DRAGON
MEDICAL ENTERPRISE

Network Edition Version 10.1 SP1

Installation Guide

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Contents

Introduction

Dragon Medical Enterprise Network Edition for healthcare enterprise environments provides a central server (the *Nuance Management Server*) along with multiple local or remote speech recognition client machines where healthcare providers dictate. *Dragon Medical Enterprise* takes advantage of distributed processing across servers and workstations for greater efficiency.

This *Dragon Medical Enterprise Network Edition Installation Guide* takes you through the process of installing the various server and client components of *Dragon Medical Enterprise Network Edition*, connecting them to a database that stores your organization's data, and installing/setting up *Dragon Medical Clients* that work with both the *NMS Server* and the other servers and components of the network.

Before you use this manual to install *Dragon Medical Enterprise Network Edition*, you should determine your network needs and be sure you have the required software by reading the *Dragon Medical Enterprise Network Edition Planning and Deployment Guide*. That guide takes you through the process of planning deployment of a *Dragon Medical Enterprise Network*, showing you how to determine the number of servers and other equipment you will need and how to prepare that equipment for installation of *Dragon Medical Enterprise*.

Note:

Some *DME* product features might have changed since this manual was printed. A current version of this book is always available on Nuance's documentation portal, in PDF format. Contact your Nuance representative about accessing that portal to retrieve the latest copy.

Chapter 1: Preparations and quick installation checklists

Creating single user account to run all services under

Before you begin the installation, you create two user accounts, one for *DME* services to run under (see next immediate *Caution*) and one to install the software (see next section).

Caution:

Before you carry out this procedure, you must create *a single Windows administrator account* to run all services under (named something like **NMSapps**) that meets the following requirements:

- Is in the organization's domain or, for a single server configuration, the workgroup.
- Never expires.
- Has a password that never expires (does not have to be changed at regular intervals).
- Has rights to install software and Windows services on the server.
- Has rights to create and start a Windows service on the server.

   VERY IMPORTANT:
- Has full read/write access rights to all other servers within the *DME Network*.
- Has full read/write access to the database server (if it is on a separate server).
- Has full read/write/modify permissions to access the directory hosting the master user profiles.

You must set up this account with **Log on as Service** rights so that it can launch the services when the installation is complete.

Creating/selecting user account to install all services

Caution:

Before you carry out this procedure, you must create *a single Windows administrator account* to install all *DME* and related services. That account must meet these requirements:

- Has rights to install software and Windows services on the server.
- Has rights to create and start a Windows service on the server.
- Has full read/write access to the database server.

VERY IMPORTANT:

You must use this account to install the database software and all servers in the *DME* product.

DVDs in the Dragon Medical Enterprise Network Edition package

When you open the *Dragon Medical Enterprise Network Edition* product package, you should find a license certificate detailing the licenses you purchased along with these DVDs (you should have received the license key from Nuance through email):

- *Nuance Management Server Software and Documentation*
- *Nuance Management Server MS SQL 2008*
- *Dragon Medical Enterprise Network Edition Client Software*

The *Nuance Management Server Software and Documentation* DVD includes installers for servers and related software, plus the product documentation in PDF format. Here are the installers included:

- *Nuance Management Server*
- *Nuance Security Certificates*
- *Nuance Profile Optimizer*
- *Dragon Medical SDK Client*

What you should know to carry out this installation

Before you begin the installation, you should evaluate your own system installation skillset. To select the appropriate hardware and install the *Dragon Medical Enterprise Network Edition* server and client software, you should have adequate skills and experience to:

- Create a network domain/user account with full read/write access rights across all servers
- Create databases with SQL Server
- Set up backup plans for SQL Server
- Create and securely administer a Windows share
- Set Windows user rights and directory permissions
- Set up and configure Internet Information Services (IIS)
- Securely administer IIS (if using web server for master user profiles)
- Order, receive, and install SSL certificates in IIS (if using secure web server for master user profiles)
- Edit XML configuration files
- Manage Windows Services

Assigning access to servers, clients, master user profiles across network

Caution:

Windows accounts that all *NMS* and *Profile Optimizer* processes on the network run under, even the *Dragon Medical Client*, must have read permission to the following:

<*Drive Letter*>:\Program Files\ folder and all subfolders

Assigning permissions to NMS and Profile Optimizer component files

To ensure all *NMS* and *Profile Optimizer* processes can interact with one another, during the installation you set up a single administrator level account (name it something like **NMSapps**) that all the software will be running under and give full access rights across all servers to the directories where you install the software. The software these conditions apply to includes:

- *NMS Server*
- *NMC Console*
- *NMS SQL Database*
- *Profile Optimizer Server*
- *Profile Optimizer Database*
- Each *Profile Optimizer Speech Node*

Caution: Run All Services under the same Windows user account

All services should run under this same Windows administrator level account with full access rights across all servers and the master user profiles directory.

Directories where the components are installed should have full read/write/modify permissions.

Caution: Ensure Full access to the Master user profiles directory

It is especially important that the account that *NMS* and *Profile Optimizer* components run under has complete read/write/modify access to the **master user profiles directory**. If the servers and *Speech Nodes* cannot access the master user profiles, the *DME* product cannot function properly. Each windows user account that logs in to the *Dragon Medical Client* workstation should also have access to the master user profiles that allows reading profiles and writing to/modifying profiles, an action the *Dragon Medical Client* takes frequently to keep profiles current.

Caution: Regarding Privacy of Patient Data

To protect the privacy of patient data and the integrity of the master user profiles, you should **not** give Windows user accounts of *Dragon Medical Clients* rights to log in to the master user profiles machine; the *Dragon* software writes to and modifies the profiles in the background.

Assigning permissions to master user profiles

Caution:

Be sure that when you set up the master user profiles directory, you locate it either on a Windows machine or on a device connected to a Windows machine with .NET Framework 3.5 SP1 installed on it and that the machine is in the same Windows domain as your *DME* servers.

To ensure every dictating healthcare provider has appropriate access to files (such as his or her user profile), you must give full read/write/modify permissions to all files and directories housing the master user profiles for healthcare providers that dictate on that client or allow the same level of access to the master user profiles through an **http** or **https** connection. This level of permission/access ensures that when the provider dictates, the software can interact with the master user profiles effectively.

Assigning folder permissions to Dragon Medical Enterprise server and client files

After you complete the server and client installations, you must assign particular levels of permissions to certain folders that *Dragon Medical Client* reads from and writes to when processing speech.

NMS Servers/NMS and Profile Optimizer Databases:

<Drive Letter>`:\Users\All Users\Application Data\Nuance` folder and all subfolders:

> All users must have read, write, and modify permissions.

<Drive Letter>`:\Program Data\Application Data\Nuance` folder and all subfolders:

> All users must have read, write, and modify permissions.

<Drive Letter>`:\Program Files\Nuance` folder and all subfolders:

> All users must have read permission.

Dragon Medical Client workstations (Windows 7, XP, and Vista):

<*Drive Letter*>`:\Program Data\Nuance` folder and all subfolders:

> All users must have read, write, and modify permissions.

<*Drive Letter*>`:\`<*Windows_user_ID*>`\AppData\` folder and all subfolders:

> All users must have read, write, and modify permissions.

<*Drive Letter*>`:\Documents and Settings\All Users\Application Data\Nuance` folder and all subfolders:

> All users must have read, write, and modify permissions.

Assigning Dragon Medical Clients access to registry keys

You must assign particular levels of access to certain registry key settings. You assign these rights to all Windows user accounts for all dictating healthcare providers using *Dragon Medical Client* .

Dragon Medical Client workstations:

Workstation Windows user accounts that *Dragon Medical* runs under must have rights to update the registry in order to read/write to particular keys in the registry:

`HKEY_LOCAL_MACHINE\SOFTWARE\Nuance`

`HKEY_CURRENT_USER\SOFTWARE\Nuance`

Ensuring appropriate ports are open on your hardware firewall

On the *DME Network*, particular ports must be open to ensure the free flow of data between the various places it is required to travel. A complete list of all the ports that should be open is given in the table at the end of this section.

All of the ports listed in the table must be opened on the hardware firewall to ensure that firewall does not block transmission of data and bring the network to a halt.

Ports to be opened on client/servers and hardware firewalls of DME Network

- Ports between *Dragon Medical Client* workstations and their *NMS Server*
- Ports between *Dragon Medical Client* workstations and the *Master User Profiles Server*
- Ports between workstations where you expect to run *NMC Console* and *NMS Server*
- Ports between *NMS Server* and its database if that database is on a separate server
- Ports between *Profile Optimizer Server* and its database if the database is on a separate server

- Ports between *NMS Server* and *Profile Optimizer Server*
- Ports between *Profile Optimizer* and each *Speech Node* machine
- Ports between each *Speech Node* machine and the *Master User Profiles Server*
- Ports between each *NMS Server* and the Nuance *Update* and *License Servers*
- All ports mentioned above on all hardware firewalls protecting the network

Summary: Ports to be opened on Client/Servers and hardware firewalls of DME Network

	Hardware Firewalls	**NMS Server**	**Profile Optimizer (Opened for you, but verify)**	**MasterUser Profiles Server**	**Dragon Medical Client Wksts.**	**NMS Server SQL Database**
Ports (Server, Client, or Other Hardware That Port Opens Communi- cation with)	Open all ports named in this table.	**8731** **8051** **433** & **80** (Nuance Update/ License Servers) **1433** (NMS SQL DB) **808** (Profile Opti- mizer)	**8000** **8001** **905**	**80** (profiles on server or http web server) **443** (profiles on SSL web server)	**80** (profiles on server or http web server) **443** (pro- files on SSL web server)	**1433** (NMS Servers on separate physical servers)

Turning off Automatic Updates

After you set up each physical server or workstation you plan to use in the *DME Network*, be sure to turn off Windows Automatic Updates. You should be qualifying each update Windows sends by installing it first on a single test machine of the network and updating other machines on the network only after you determine that it clearly will not disrupt the network.

Even if you have determined an update is not going to negatively affect the network, you still should install the update during off-hours and, if required, reboot each machine during those hours to ensure that requests to reboot do not disrupt the *DME* servers or workstations during peak hours of dictation.

Anti-Virus recommendations

Nuance recommends anti-virus software on all *Dragon Medical Enterprise Network Edition* servers and clients to protect the system from potential downtime due to viruses. However, be aware of the recommended restrictions.

You should exclude from the anti-virus scan any files found in the folders indicated below or with the extensions listed below.

