs the database SQL scripts that create or update the MILOU data store. By selecting this option, you will also have the possibility to add the first MILOU administrator to the database. This option should only be selected once for each site.

Note: You must first create a database on a DBMS before installing the database scripts (see 4.1). The scripts do not create or configure a database.

3.3.4 ODBC Data Source

An ODBC data source, for either SQL Server or Sybase, is set up and configured by the installation program. You need to supply the following information to the wizard:

- **User name and password:** The database user that has permission to use the MILOU database. The MILOU Application will log in to the DBMS using this identity. This field should be left blank if using integrated security with SQL Server.
- **Type:** SQL Server or Sybase SQL Anywhere
- **Server:** Network name of DBMS server
- **Instance:** For Sybase databases, the instance name of the database. (Consult your Sybase documentation for details.) Leave this field empty for SQL Server.
- **Database:** The database name. Typically, this is Milou or MilouDB.
- **Real-time Server:** Network name of MILOU Server

Figure 3-3: Automatic installation of ODBC source

MILOU 2.2 (R1C) Setup

Datasource setup
Please select an ODBC Source and a Real-time Server for MILOU 2.2 (R1C)

DSN= milouDS;APP=MILOU 2.2 (R1C)

User: Milouuser Server: TESTOMILOU1
 Password: Instance:
 Type: SQL Server Database: Milou
 Real-time Server: TESTOMILOU1

The datasource selected above designates the database that will be used by MILOU 2.2 (R1C) to store all recordings and patient data.
 Do not supply a user and password when using integrated SQL Server security.

< Back Next > Cancel

If the Data source component is not selected for installation, you must configure an ODBC source manually (see 4.3). The installation wizard gives you an option to do so before starting the installation, but you can also do this later. To configure a data source from within the wizard, click the Set button.

Figure 3-4: Manual configuration of ODBC source during installation

MILOU 2.2 (R1C) Setup

Datasource setup
Please select an ODBC Source and a Real-time Server for MILOU 2.2 (R1C)

ODBC data source name (existing system DSN):
DSN= milouDS;APP=MILOU 2.2 (R1C) Set...

User: Milouuser Server: TESTOMILOU1
Password: ***** Instance:
Type: SQL Server Database: Milou
Real-time Server: SERVER

The datasource selected above designates the database that will be used by MILOU 2.2 (R1C) to store all recordings and patient data.
Do not supply a user and password when using integrated SQL Server security.

< Back Next > Cancel

3.3.5 Real-time Server

The Real-time Server consists of a Service named MILOUServer.exe. The service will start automatically when the computer is restarted.

3.4 MILOU License

Every copy of the MILOU Application needs a license in order to run. When installing the MILOU Application on a client you are given a 7 day grace period. After the 7 days the Application will not run unless a license code is entered.

Note: No MILOU Application should ever be installed without prior agreement with Neoventa Medical AB.

3.5 Rebooting Windows

The MILOU installer will detect if a reboot is required in order to finish the installation. On Windows NT 4.0 system, the installer may need to reboot halfway through the installation process. In this case, the installation will continue automatically as soon as the administrator logs in again after the reboot.

4 INSTALLING DATABASE SERVER SOFTWARE

4.1 Install the DBMS

MILOU supports the following DBMSs. (DataBase Management System)

- Microsoft SQL Server version 7.0
- Microsoft SQL Server 2000
- Sybase SQL Anywhere version 5.5.05 Build #2739

For installation of the database software, refer to the documentation included with the DBMS.

4.2 Creating the MILOU database

Select a suitable name for your database, for example MILOUDB. For creation of the database, refer to the documentation shipped with the DBMS.

4.2.1 Choosing the size of the MILOU database

In some DBMSs the size of the database has to be determined at the creation moment. The necessary size of the MILOU database depends on how long CTG-Registrations that are done on each patient and of course on the size of the delivery ward.

MILOU compresses all CTG-Data before storing it to the database. With a mean duration of four hours of CTG-registration per patient, MILOU will need less than 100 KB per patient.

This means that a delivery ward with 1000 births per year would need a database size less than 100 MB per year.

