Neonatal Notes Manager
Nursing Module
Installation and Technical Guide

Table of Contents

Installation and Technical Guide

System Architecture

There are two components within NNM, the core module and the optional HL7 interface module.

The core NNM module uses a "fat client" architecture. The database, running under Microsoft SQL Server, runs a Microsoft Windows Server. Certain shared files, such as report definitions and reference documents, also reside on a server. This can be the same server as that hosting the NNM database but does not need to be.

A critical Database Settings Configuration file also resides on a server. This file contains connection information that is referred to by every client PC in order to connect to the NNM database. For example, the SQL Server instance, NNM database name, and various passwords are stored on the encrypted file.

NOTE: Isoprime does not certify NNM on virtualized servers. However, there are no known issues with running any of the server-based components of NNM on a virtual server.

The NNM software itself runs on Microsoft Vista, Windows 7 or Windows 10 PCs. Each PC running NNM must have NNM installed.

The HL7 Interface module runs on a Microsoft Server. This can be the same server as that hosts the NNM database but does not need to be.

NNM runs on a standard Windows network using TCP/IP. Printing is done through the standard Windows printing feature. In other words, there are no special hardware, OS or network requirements beyond those defined for the server and client PCs in the System Requirements topic.

15082801

System Requirements

Single PC System

For a single computer implementation, Windows Vista, Windows 7 or Windows 10 is required along with the desktop version of Microsoft's SQL Server (SQL Server 2005 Express Edition). See the Client PC description below for specific PC requirements.

Multiple PC System

Server PC

For a multi-PC implementation, a Microsoft Windows network is required, comprised of a server running Windows 2003 Server or above and Microsoft's SQL Server (2005 or above) as the database engine. Listed below are the minimum and recommended server requirements:

Minimum

1.

- Windows 2003 Server or above
- 1.6 GHz or faster (dual or quad core) or 2.4 GHz or faster (single core)

- 2 GB RAM

- Two 500 GB hard drives

- RAID Card

Recommended

1.

- Windows 2012 Server R2

- 2.4 GHz quad core processor

- 8 GB RAM

- Two 1000 GB Hard Drives

- RAID Card

Disk space needs can vary widely depending on the number and complexity of patients. A general guideline is 15Kb per patient-day if just the physician module is being used, and 225Kb per patient-day if the nursing module is also being used. It is recommended that the disk drive for the OS and SQL Server Log files be RAID 1 (mirrored drives) and the disk drive for the NNM SQL Server database be RAID 5 if possible (RAID 1 will suffice).

The database and optional HL7 interface are the only components running on the server. The server computer and SQL Server software do not need to be dedicated to NNM as long as there is adequate capacity to support NNM. The HL7 interface can run on the same server as the database or a totally separate machine. Certain shared folders that hold report definitions and images will need to be stored in a central location that can be accessed by any NNM user. Typically these folders are stored on the same server as the database but this is not required.

All other components run on the client PCs.

Client PCs

Listed below are the minimum and recommended PC requirements:

Minimum

- Windows Vista

- Pentium 4, 750 MHz (or equivalent)

- 1 GB RAM

- 50 MB available hard drive space

- 17" monitor at least 1024x768

Recommended

- Windows 10

- Core 2 Duo E7500 (2.93 GHz)

- 4 GB RAM

- 250 GB hard drive

- 20" widescreen flat-panel monitor

For the client (desktop) PCs, we recommend a monitor as large as possible, particularly for nursing charting. The NNM screens are designed to fit within a 1024 x 768 display. The NNM program, and a few temporary files, are stored on the client PC, so some hard drive space is required but is well under 50Mb.

Database and Shared Folder Installation

Installation Disks

NNM is shipped with two installation disks. The Database Installation disk is used to install the server components of NNM. The Program Installation disk is used to install the client PC components.