On NMS Servers, Profile Optimization Server, SQL Database Server:

- **`Nuance`** folder and all subfolders
- Files with these extensions:
  DAT, DRA, ENH, INI, LCK, LOG, NWV, SIG, TXT, USR, VER, VOC, WAV

Dragon Medical Client Workstations (Windows 7, XP, and Vista):

- `C:\`**`Program Data\Nuance\`** folder and all subfolders
- `C:\`*<Windows user_ID>***`\AppData\`** folder and all subfolders
- `C:\`**`Documents and Settings\All Users\Application Data\Nuance`** folder and all subfolders
- `C:\`**`Documents and Settings`***Windows user_ID***`\Local Settings\Temp`** folder
- Files with these extensions:
  BD, BIN, DAT, DVC, ENH, GSB, GRM, GRX, INI, LCK, NWV, SIG, SVC, USR, VER, VOC, WAV, XML, LOG

Recommended virtual memory settings

Nuance recommends that you set virtual memory to particular levels on servers and workstations in the *Dragon Medical Enterprise* network.

Server Virtual Memory:

Nuance recommends that the virtual memory for all servers be set to three times the physically installed RAM.

Dragon Medical Client Workstation Virtual Memory:

Set Virtual Memory to 4092 in Windows Server 2008 or 2003 servers, or to the maximum possible setting on workstations that have 4 GB of RAM.

Allocating disk space for logs

The *Profile Optimizer Speech Node* generates two log files for each ACO and LMO task it carries out:

- *Dragon* log file—*Dragon Medical SDK Client* writes this file
- *Speech Node* service log file—Profile Optimizer services write these files

(You can view both the *Dragon* log files and the *Speech Node* service log files through the *NMC Console*.)

The *NMS Server* generates one log file for each user:

- Windows communication foundation service log files

The *NMS Server* stores up to the last 10 MB of logs generated, a maximum of 50 log files for the entire server, before purging the oldest files and replacing them with newer ones as it generates them.

The *Dragon* log and Speech Node service log files are generally between 3 and 5 KB each. The *Profile Optimizer Server* stores them for 30 days. Although the log files could be larger, they are stored in a zipped format and compress very well. If you run an optimization process for every provider every day and have 500 providers, if every log were as large as 5 KB, all of those logs would still use only 2.5 MB of storage space and in 30 days that would become 75 MB of storage space. After 30 days, the *Profile Optimizer* purges old log files, so the storage requirements do not grow substantially.

Storage space for all of these logs is relatively inconsequential; however, if you expand the number of providers in your organization, it is always best to take into account storage requirements for all generated files.

If you call Technical Support, you might be asked to provide any of these logs to help Nuance engineers work on any issues with your *DME Network*.

To access your *Dragon* log files, refer to the *Nuance Management Server Administrator Guide*.

Checklists — Installing Nuance Management Server/other DME servers

Installing Operating System software

On each physical server where you plan to install *NMS* components, *Profile Optimizer* components, or either of their databases:

❐ Install 2008 Standard or Windows Server 2003 (minimum SP2 required).

❐ Install all available Windows Updates and service packs.

Decide to work in Active Directory

❐ Decide if you are going to be using *NMS Server* in the Active Directory Services interface.

Creating required account

❐ Create single Windows administrator level account to run all *DME* services (call it something like **NMSapps**) and provide full access across all *DME* servers and the master user profiles directory. Use this account to run all services, including SQL Server services, so that all servers run under the same account. You can also use this account to install all software on the DME Network, but you can also make a separate account that meets less stringent requirements.

Refer to *Creating single user account to run all services under* on page 2 and *Creating/selecting user account to install all services* on the same page.

Installing database software

❐ Install SQL Server 2008 or 2003 SP2.

❐ If you are using Active Directory Services, be sure to select **Mixed Mode** authentication. Otherwise, Nuance recommends you select **Windows** authentication.

Refer to *Installing SQL Server 2008* on page 32.

Refer to *Setting up NMS Server to run in Active Directory Services* on page 192.

Installing NMS Server, Console, and Database

Gather information you need:

❒ Name or IP address of machine for this server: _____

❒ Name or IP address of database server: _____

❒ Name or IP address of machine to host master user profiles or URL to web server or SSL web server to host master user profiles: _____

❒ Name or IP address *Profile Optimizer Server*: _____

❒ Your customer ID _____

Install prerequisiste software:

❒ Install .NET Framework 3.5 SP1 and all available updates.

Refer to *Installing prerequisite software for NMS Server* on page 28.

❒ Install Internet Information Services Version 7.0 or 7.5 on Windows Server 2008 or Version 6.0 on Windows Server 2003.

❒ Install the PowerShell feature.

Refer to *Installing prerequisite software for NMS Server* on page 28.

Install the NMS Server, Database, and Console:

❒ Run the *DME Nuance Management Server and Console* installation wizard to install the *NMS Server* and *NMC Console*

   ❒ Enter your customer ID.

   ❒ Enter server name or IP address of *NMS SQL Database*.

   ❒ Enter SQL Server Login (sa) and password.

   ❒ Enter information about user account that will run all *DME* servers.

   ❒ Enter server name or IP address of *Profile Optimizer Server*.

   Refer to *Installing Nuance Management Server and Console* on page 40.

Open required ports on NMS Server and hardware firewalls:

❒ Open these ports: 8730, 8051, 433 and 80.

❒ Open 1433 on both *NMS Server* and *Database Server*.

❒ Open 808 for communication with *Profile Optimizer Server*.

Installing Profile Optimizer Server, Speech Nodes, and Database

Gather information you need:

☐ Name or IP address of machine for this server: _____

☐ Name or IP address of database server: _____
or Database connection string for SQL server authentication:
_____

☐ Name or IP address of machine to host master user profiles or URL to web server or SSL web server to host master user profiles: _____

☐ Path to where you want *Dragon* logs written (if not the default):
_____

☐ Path to where you want *Profile Optimizer* logs written (if not the default):
_____

To install Profile Optimizer Server & Speech Node on same machine:

Install prerequisiste software for Profile Optimizer Server:

☐ Install .NET Framework 3.5 SP1 and all available updates.

Install prerequisiste software for Profile Optimizer Speech Nodes:

☐ Install .NET Framework 3.5 SP1 and all available updates.

☐ Only on machines where *Speech Nodes* will run in an operating system other than Windows Server 2008, Install Windows Installer 3.1 or later.

☐ On all machines where *Speech Nodes* will run, install *Dragon Medical SDK Client* .

Refer to *Installing prerequisite softwarefor Profile Optimizer Server* on page 53 and *Installing additional pre-requisite software for Speech Nodes* on page 55

☐ Create folder for the Profile Optimizer Database Files:

☐ On machine where database will reside, create folder for the *Profile Optimizer* database files.

Install the Profile Optimizer Server, Database, and Speech Node:

☐ Run the *DME Profile Optimizer Installer* wizard.

☐ Select both check boxes on the **Custom Settings** page of wizard.

☐ Enter information about user account that will run all *DME* servers.

☐ Set paths to logs.

❏ Enter *NMS Server* name and database server name/authentication type.

❏ Enter full path to database files folder.

Refer to *Installing Profile Optimizer Server with or without Speech Nodes on same machine* on page 57.

To install Profile Optimizer Server without Speech Node on machine:

Nuance recommends a configuration where *Speech Nodes* are on their own machines or virtual machines for most *DME* installations.

Install prerequisiste software for Profile Optimizer Server:

❏ Install .NET Framework 3.5 SP1 and all available updates.

Refer to *Installing prerequisite softwarefor Profile Optimizer Server* on page 53.

Create folder for the Profile Optimizer database files:

❏ On machine where database will reside, create folder for the *Profile Optimizer* database files.

Install the Profile Optimizer Server and database:

❏ Run the *DME Profile Optimizer Installer* wizard.

❏ Select only *Profile Optimizer Server* check box on **Custom Settings** page.

❏ Enter information about user account that will run all *DME* servers .

❏ Set paths to logs.

❏ Enter *NMS Server* name and database server name/authentication type.

❏ Enter full path to database files folder.

Refer to *Installing Profile Optimizer Server with or without Speech Nodes on same machine* on page 57.

To install Profile Optimizer Speech Node alone on machine or virtual machine:

Install prerequisiste software for Profile Optimizer Speech Node:

❏ Install .NET Framework 3.5 SP1 and all available updates.

❏ Install Windows Installer 3.1 or greater on machine.

❏ Install *Dragon Medical SDK Client* on machine.

Refer to *Installing additional prerequisite software for Speech Nodes* on page 55

Install Profile Optimizer Speech Node:

☐ Run the *DME Profile Optimizer Installer* wizard.

   ☐ Select only *Profile Optimizer Speech Node* check box on **Custom Settings** page.

   ☐ Enter information about user account that will run all *DME* servers.

   ☐ Set paths to log.

   ☐ Enter the name of the physical server where the *Profile Optimizer Server* associated with this *Speech Node* resides.

   Refer to *Installing Profile Optimizer Speech Nodes on independent machine(s) or virtual machine(s)* on page 65.

Open required ports on Profile Optimizer Server and hardware fire-walls:

☐ Open these ports: 8000, 8001, 905.

Checklists — Setting up Active Directory Services

To set up your *NMS Server* to run in Active Directory Services you should take particular actions during each step of the *DME* installation and *NMS Server* setup process. The steps that require you take action are named in the headings below.

For details on each step, refer to *Setting up NMS Server to run in Active Directory Services* on page 192.

Installing SQL Server 2008

☐ Select **Mixed Mode** authentication for accessing database.

Creating NMC Administrator Account for Active Directory Administrator

To create an **NMC Administrator** user account for the Active Directory Administrator:

☐ If you have not already done so, install the *NMS Server*.

☐ Install the Nuance Certificates on any workstation where you want to log in through the *NMC Console*. Refer to *Installing Nuance certificates* on page 74.

☐ Log in through the *NMC Console* using the login and password that Nuance provides.

❑ Create a user account for the Active Directory administrator (see the
Nuance Management Server Network Edition Administrator Guide for details on setting up
user accounts). You can add this account to the default **NMC Administration** group
that comes with the product.

❑ (Optional, as you can create them later) Create all other user accounts, adding some to the
default **NMC Administration** group that comes with the product and others to the
default **Dragon Medical** group that comes with the product.

Enabling Active Directory and setting connection string

❑ Configure *NMS Server* for Active Directory in **Nuance.NAS.Server.exe.config** file.

Logging Out and logging back in

❑ Log out of the *NMS Server*.