4.2.2 Running the database configuration scripts manually

In case the installation program failed to run the database scripts for any reason, you can run them manually against the DBMS to set up the MILOU data store. The scripts are text files with a .sql extension stored in the MILOU installation directory and contain SQL statements that create and populate the necessary tables for the application:

- milouScript213.sql: Run first if installing on a clean database.
- milouScript214.sql: Run next, or first if installing on an existing v2.1.3 database (see 4.2.3).
- milouScript215.sql: Run next or first if installing on an existing v2.1.4 database.
- milouScript215sp1.sql: Run next.
- milouScript215perm.sql: Run next

The scripts can either be run from an SQL prompt using client software that came with the DBMS, or by using the Run Script function in the MILOU Administration console. The Run Script function requires that you already have a functioning ODBC Data Source pointing to the MILOU Database.

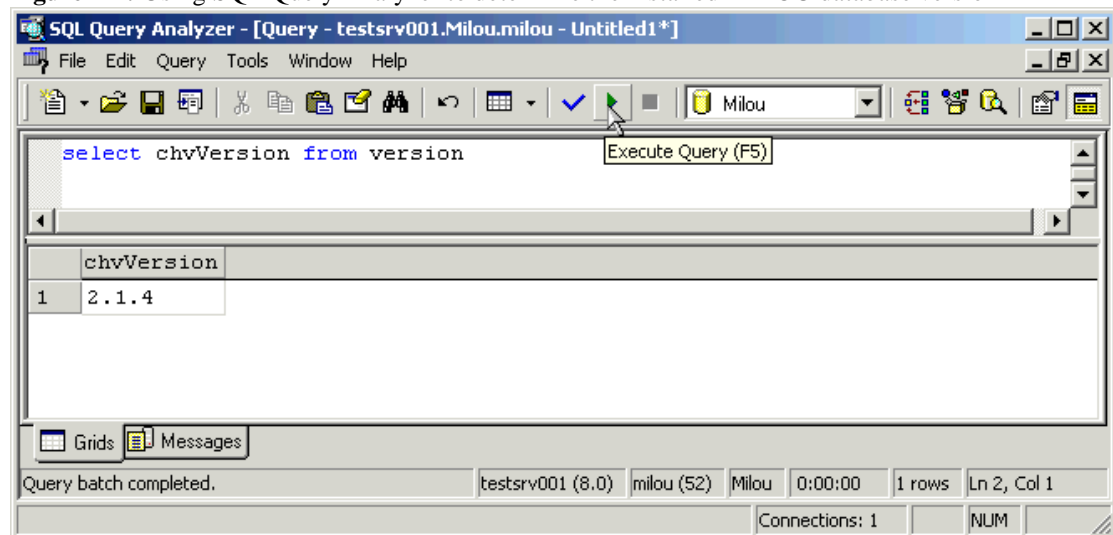
4.2.3 Determining the installed database version

The current MILOU database version number is stored in the version table in the database (after the SQL scripts have run properly). Using SQL client software that came with the DBMS (for example SQL Server Query Analyzer), issue the following statement:

```
select chvVersion from version
```

This will return a single row with the version number.

Figure 4-1: Using SQL Query Analyzer to determine the installed MILOU database version

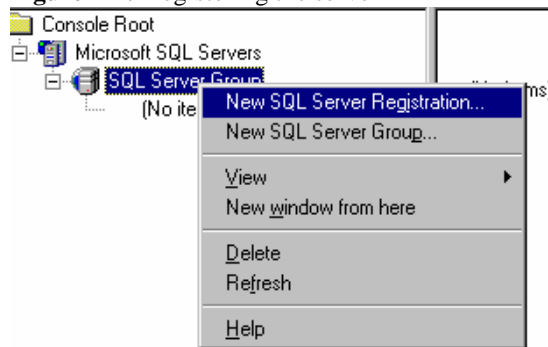


4.2.4 Microsoft SQL Server 7.0 Example

This example shows how to create the MILOU database in Microsoft SQL Server 7.0. When SQL Server 7.0 is installed and running, go to: Start, Programs, SQL Server 7.0, Enterprise Manager. This can be done from a client on the network with Enterprise Manager installed or from the database server.