NOTE: The database installation should be done by someone with expertise in Microsoft SQL Server databases who has the administrative rights on the server necessary for the database installation/configuration and the shared folder setup. These instructions assume that expertise.

SQL Server versus SQL Server Express Edition

The NNM database can be installed on an existing instance of SQL Server.   This is the typical case.   However, for smaller installations, the NNM database installation is shipped with a copy of Microsoft SQL Server Express Edition which can act as the database engine.   If you have existing instances of SQL Server on the server the installer will ask you if you want to use an existing instance. Neonatal Notes Manager does not require its own instance of SQL Server.

If you decide to use Microsoft SQL Server Express Edition you will need the following (all of which are included on the Database Server installation disk):

- MDAC 2.8 or later

- Windows Installer 3.1 or later

- .NET Framework 3.5 (Included on CD)

For a more complete list of system requirements for SQL Server Express Edition please visit:
http://www.microsoft.com/sql/editions/express/sysreqs.mspx

If you are installing onto an existing SQL Server installation the only prerequisite is the .NET Framework 3.5 (included on the database installation disk).

Installation

Automated Database Installation

1. Insert Neonatal Notes Manager Database Installation disk into the DATABASE SERVER.

2. If the .NET framework 3.5 is not already installed you must install it (available on the disk). The installer will not work properly without the .NET Framework 3.5

3. If the installer does not start automatically open the disk and run "DBInstaller.exe."

4. Click Install to begin Installation

5. The Installer will attempt to check to see if you have any existing instances of SQL Server installed on the server. If the installer detects any instances of SQL Server it will ask you if you want to select an existing instance. You can also specify an instance name.   Click Yes if you would like to be shown a list of existing instances to choose from or specify an existing instance. Click No to install SQL Server Express Edition 2005.

6. If you select to use an existing instance you will be prompted for the sa password for that instance.

7. If you select to install SQL Server Express Edition 2005 you will be prompted to choose an sa password and an instance name. It is also important to make note of the instance name you choose, as you will need it during the program installation process.

8. Once you have chosen an instance of SQL Server or installed SQL Server Express Edition 2005 you will be prompted for where you would like to store the Neonatal Notes Manager SQL Server data files. Ensure that the files are stored somewhere with enough disk space for growth and also setup a daily database backup schedule.

9. Once installation is complete you will receive an "Installation Complete" message and the installer will close.

10. Proceed to the **Folder Installation**

Manual Database Installation

Occasionally some condition may prevent the automated installation of the database. In that case, a manual installation can be done using the following process (this assumes that SQL Server is already installed and that the person performing the install is familiar with SQL Server and SQL Server Management Tools. It is NOT intended to be step-by-step instructions):

1. Copy the two files from the **dbfiles** folder on the disk to the folder where you would like to store the Neonatal Notes Manager database files on the host (ensure the SQL Server worker process has sufficient permission to read and write these files).

2. Attach those files to your SQL Server as a database named NeonatalNotesManager

3. Create a SQL Server user account named **isoprimeuser**. You will need to contact Isoprime Support at 630-737-0964 to get the password for the isoprimeuser account. It is confidential and not included in this guide.   Make the account a db_owner on the NeonatalNotesManager database (this may require deleting any existing users named isoprimeuser from the NeonatalNotesManager database).

4. Create a SQL Server user account named **nnmreader** with a password of **rau@esa1** and make the account a db_datareader on the NeonatalNotesManager database (this may require deleting any existing users named nnmreader from the NeonatalNotesManager database)

Folder Installation

NNM needs several folders located on a server that can be accessed by all NNM users. These folders are used for report definitions, images, and other components required for operation. These folders are typically located on the same server as the database but do not need to be on that same server.

NOTE: Every user who will access NNM must have the authority to read files from the server location onto which you store these folders.

Take the following steps, in this order, to move the required folders to the correct location and begin configuration:

1. Copy the **Reports** folder from the root of the Database Install disk to the location of your choosing on the server.