❑ Stop and restart the Nuance Management Service.

❑ Log back in through the *NMC Console* as Active Directory administrator.

❑ Revoke the **NMC Adminstrator** license of the original admin user account, as it
does not work in Active Directory.

Creating Single Sign-On user accounts (optional)

You need to create these accounts before you can associate a user account with an already existing
upgraded master user profile.

❑ Create Active Directory user accounts/logins.

❑ Create Single Sign-On user accounts with same login name as their Active Directory accounts.

Refer to *Setting up providers to log in only once by implementing Single Sign-On* on page 1.

Continue to Configure NMS Server as Active Directory Administrator

❑ Follow instructions in *Nuance Management Server Administrator Guide*.

Checklists — Starting Nuance Management and other DME servers

Services should start as soon as the servers are installed. To verify that the *NMS Server* is running and ensure it can talk to the *Speech Nodes*:

☐ Install Nuance Certificates on each machine where you plan to run the *NMC Console*.

☐ Verify that you can log in to the *NMC Console* using the supplied login and password.

☐ Ensure that the *NMS Server* can communicate with *Profile Optimizer Speech Nodes*.

Refer to *Installing Nuance certificates* on page 74 *Logging in to the NMS Server through the NMC Console* on page 77, and
Ensuring NMS Server can communicate with Speech Node(s) on page 79

Verifying server services are running

☐ Check for the status of each of the following services in the **Services** dialog box on corresponding physical servers:

    ☐ Nuance Management Service

    ☐ Profile Optimizer Core Services

    ☐ Profile Optimizer NMS Integration

    ☐ Profile Optimizer Host Manager

    ☐ Profile Optimizer Speech Node

☐ If any service is not running, start that service.

Refer to *Starting Nuance Management Server and Profile Optimizer Server services* on page 80.

If you are planning to use Active Directory Services

☐ Proceed to *Checklists — Setting up Active Directory Services* on page 14.

Checklists — Setting up file server to host master user profiles

☐ Select a machine to host the master user profiles.

☐ Be sure that the machine is a Windows server or workstation with .NET Framework 3.5 SP1 installed and that the machine is in the same Windows domain as your *DME* servers.

☐ If you are using a RAID array or other storage device, be sure that it is connected to a server or workstation running Windows with .NET Framework 3.5 SP1 installed and that the machine is in the same Windows domain as your *DME* servers.

☐ Create top level master user profile directory on the host.

☐ For each site, create a subdirectory under the master user profile directory.

☐ Share the top level master user profiles directory in Windows and give **Everyone** full read/write/modify control over the directory.

On each *Dragon Medical Client* workstation:

☐ If workstations will access the profiles over a mapped network drive, map a drive to the master user profiles location.

☐ If workstations will access the profiles through a UNC path, ensure the workstations have access to that path.

Refer to *Choosing master user profiles location for a site* on page 88and *Setting up machine to host master user profiles* on page 90.

In *NMC Console* **Master User Profiles Directory Settings** dialog for each site:

☐ Set **Location** to path each workstation later uses to access the master user profiles.

☐ Set **NMC UNC Path** to path the *NMS Server* later uses to find the master user profiles.

Refer to *Setting up machine to host master user profiles* on page 90.

Checklists —Setting up web server to host master user profiles

☐ Be sure that the web server machine is a Windows server or workstation with .NET Framework 3.5 SP1 installed and that the machine is in the same Windows domain as your *DME* servers.

☐ Install the web server or secure web server.

Refer to*Installing software required to store master user profiles on web server* on page 93.

☐ Create top level master user profile directory on the web server.

☐ Share the top level master user profiles directory in Windows and give **Everyone** full read/write/modify control over the directory.

On each *Dragon Medical Client* workstation:

☐ If workstations will access the profiles through an **https** connection, install the required certificate on each workstation.

☐ If master user profiles are on an **http** web server, open port 80.

☐ If master user profiles are on an **https** web server, open port 443.

Refer to: *Choosing master user profiles location for a site* on page 1 and *Setting up machine to host master user profiles* on page 90.

In *NMC Console* **Master User Profiles Directory Settings** dialog for each site:

☐ Set **Location** to path each workstation later uses to access the master user profiles.

☐ Set **NMC UNC Path** to path the *NMS Server* later uses to find the master user profiles.

Refer to *Setting up machine to host master user profiles* on page 90.

In *NMC Console* **HTTP Settings** or **SSL Settings** dialog for each site:

☐ Set **HTTP Settings** for an **http** web server.

Refer to *Setting HTTP connection settings for web server* on page 106

☐ Set **SSL Settings** for an **https** web server.

Refer to *Setting SSL connection settings for secure web server* on page 108

Checklists — Upgrading roaming users

To upgrade each directory of roaming users from Version 8.x or 9.x of *Dragon Medical*, be sure to take **all steps below** in the order presented, starting with *Before you upgrade*, proceeding to *Upgrading*, and then to *Associating user accounts with newly upgraded master user profiles*. (You do not have to upgrade roaming users from Version 10 or later of *Dragon Medical*.)

❏ Be sure that all user profiles for a single site are in their own subdirectory of the master user profiles directory.

❏ Schedule upgrade process during hours when dictation is not occurring.

Before you upgrade

❏ Back up your Version 8.x or 9.x user profiles.

❏ Install *Dragon Medical SDK Client* on the machine where you are upgrading the profiles.

❏ Create lists of the different source directories of roaming user profiles you are upgrading.

❏ Copy profiles from a single directory to their own folder on the upgrade machine.

❏ On the upgrade machine, create a directory for the newly upgraded profiles to be stored in.

❏ In *NMC Console*, create user accounts for all providers whose profiles you are upgrading.

❏ Be sure that providers whose profiles you are upgrading are not dictating with *Dragon Medical*.

Refer to *Creating user accounts for healthcare providers* on page 117 and

Before upgrading Dragon roaming user profiles on page 119

Upgrading

For each directory of roaming users being upgraded to *DME* master user profiles:

❏ On the upgrade machine, start the **upgrade.exe** utility.

❏ In the **User Upgrade Wizard**, add the existing user profiles.

❏ Execute the upgrade and choose the directory to store the newly upgraded profiles.

❏ (Optional) In **Advanced Options** dialog, modify user information, such as the vocabulary.

❏ Start the actual upgrade process by clicking **Begin** and click **Finish** when it completes.

❏ Copy the new master user profiles to the master user profiles host on the *DME* network.

Refer to *Before upgrading Dragon roaming user profiles* on page 119

Associating user accounts with newly upgraded master user profiles

Note: Be sure you have already upgraded the profiles or you will not see them in the **Existing Profiles** list.

☐ In *NMC Console*, open the **User Profile Association** tool.

☐ Select a user account from the list of **User Accounts**.

☐ Select an upgraded profile for the user account from the list of **Existing Profiles**.

☐ Click the **Associate** button.

☐ Repeat the process for each user profile.

Refer to *Associating new user accounts with upgraded user profiles* on page 134.

Checklists — Converting local users

Schedule the conversion process during hours when dictation is not occurring.

Before you convert

☐ Back up your Version 10 local user profiles.

☐ Be sure that providers whose profiles you are upgrading are not dictating with *Dragon Medical*.

(If applicable) Combine multiple Dragon Medical 10.1 profiles for a single provider, keeping only one

☐ Export custom words from extra profiles.

☐ Export custom commands from extra profiles.

☐ Export vocabularies from extra profiles.

☐ Import the exported custom commands into profile you are retaining.

☐ Import the exported vocabularies into profile you are retaining.

☐ Import the exported words into profile you are retaining.

Exporting local user profiles

☐ Create temporary location for local user profiles that exist.

☐ Create temporary location for roaming user profiles you will create as part of conversion.

☐ In *Dragon Medical* Version 10, export local user profiles to the roaming user profiles location you created.

Enabling roaming feature on workstation

☐ In *Dragon Medical* Version 10, enable the **Roaming** feature in **Administrative settings**.

☐ Save the local users to the roaming user location you created.

Associating user accounts with newly converted master user profiles

Note: Be sure you have already converted the profiles or you will not see them in the **Existing Profiles** list.

☐ In *NMC Console*, create a user account for each provider.

☐ In *NMC Console*, open the **User Profile Association** tool.

☐ Select a user account from the list of **User Accounts**.

☐ Select an upgraded profile for the user account from the list of **Existing Profiles**.

☐ Click the **Associate** button.

☐ Repeat the process for each user profile.

Refer to *Associating new user accounts with upgraded user profiles* on page 134.

Migrating roaming users to DME

☐ In *NMC Console*, create user accounts for all providers whose profiles you are converting.

☐ Copy the temporary roaming users you just created to a subdirectory of the master user profiles directory on the DME network.

☐ In *NMC Console*, associate new user accounts with the newly converted user profiles.

☐ On the workstation install the Version 10.1 *Dragon Medical Client*.

☐ Log in using the new user account login and password.

Refer to *Converting local user profiles to DME master user profiles* on page 127.

Checklists — Installing Dragon Medical Clients

There are several approaches to installing *Dragon Medical Client* and this checklist includes first pre-requisite steps, then steps for each type of installation.

Before removing earlier version of Dragon Medical

☐ Be sure you have converted any local user profiles from an earlier version of *Dragon Medical* to roaming user profiles before you remove the already existing installation of *Dragon Medical*. For instructions on how to convert the users, refer to *Converting local user profiles to DME master user profiles* on page 127.

Before beginning any client installation to a workstation

☐ Be sure workstations meet the requirements for installing *Dragon Medical Client*.

☐ Be sure that the account that each *Dragon Medical Client* workstation runs under has full read/write/modify access to the master user profiles directory.

☐ Be sure the Nuance certificates are installed on the client workstations.

☐ Be sure you have the *Dragon Medical Client* serial number on hand.

Downloading Dragon Medical Client MSI installer through NMC Console

❏ On the client workstation, log in as a Windows administrator.

❏ Log in to the *NMC Console*.

❏ Set location of the client MSI installer file on the *NMS Server* in the **System Settings**.

❏ Download the MSI installer for the *Dragon Medical Client* from the *NMC Console*.

❏ Log in to the client using a *DME* user account and enter the name of the *NMS Server*.

Refer to *Downloading Dragon Medical Client MSI installer through NMC Console* on page 142 and *Ensuring Dragon Medical Clients can find Nuance Management Server* on page 149.

Installing Dragon client manually

❏ Insert the *Dragon Medical Enterprise Network Edition Client Software* DVD into the DVD reader of the workstation.

❏ Browse the DVD and double click the **setup.exe** file.