To be able to conduct operations on the server it must be registered in Enterprise Manager. Right-click the SQL Server Group and choose New SQL Server Registration.

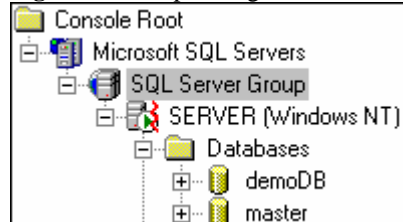
Figure 4-2: Registering the server



Specify the network name of the server, choose Use SQL Server Authentication and enter the database Login Name and Password.

When the registration is done, expand the server node and the Databases node. You will now see a list of all databases on the server. In this example the server name is SERVER.

Figure 4-3: Expanding the server node

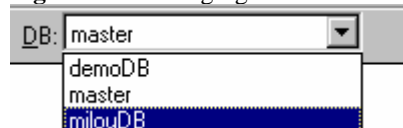


Right-click the Databases node and choose New database. Supply a database name, for instance MILOUDB and choose a location for the log and the database. If possible, put the log on a different media than the database. Leave the other parameters in their default settings, in this way the database will automatically grow and you don't have to worry about choosing a correct size of the database.

Now you have to run the MILOU script on the database to create the necessary tables. The easiest way to do this is by running the SQL Server Query Analyser from the Tools menu in Enterprise Manager.

When you have started the Query tool choose MILOUDB from the database list.

Figure 4-4: Changing the database



Now choose Open from the File menu and browse to the files milouScript21x.sql from the installation directory in the order specified in 4.2.2. Click the Execute Query button or press F5 and you're done.

Figure 4-5: The Execute Query button



4.3 Setting up the ODBC Data Source

The MILOU Application communicates with the MILOU database via ODBC. For this communication to function, an ODBC Data Source is needed. A default data source is created by selecting the Data source component in the installation. The Data Sources can also be edited via 'ODBC Data Sources' in the Control Panel. The MILOU Data Source should be a System Data Source (not a User Data Source).

4.3.1 Example

In this example we will on a client create a Data Source named MILOUDS that is pointing to a database with the name MILOUDB on a server with the network name SERVER.

Go to Start, Settings, Control Panel.

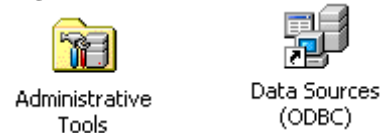
In Windows NT 4, double-click the ODBC Data Sources icon:

Figure 4-6: The Windows NT ODBC Data Sources icon



In Windows 2000, the ODBC Data Sources icon is located in the Administrative Tools folder in the Control Panel:

Figure 4-7: The Windows 2000 Administrative Tools & ODBC Data Sources icons



Then, choose the System DSN tab and press the Add button. Select the SQL Server driver and press Finish.

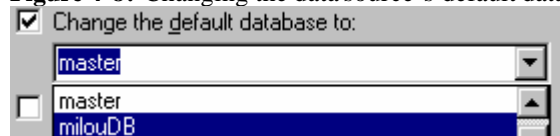
In the Name field, enter MILOUDS. You don't have to supply a description, but enter SERVER in the Server field. Press Next.

Choose SQL Server Authentication and supply the Login ID and Password for the database, leave the other parameters in their default settings. Now press the Client Configuration button and choose TCP/IP.

Press OK and then Next.

Now you must click the 'Change the default database to' - checkbox and choose MILOUDB.

Figure 4-8: Changing the data source's default database.



This requires that the MILOU database is already created.

Press Next to go to the next dialog window, here you should leave all settings in the default state and just press Finish.

Press the Test Data Source button and if the test succeeded you're done.

You must now remember the name you gave the Data Source. This name uniquely identifies the Data Source and is the one that should be supplied in MILOU Settings in the database settings node (See MILOU Administration Guide)

5 MAINTAINING INSTALLATIONS

After MILOU has been installed, changes to the installation can be performed by launching Setup.exe or Milou.msi again. It is also possible to use the Add/Remove Program control panel applet for this task. Maintenance tasks include modification of the set of installed components, repair and un-installation.

Figure 5-1: Maintenance wizard