2. Copy the **Images** folder from the root of the Database Install disk to the location of your choosing on the server.

3. Copy the **Reports - User Defined** folder from the root of the Database Install disk to the location of your choosing on the server. This folder contains sample Crystal Reports that can be used as-is or as the starting point for your user-defined reports. User-defined reports are run in NNM using the User Defined Reports screen. To access the sample user-defined reports, you will need to change the file location of each sample report to the folder location to which you copied the **Reports - User Defined** folder. This can be done using the User Defined Report Detail Screen.

4. Copy the **Database Settings** folder from the root of the Database Install disk to the location of your choosing on the server. This folder holds a single file which contains encrypted information about connecting to the NNM database (eg: SQL Server instance, database name, passwords, etc.).

5. Copy the **Update** folder from the root of the Database Install disk to the location of your choosing on the server. This folder holds the components required to do distribute updates to each PC running NNM. See the Software Updates and Deployment topic for more information.

6. On a client PC running NNM, use the Database Connection File Screen to enter the location of the **Database Settings Configuration File**. This must match the path and file name of the location to which you copied the **Database Settings** in step 4 above.   On that same client PC, use the Database Settings Configuration Screen to update the database settings to match what you have established for the NNM database. This must be done before a client PC can connect to the NNM database.

7. You can now proceed to install and configure the Neonatal Notes Manager Program on one or more client PCs using the Program Installation disk.

8. On a client PC running NNM, use the **System Adminstration > Settings** option from the Main NNM Screen to access the Settings - Main screen. Select **General > File and Folders** option**.**

   1. Set the **Reports Folder** field to the folder location to which you copied the **Reports** folder.

   2. Set the **Logo File Name** field to the folder location to which you copied the **Images** folder.

3. Set the **Splash Screen File Name** field to the folder location to which you copied the **Images** folder.

4. Set the **Lockout Screen File Name** field to the folder location to which you copied the **Images** folder.

5. If you plan to use the automated distribution of NNM updates feature (see Software Updates and Deployment), set the **Server Update Folder** field to the folder location to which you copied the **Update** folder.

NOTE: A sample user has been provided in the database which has full authority for setup and administration. This user is setup as nurse and also has sample templates, comments, procedure text etc which can be copied to new users. For initial sign on to NNM, use this sample user as follows:

USERID: snurse
PASSWORD: isoprime1

Also, an administrator UserID has been provided in the database which has full authority for setup and administration. The signon information is as follows:

USERID: admin
PASSWORD: isoprime1

Ths **admin** UserID cannot be deleted or deactivated.

Finally, the following UserID has been setup to allow Isoprime access for support. This ID can be deactivated if you wish to lock this access until it is needed:

USERID: isoprime

Troubleshooting

1. I receive an error that I am missing a required component, Windows Installer 3.1.

Windows Installer 3.1 as well as the other prerequisites (.NET Framework 2.0 and MDAC 2.8) can be found on the database installation disk. You should install the prerequisites from the installation disk and try installing the Neonatal Notes Manager database again.

2. The installation failed because I was missing a prerequisite, and after installing the prerequisite the installation still fails.

Sometimes after a failed installation, SQL Server does not get entirely removed, and this can cause errors with future installation attempts. After the installation fails you should look for a folder named Microsoft SQL Server in c:\Program Files, and delete it if it exists

IMPORTANT: Do NOT do this if you are trying to use an existing SQL Server installation as this will cause problems with your existing SQL Server. This is ONLY if you are attempting to install SQL Server Express Edition on a server that does not already have SQL Server installed.

After deleting this folder you should attempt to install the Neonatal Notes Manager database again. If the installer still fails check to ensure you have all three prerequisites installed.

3. I received an error that I already have a Neonatal Notes Manager database on this machine so installation cannot continue.