❏ Follow the wizard instructions.

❏ Log in to the client using a *DME* user account and enter the name of the *NMS Server*.

Refer to *Installing Dragon client manually outside of NMC Console* on page 145 and *Ensuring Dragon Medical Clients can find Nuance Management Server* on page 149.

Pushing Dragon MSI installation to multiple workstations: administrative installation

❏ Copy and modify the **admininstall.bat** file provided on the *Dragon Medical Enterprise Network Edition Client Software* DVD.

❏ Use any of the options or variables in the tables provided:

> *General options for installing Dragon*
> *MSI options for installing Dragon features/advanced optionsCarrying out administrative installation of Dragon with .bat file* on page 154

Refer to *Carrying out administrative installation of Dragon with .bat file* on page 154.

Pushing Dragon MSI installation to multiple workstations: using SCCM

❑ Create MSI installer to use with SCCM to install *Dragon Medical Client* on several workstations.

Refer to *Pushing Dragon MSI installation to multiple workstations* on page 151.

Pushing Dragon MSI installation to multiple workstations: creating custom installer for Active Directory

❑ Create the custom installer for *Dragon Medical Client* following the instructions provided.

Refer to *Creating custom installer for installing client in Active Directory* on page 161

Installing multiple clients with same default options using MSI

❑ Install *Dragon Medical SDK Client* on a client workstation where you will set the options.

❑ Open a command window and run: **natspeak /SetDefaultOptions**

❑ Set the *Dragon Medical Client* options under the tabs in the **Options** dialog box.

❑ Retrieve the **nsdefaults.ini** file from the workstation where you set the options and copy it to a location accessible to all workstations you are installing.

❑ Install Visual C++ Runtime for *Dragon*.

❑ Create an MSI command line where you pass **nsdefaults.ini** file as value of DEFAULTSINI option.

❑ Be sure to include the **NAS_ADDRESS** option in your MSI command line.
Refer to *Installing multiple clients with same default options using MSI* on page 168.

Chapter 2: Installing Nuance Management Server (NMS Server) and its components

To install the *NMS Server* and its components for the *Dragon Medical Enterprise* network, you carry out the procedures in these sections:

Before installing Nuance Management Server and Console

Before you actually install the *Nuance Management Server* and *Console*, you should gather the information indicated below and make modification to your machine's security policy.

Creating account to run all services

Note:

Before you carry out this procedure, be sure you have a Windows administrator account for running the server under, the same one you are running the *Profile Optimizer Server* under (named something like **NMSapps**) that meets the following requirements:

- Is in the organization's domain or, for a single server configuration, the workgroup.
- Never expires.
- Has a password that never expires (does not have to be changed at regular intervals).
- Has rights to install software and Windows services on the server.
- Has rights to create and start a Windows service on the server.
- Has full read/write access rights to all servers within the same network.
- Has full read/write access to the database server (if it is on a separate server).
- Has full read/write/modify permissions to access the directory housing the master user profiles.

During the installation, the wizard prompts you to enter the name of this user account and the password to it.

Important: You should install all of the services of the product using this same account.

If you are creating the account for someone else to log in and install the software, the account only need to be able to run *NMS* services and does not require **Log into workstation** rights.

Removing Security Obstacle

Security Measure—The *NMS Server* software is code signed by Nuance to allow Nuance Customer Support access to the console computer's resources. However, to ensure Nuance has access, if your hospital or medical facility's network requires a security policy on the computer where you install the console, you should set up that security policy to allow any code signed by Nuance to run on the machine with full trust credentials. If you are not an Information Technology professional, you should confer with your IT Department and have a professional modify the security policy of the computer you are installing on.

Gathering Information You Need

Before you begin, you need to have the following information:

Name or IP Address of NMS Server Machine—You need the name or address of the machine where you intend to install the *Nuance Administration Server (NMS)*. If your network uses dynamic addresses, you should use the computer name to identify it, just in case the dynamic address changes in the future.

To retrieve the name of the machine:

1. Click **Start** and move the cursor to highlight (but do not click) the **My Computer** option; right click on **My Computer** and select **Properties** at the bottom of the drop-down menu. Or find the **My Computer** icon on your desktop, right click on it, and select **Properties**.
2. Click the **Computer Name** tab and look for the name to the right of **Full computer name:**. The full computer name must include the **Domain** name (just below the computer name).

To retrieve the address of the machine:

1. Click **Start** and select **Run...**
2. When the **Run** window opens, type **cmd** in the **Open** text box and click **OK**.
3. When the **Windows\system32\cmd.exe** window opens, type **ipconfig** on the command line. Among the information you should see in the window is the **IP Address**, made up of four numbers with periods between them, such as 10.10.10.10. Copy down that number and keep it for later.

Name or Address of Database Machine—You need the name or address for the server machine where you either have installed or plan to install the *NMS SQL Database*. If your network uses dynamic addresses, you should use the computer name to identify it, just in case the dynamic address changes in the future.

To retrieve the name of the machine:

1. Click **Start** and move the cursor to highlight (but do not click) the **My Computer** option; right click on **My Computer** and select **Properties** at the bottom of the drop-down menu. Or find the **My Computer** icon on your desktop, right click on it, and select **Properties**.
2. Click the **Computer Name** tab and look for the name to the right of **Full computer name:**. The full computer name must include the **Domain** name (just below the computer name).

To retrieve the address of the machine:

1. Click **Start** and select **Run...**
2. When the **Run** window opens, type **cmd** in the **Open** text box and click **OK**.
3. When the **Windows\system32\cmd.exe** window opens, type **ipconfig** on the command line. Among the information you should see in the window is the **IP Address**, made up of four numbers with periods between them, such as 10.10.10.10. Copy down that number and keep it for later.

Installing prerequisite software for NMS Server

Before you install the *Nuance Management Server (NMS)*, you must install Windows Server and other prerequisite software delineated below on the same machine:

- Windows Server 2008 or 2003 SP2, if the server software is not already installed.
- Any Windows service packs and updates available.
- Other prerequisite software:
  - .NET Framework 3.5 SP1. This software is readily available on the web at the link provided.
  - Internet Information Services (IIS). Version 6.0 requires that you have your Windows DVD.
  - PowerShell feature.

Although you do not have to install it on the same machine as the *NMS Server*, you should also install the SQL Server 2008 database software before you install the *NMS Server*. For details, refer to *Installing SQL Server 2008* on page 32.

Installing Windows Server and .NET Framework

Follow these steps:

1. If you have not already done so, install Windows Server 2003 SP2 or 2008 (if it is not already installed on the server machine).
2. After you install the server software, you should download any Windows updates to be sure you have all updates available. Then, once you have all updates available, turn off automatic updates.
3. Install .NET Framework 3.5 SP1. You can download it from the web. Allow approximately 1 hour to install it. Retrieve the *setup.exe* file from this link and save it on your local disk: http://www.microsoft.com/downloads/details.aspx?FamilyId=333325FD-AE52-4E35-B531-508D977D32A6&displaylang=en
4. Once you have saved the **setup.exe** file, double click on the file to initiate the .NET Framework installation.
5. When the .NET Framework installation is complete and Microsoft displays a dialog box that suggests you retrieve any updates available for the program, click on the **Windows Update** link and follow the on-screen instructions to install them.
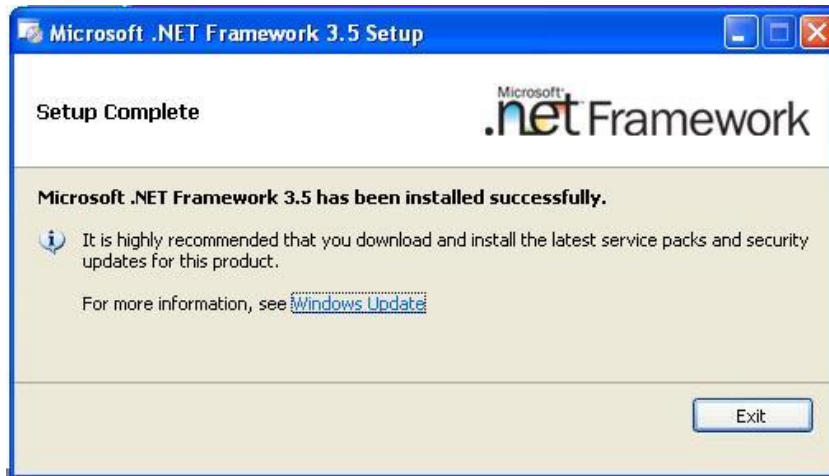
Installing Internet Information Services (IIS) in Windows Server 2008

Note:

Instructions for installing Microsoft products are not guaranteed to be stable. For the latest information, consult Microsoft. For more complete instructions on installing IIS Versin 7.0, visit http://technet.microsoft.com/en-us/library/cc771209(WS.10).aspx.

To install IIS and any automatic updates in Windows Server 2008:

1. Go to your server desktop and click **Start > Programs > Administrative Tools** , then click on **Server Manager**.

2. To see if it is installed, under **Server Manager**, expand **Roles** and look for IIS in the list. If you do not see IIS, you need to install it.
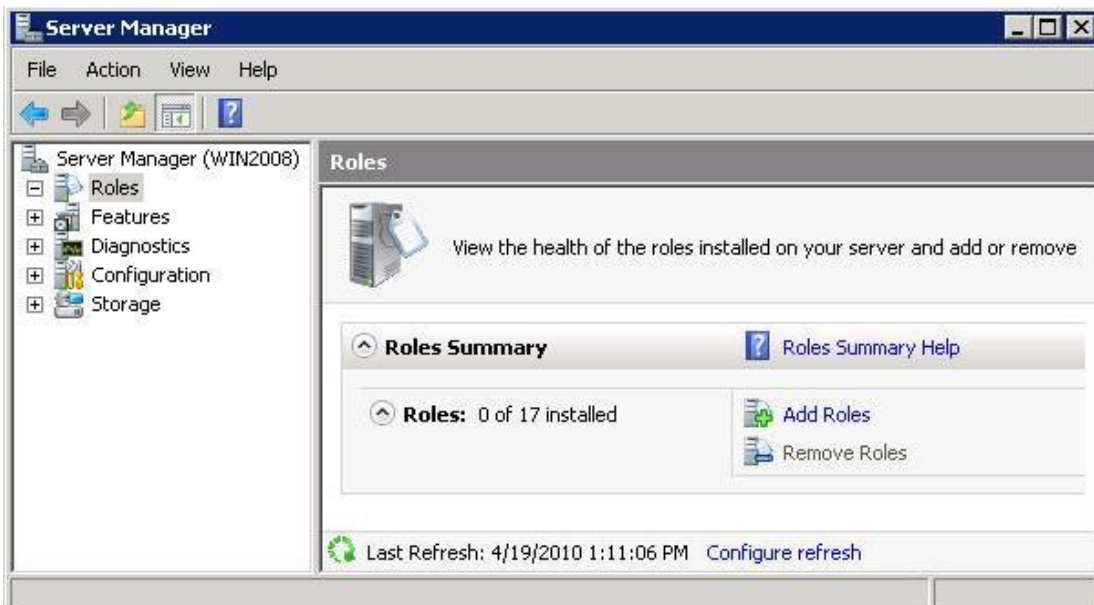
3. Click on **Add Roles** and when the **Add Roles Wizard** opens, click **Next**.

4. Check the **Web Server (IIS)** check box in the **Roles** list.
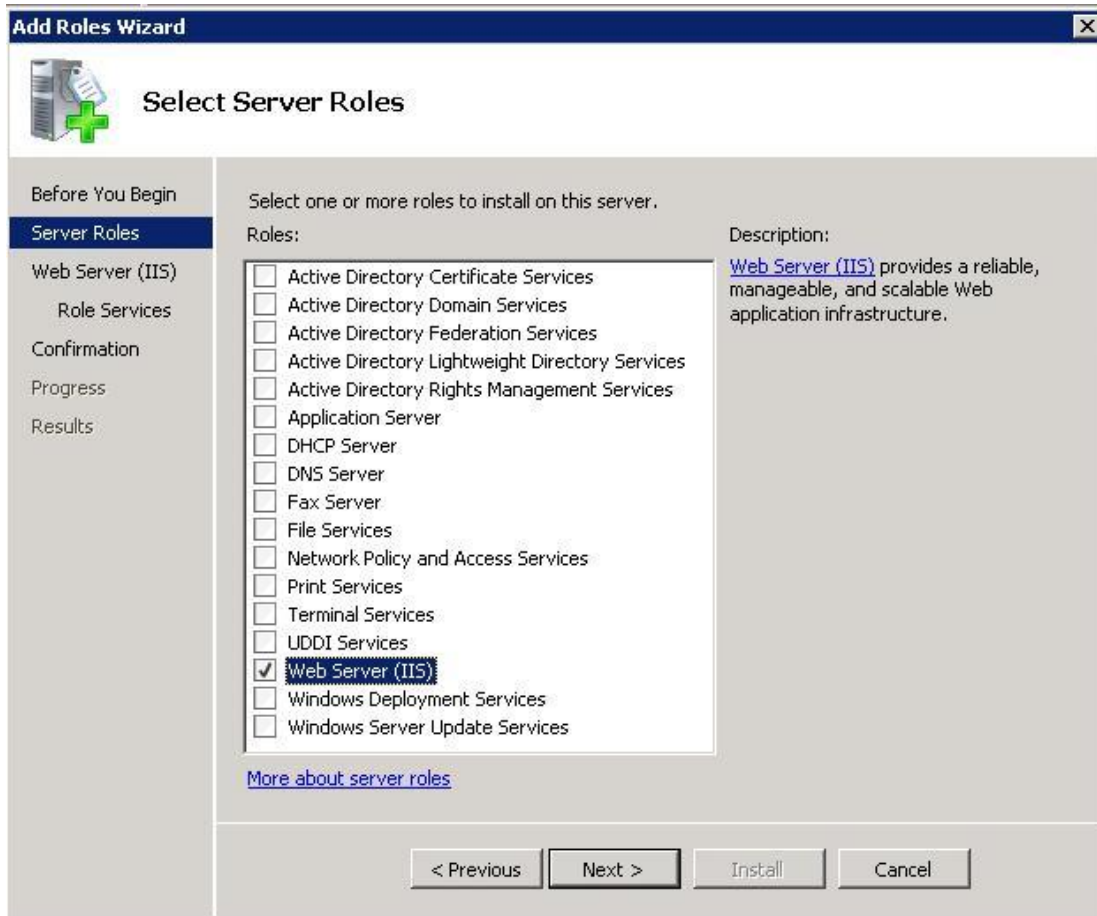
5. When the **Add features required for Web Server (IIS)**, click the **Add Required Features** button.
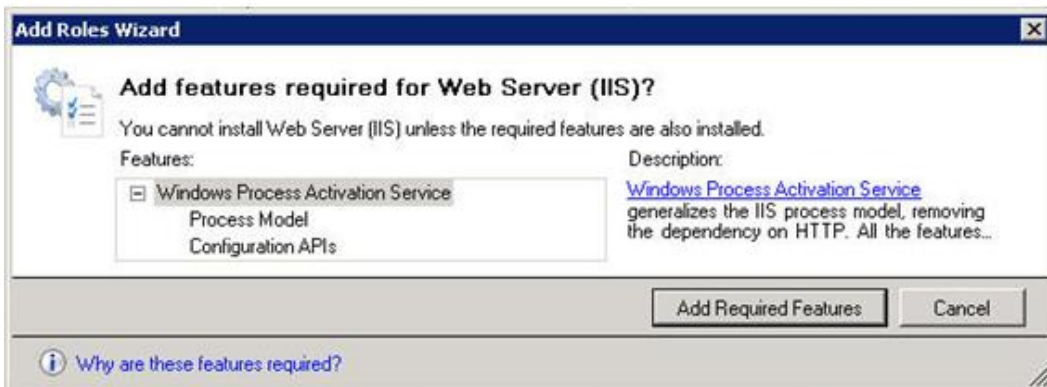
6. When the installation wizard displays again, click **Next** to proceed to the **Web Server (IIS)** page of the wizard.

7. Click **Next** to proceed to the **Select Role Services** page of the wizard and accept the services selected by default (shown in the next illustration).
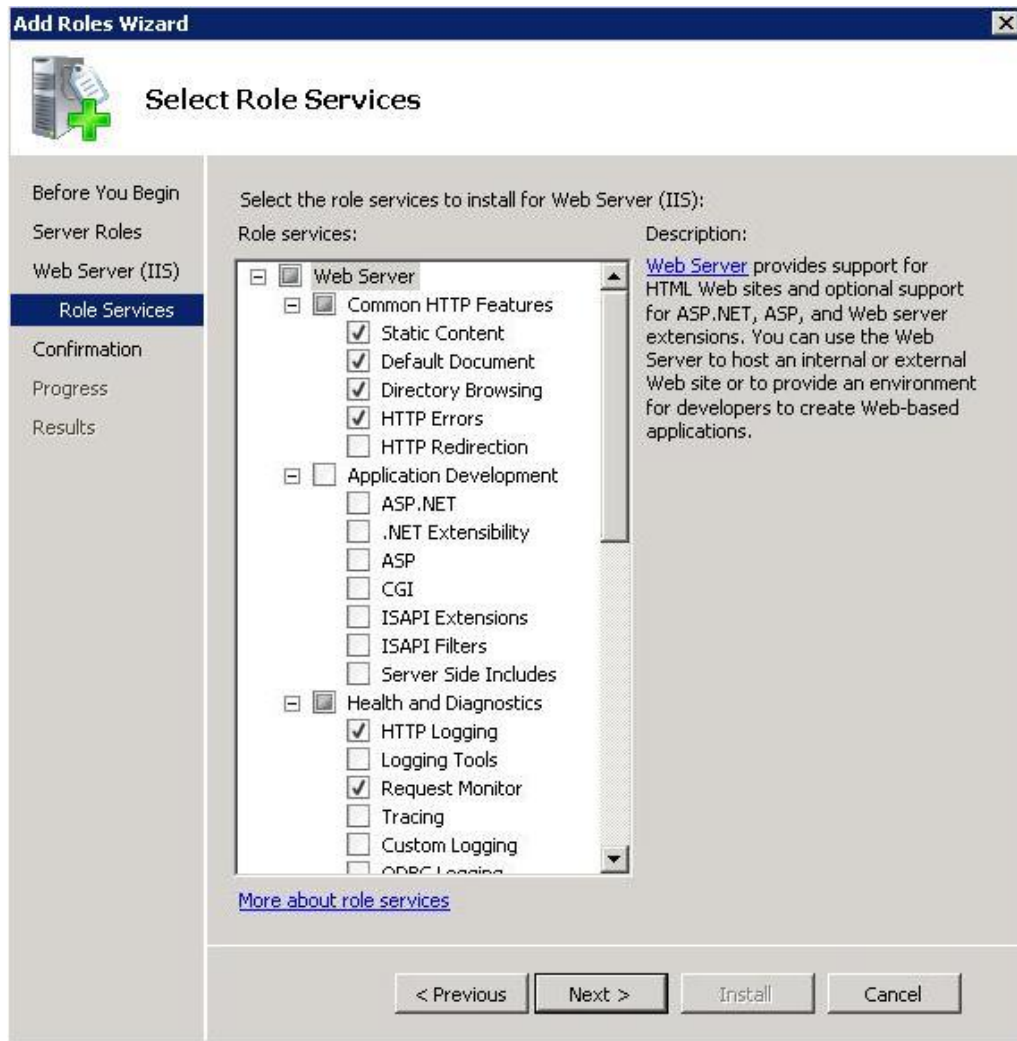
7. Click **Next** to proceed to the **Confirm Installation Selections** page and verify your selections under **Web Server (IIS)**.

8. Click **Install**. The **Installation Progress** page displays during installation.

9. When the **Installation Results** page appears, it should say **Installation succeeded**.

10. Click **Close** to exit the wizard.

11. Return to the **Server Manager** and click **Roles** in the **Server Manager** explorer. Under **Role Services** verify that the list of IIS features that you installed is complete.

Installing PowerShell in Windows Server 2008

Before installing SQL Server 2008 on Windows Server 2008, install the PowerShell feature:

1. Click **Start > Administrative Tools > Server Manager** and then expand **Add Feature**.

2. If you do not see PowerShell in the list of installed features, click **Add Features**.

3. When the **Select Features** page of the **Add Features Wizard** appears, check the **Windows PowerShell** feature in the list and click **Next**.

4. Click the **Install** button and wait for the installation to complete. You might need to restart the server after installing PowerShell.

5. Click the **Close** button to close the wizard.

When you have finished installing this required software, you are ready to install first SQL Server (if it is not already installed), then the *NMS Server*.