The installer will not overwrite an existing Neonatal Notes Manager database. If you wish to replace your current Neonatal Notes Manager database with the newest sample database you must first remove the

existing Neonatal Notes Manager database. If you wish to continue using your existing data with the newest version of Neonatal Notes Manager you do not need to do anything with the database installer disk; the first time you run the new client the existing database will be upgraded to the newest version.

Client PC Installation and Configuration

NNM is shipped with two installation disks. The Database Installation disk is used to install the server components of NNM. This must be done before the program installation is done on any client PCs.   The Program Installation disk is used to install the client PC components.

The Program Installation disk **must** be run at least one time in order to use NNM on a client PC.   After the initial installation, in most cases, the EXE file can be replaced in order to upgrade the software rather than doing a complete installation. See the Software Updates and Deployment topic for more information

Installation

1. Insert the Program Installation disk into the client PC.

2. Double-click NotesInstaller.msi

3. Click Next to begin

4. Choose an installation directory for the program and click Next. Every user who will use this PC must have write access to the directory into which NNM will be installed.

5. Click Next to begin the installation. Once installation is complete click Close to close the installer.

6. Once installation is finished, launch Neonatal Notes Manager from your Start Menu or Desktop. **NOTE**: You will get a message that the database configuration file cannot be found.   This is expected; we will set it momentarily.

7. Once NNM opens, go to **File > Database Connection File** to display the Database Connection File Screen. This screen is used to identify the location of the **Database Configuration Settings** file which contains encrypted information used to connect to the NNM database.

8. For the very first client PC installation, use the Database Settings Configuration Screen to set the name of the NNM database and identify the required passwords.   This will only need to be done once (i.e. not for every client PC installation).

9. The next time you launch NNM you should not see any errors. You may see a message that the database is being upgraded and then will see the splash screen.

NOTE: A sample user has been provided in the database which has full authority for setup and administration. This user is setup as nurse and also has sample templates, comments, procedure text etc which can be copied to new users. For initial sign on to NNM, use this sample user as follows:

> **USERID**: snurse
> **PASSWORD**: isoprime1

Also, an administrator UserID has been provided in the database which has full authority for setup and administration. The signon information is as follows:

> **USERID**: admin
> **PASSWORD**: isoprime1

Ths **admin** UserID cannot be deleted or deactivated.

Finally, the following UserID has been setup to allow Isoprime access for support.   This ID can be deactivated if you wish to lock this access until it is needed:

> **USERID**: isoprime

Software Updates and Deployment

Ongoing updates of PC-based applications can be tedious and time-consuming. Typically all PCs must be on the same version of NNM and must be in sync with the database version and version of the HL7 Interface if that is being used. There are several ways to handle this task.

NOTE: All of these options rely on NNM being installed at least once on the client PC. This ensures that all components (EXE, DLLs, etc) are installed and in the correct places.

Here are your options:

1. Do a full reinstall of NNM on every PC when the program changes.

2. Manually copy a new EXE to each PC when the program changes. This will be possible for some program changes.

3. Many institutions have PC deployment utilities such as Microsoft's Active Directory which manage the syncronization and deployment of PC applications from a central point. NNM can be managed this way.

4. NNM has an **Updater** feature that can compare the EXE on the client PC to an EXE on a server.   If the server EXE is newer, NNM will close, a copy of the new EXE and other required components will be downloaded to the client PC, and then NNM will be restarted.

   This feature is enabled by entering the **Server Update Folder** field on the Settings - General - File and Folders screen. If you wish to use the Updater feature, enter the location of the Update folder (typically established in the Database and Shared Folder Installation).

   When this feature is enabled, every time a user starts NNM on a PC, the Updater will check to see if a more current version of the EXE in in the Update folder. If a newer version is found, the EXE and other required components found in the Update folder will be copied to the PC.

   NOTE: In order to use the Updater feature, all NNM users must have the access rights to read the EXE and other required NNM components from the server and write it to their local hard drive.

Index