Installing SQL Server 2008

Before you install the *Nuance Management Server (NMS)* or the *Profile Optimizer Server*, even if you do not plan to install the database on the same machine as either server, you must install the database server first. You usually install both *NMS* and *Profile Optimizer* databases on the same machine, as shown in the *Dragon Medical Enterprise Network Edition Planning and Deployment Guide*.

For *DME*, you must install SQL Server 2008 on a Windows Server 2008 system where you have installed the PowerShell feature in IIS.

Before you begin database software installation

Before you begin installing the database software, have the following information on hand:

- Machine name or IP address of the database's physical server.
- Windows user account name and password you want the database server to run under.

Caution:

Nuance recommends that you run all server services of *DME Network Edition* and even all database services under the same Windows user account.

Installing SQL Server

To install SQL Server 2008 from the *Nuance Management Server MS SQL 2008* DVD provided in the *DME Network Edition* software package you received from Nuance:

1. Log on to Windows as an Administrator or as a domain user who has local administrative rights. If you do not have that type of Windows account, create one first.

2. Using Windows Explorer, find and note which of the non-operating system hard drives has the most unused space on it.

3. Insert the *Nuance Management Server MS SQL 2008* DVD into the slot on your physical server.

4. If the install installation does not start automatically, find the **setup.exe** file on the DVD and double click on it to start the installation.

5. When the **SQL Server Installation Center** dialog box appears, select **New SQL Server stand-alone installation or add features to an existing installation** option.

6. When the **Setup Support Rules**dialog box displays, click **OK**.

7. When the **Product Key** page of the wizard displays, enter the product key you find on the DVD case. Double check the ID and then click **Next**.
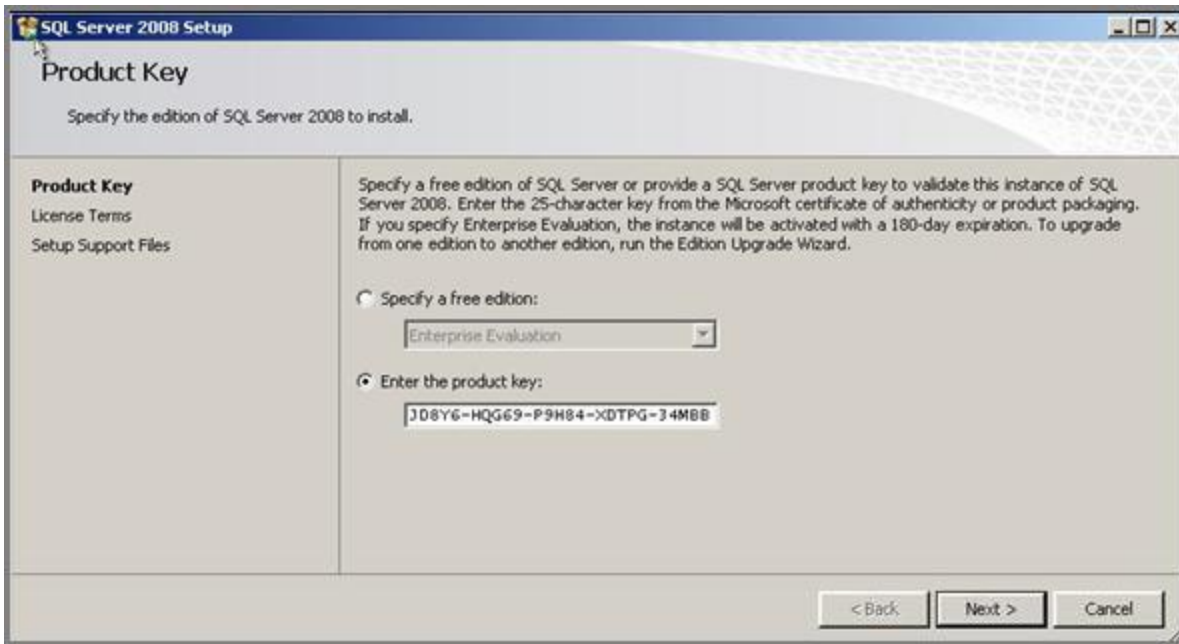
8. When the **License Terms** page of the wizard appears, check the box next to **I accept the license terms** and click **Next**.

9. When the **Setup Support Files** page of the wizard appears, click **Install**.

10. If you are asked to create a local user with Administrative privileges and you do not have such an account, create one now and click **Next** to continue.

11. When the **Feature Selection** page of the wizard displays, you should select the features shown in the next illustration and click **Next** to continue. Analysis Services and Reporting Services are not required by either *NMS Server* or *Profile Optimizer Server*; however, if any problems occur with your installation or later with your databases, these services can help Nuance technical support troubleshoot the problem, so you might choose to install them as a proactive measure.
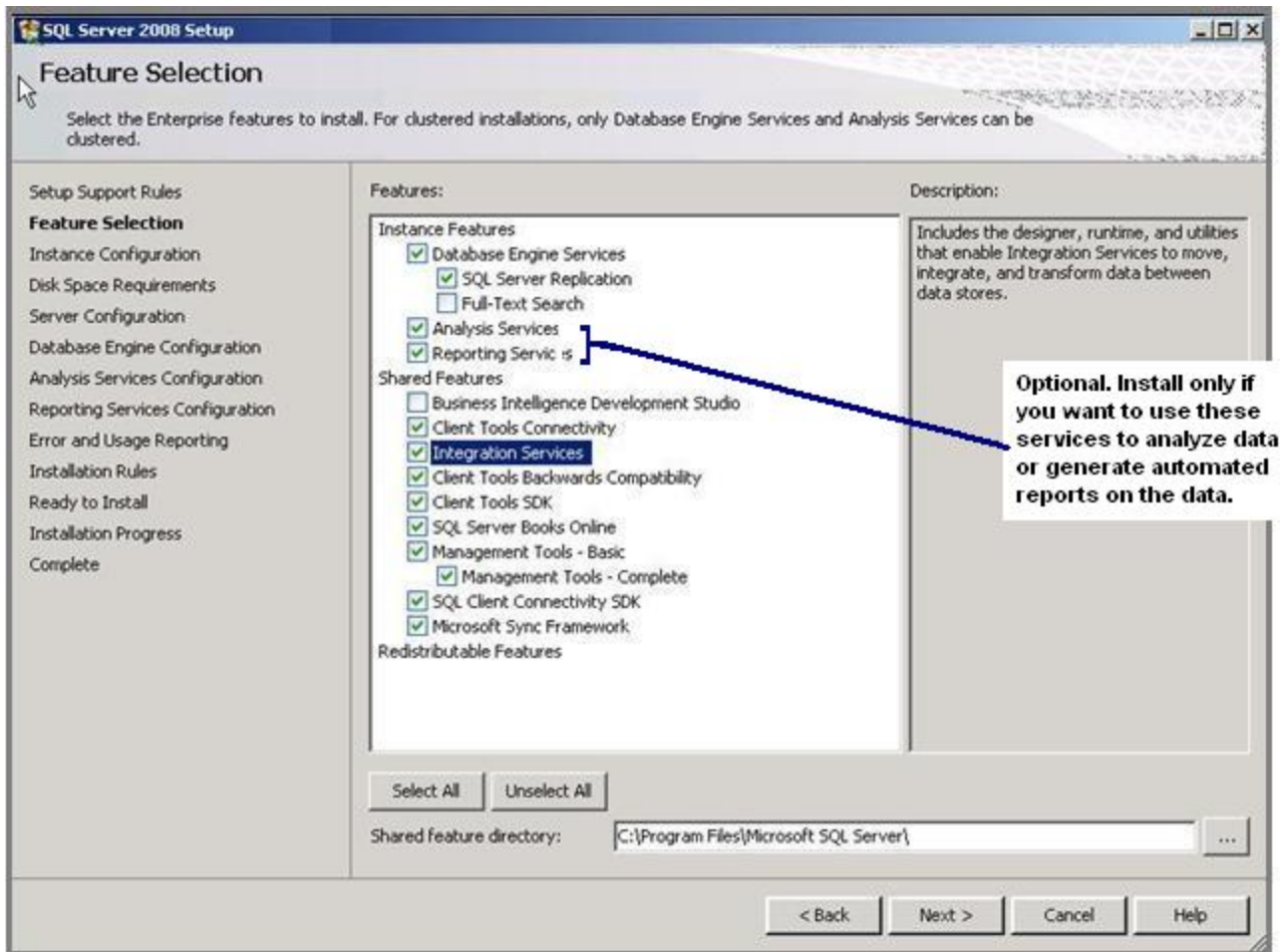
12. When the **Instance Configuration** page of the wizard displays, leave the **Default instance** option selected and click **Next**.
13. When the **Disk Space Requirements** page of the wizard displays, verify that you have adequate storage space on the server and click **Next**.
14. When the **Server Configuration** page of the wizard displays, click the **Use the same account for all SQL Server services** button.
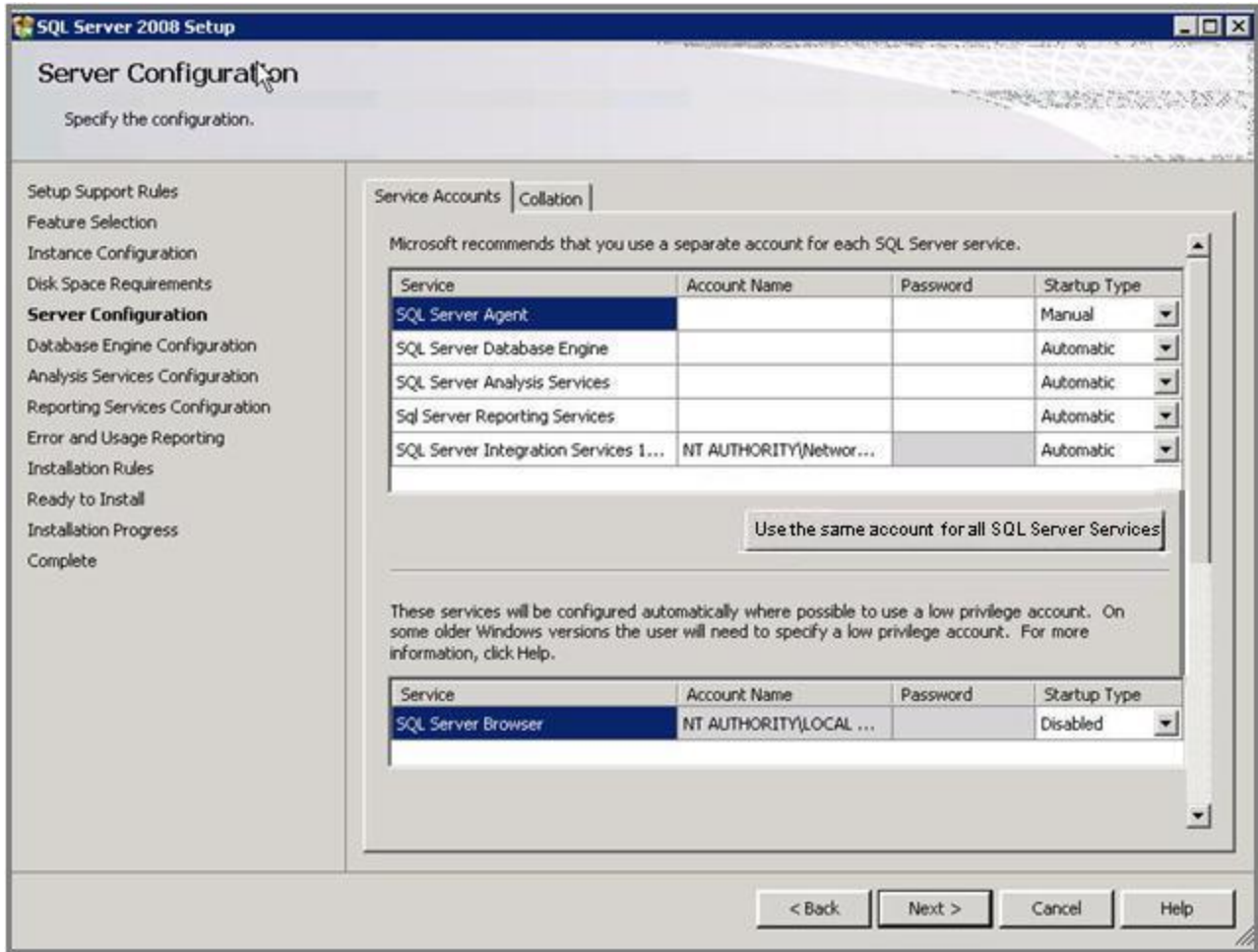
15. When the **Use the same account for all SQL Server 2008 services** popup appears, enter the username and password of the Windows user account that the SQL Server services should all run under and click **OK**. You should use the same account that the *DME* services will run under. That account can be in a workgroup instead of a domain and Nuance recommends that you use an account in a workgroup if you are planning to install all *DME* servers along with the database on a single machine.

Enter the name of the domain where the server resides followed by a backslash and then the user name for the account. Enter the password other servers and clients on the *Dragon Medical Enterprise* network will use to access the database.
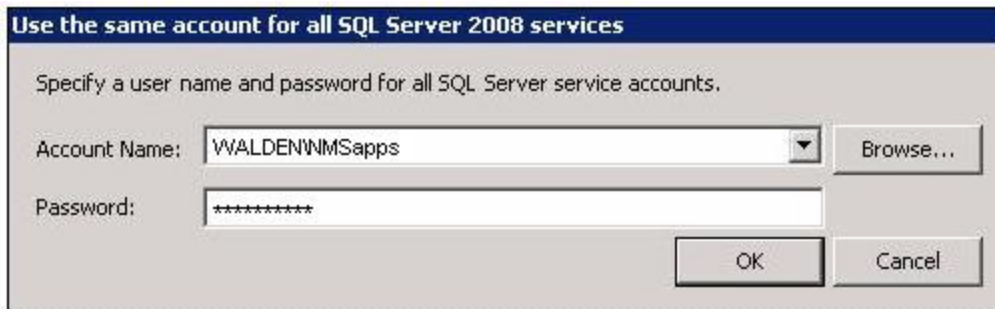
Windows authentication mode is the type of authentication Nuance recommends for most DME Networks.
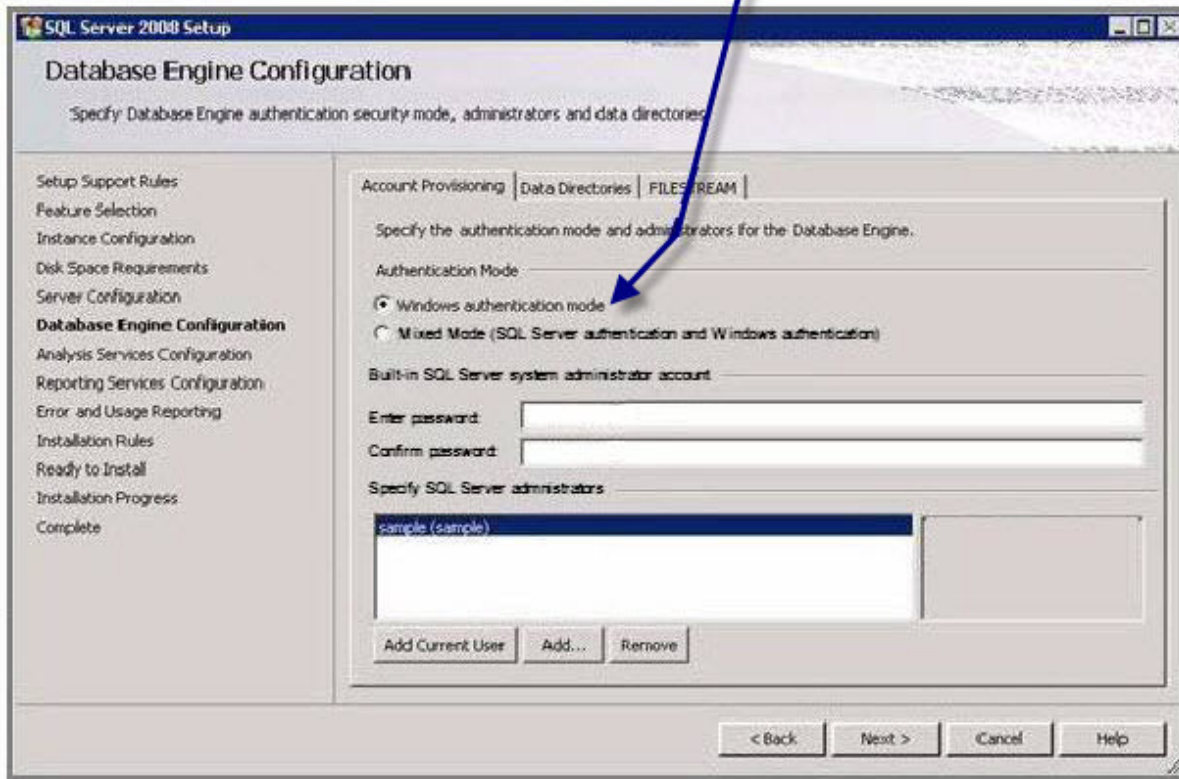
16. When you return to the wizard, click **Next**.

17. When the **Database Engine Configuration** page of the wizard appears, you choose the type of authentication you want to use when allowing access to the SQL Server database.

   - Under **Authentication Mode**, Nuance recommends that you select **Windows Authentication Mode** (see illustration above). You would select **Mixed Mode** only if you plan to later attach to the database using an Active Directory account or an SQL Server account. Keep in mind that SQL Server accounts have full access to the database.

Select Mixed Mode only if you are planning to configure your DME Network to run under Active Directory.
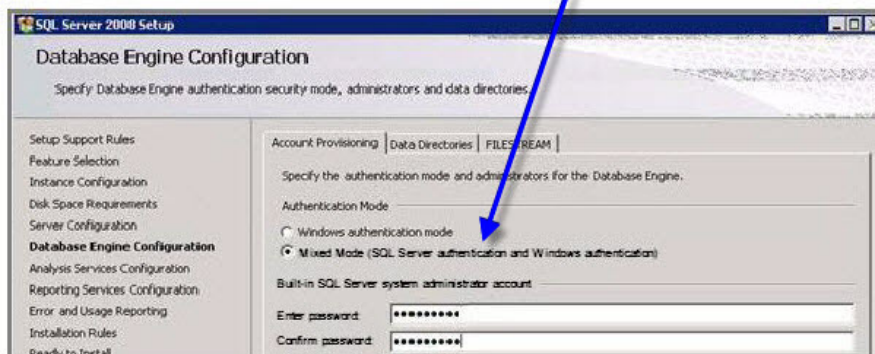
- If you select **Mixed Mode**, then under **Built-in SQL Server system administrator account**, enter the password in **Enter password** and type the password a second time in **Confirm password**.
- Regardless of the type of authentication you choose, under **Specify SQL Server administrators**, click **Add...** and add the account you are installing under to make that account an SQL Server administrator will full access to the database, as you will need that access later in the installation process.

18. Still on the **Database Services Configuration** page of the wizard, to add the user account for the person is carrying out the installation to the list of users who can administer the database, click **Add Current User...** The user's name then appears in the list under **Specify SQL Server administrators**.

19. Click **Add** and add the account you created for all services to run under, to ensure it not only has access to the database, but can also administer the database.

20. Finally, click **Add** again and add at least one other user to the list to ensure that if either of the first two accounts is accidentally locked out of the database, you have one more account with the ability to administer the database.

When you have added all these users to the database administrator list, click **Next**.

21. When the **Analysis Services Configuration** page of the wizard displays, under the **Account Provisioning** tab, click the **Add Current User** button to add the installer's user account to the list of users who can have access to the Analysis Services.

22. Click the **Add** button and add the **NMSapps** user account to give that account access to the Analysis Services.

23. Click the **Add** button again and add the database administrator account to give that account access to the Analysis Services; then click **Next**.

24. When the **Reporting Services Configuration** page appears, select **Install the native mode default configuration** and click **Next**.
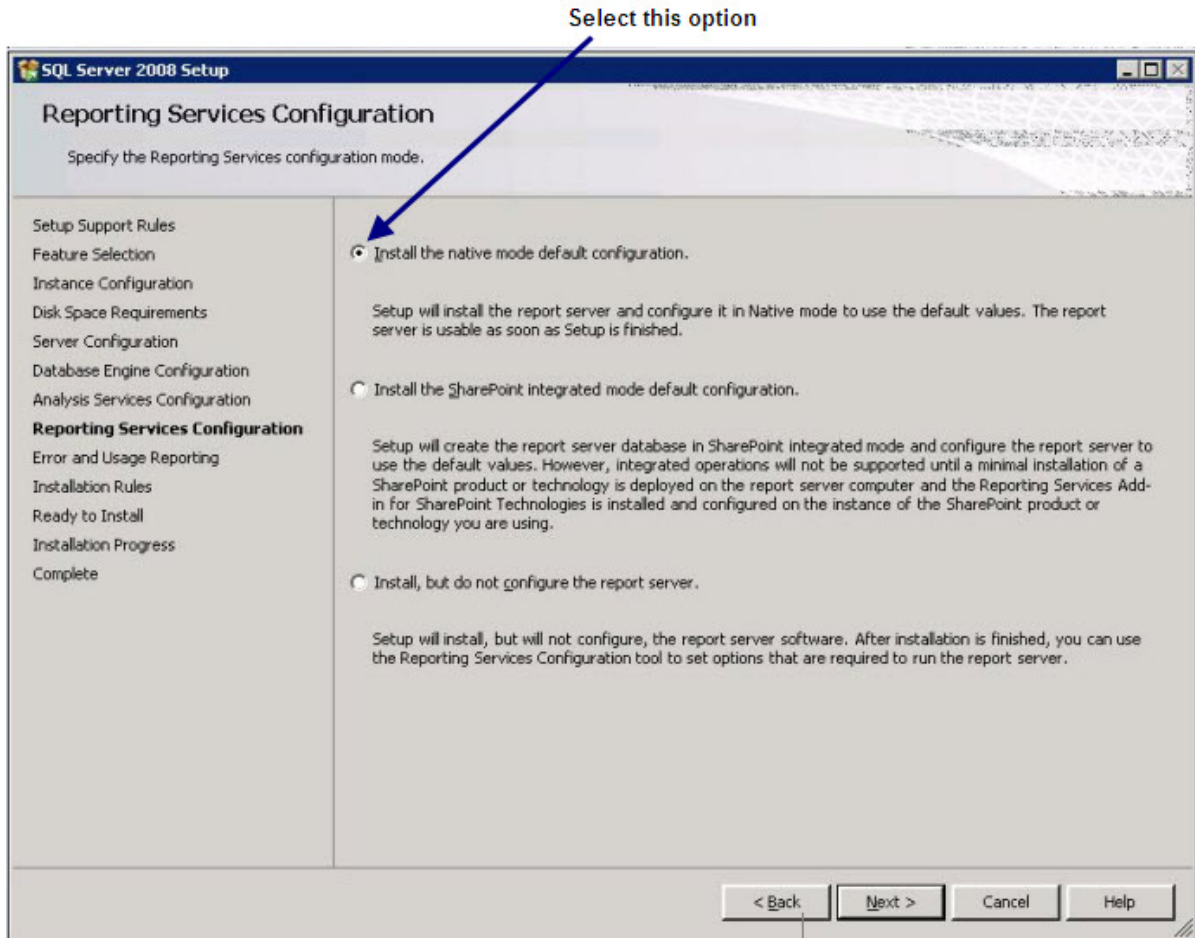
25. Skip the **Error and Usage Reporting** page and click **Next**

26. Click **Next** until you reach the **Ready to Install** page of the wizard.

27. Click **Install** and wait for the installation to complete. If you have not installed PowerShell and receive an error about **PowerShell**, click **OK** to continue.
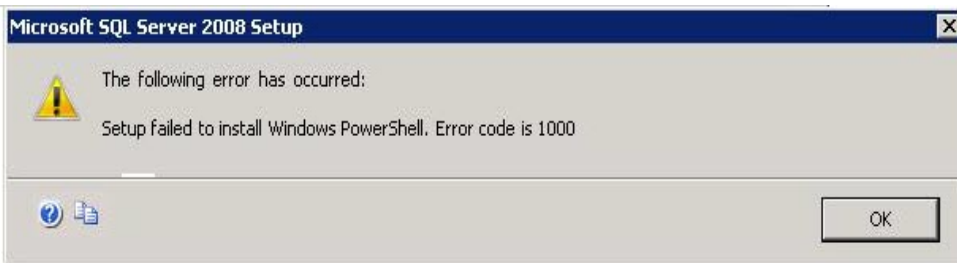
28. If you experienced any failures while running the wizard, the **Complete with failures** page appears.
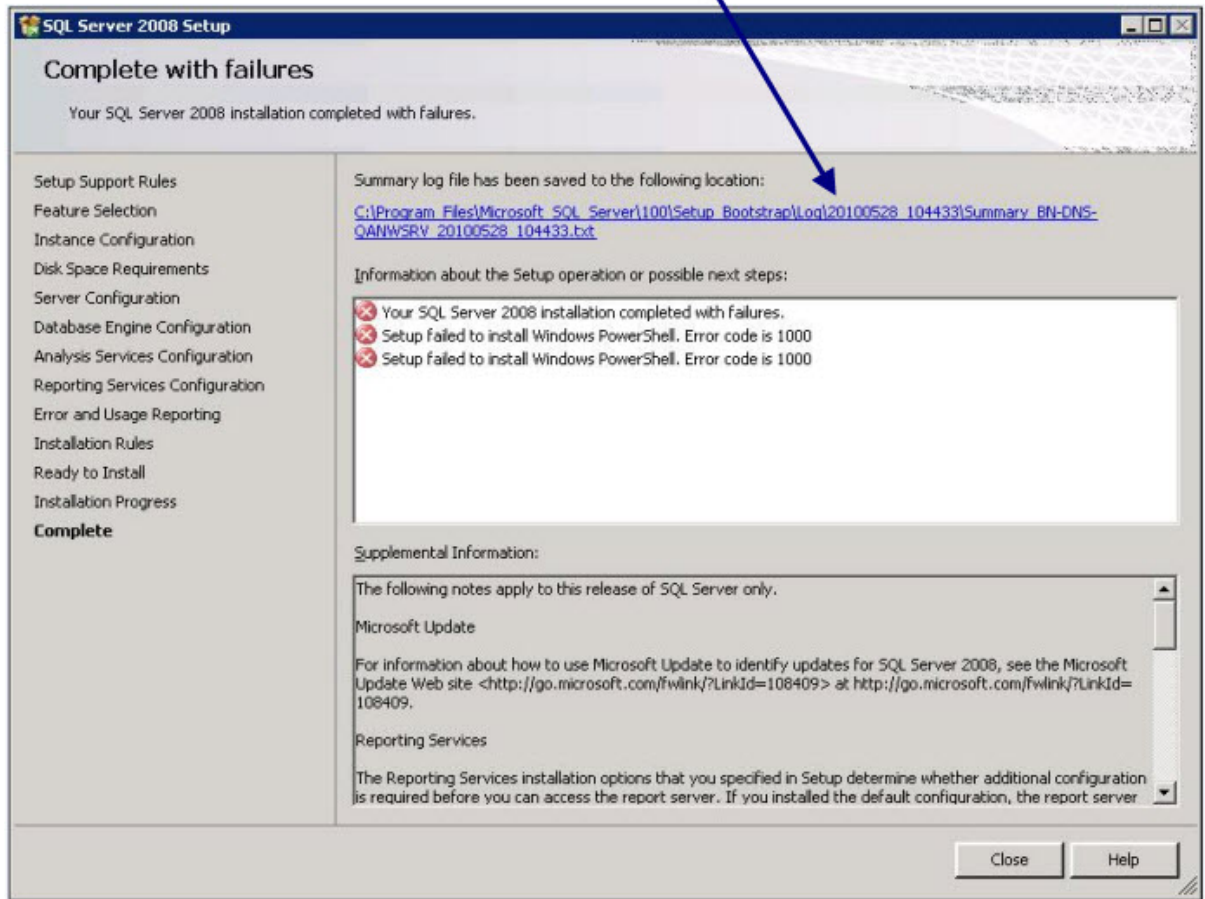
If you receive this page, click on the link near the top of the page under **Summary log file has been saved to the following location** and save the log in a location where you can retrieve it. If you later have any network issues, you can provide this log file to the Nuance support team.

29. After the installation is complete, to verify that all SQL Server database services are running before you begin to install the *DME* servers, select **Start > Administrative Tools > Services** and check the **Services** window.

Verifying necessary port is open

Be sure that port 1433 is open on the database server that houses the *NMS SQL Database*.

Installing Nuance Management Server and Console

This procedure covers installing all components of the *Nuance Management Server (NMS)*, including the server, the console, and the database.

Creating account to run all services

Note:

Before you carry out this procedure, be sure you have created a Windows administrator account to run this server and all other servers under (name it something like **NMSapps**). That server should meet the following requirements:

- Is in the organization's domain.
- Never expires.
- Has a password that never expires (does not have to be changed at regular intervals).
- Has rights to install software and Windows services on the server.
- Has rights to create and start a Windows service on the server.
- Has full read/write access rights to the *Profile Optimizer Server* and all *Profile Optimizer Speech Nodes* server(s) within the same network.
- Has full read/write/modify permissions to access the directory housing the master user profiles.

During the installation, the wizard prompts you to enter the name or this user account and the password to it.

Be sure you have the organization identifier Nuance assigned you, delivered to you via email, in a readily accessible file on a stick or on the Windows Server itself.

Also be sure you have the name or IP address of the machine where the *Profile Optimizer* is either installed or to be later installed, because you supply that information to the *NMS Server* during the installation so that it later knows how to communicate with the *Profile Optimizer*.

Installing the NMS—Server, Console, and Database

You are now ready to install all of the components of *Nuance Management Console*. You install them on the same machine using a single installation wizard. (After the installation is complete, you then use the console to configure the server.)

Caution:

If you do **not** want to store the *NMS Server*'s data files in SQL Server's default location, you can let the installer create the database, its transaction log, and its dump device in the default location, then move the database and its files to the location you would prefer.

FOR ADVANCED INSTALLERS ONLY:
If you are installing the database in any location other than the SQL default, you can create the **NuanceMC.mdf** database, the **NuanceMC_log.LDF** transaction log, and the **NuanceMCDump.bak** dump device in SQL Server *before installing* the *NMS Server*; otherwise, the *NMS Server* installation ends up placing these files in the SQL default location.

1. The *NMC Console* software is code signed by Nuance to allow Nuance Support access to the client computer's resources. However, to ensure Nuance has access, if your hospital or medical facility's network requires a security policy on the computer where you install the client, you should set up that security policy to allow any code signed by Nuance to run on the machine with full trust credentials.

2. Before you begin the installation, you might want to turn off the Windows Server 2008 Firewall. If you prefer not to turn it off, you later need to open Port 8731 (the step is included at the end of this process) to ensure communication between the *NMS Server* and *NMC Console*.

3. This step applies whether you are installing the *NMS Server* on the same machine as the SQL Server or on a separate/possibly remote machine. If you are planning to store data files in the default location that SQL uses, skip to step 4. If you instead plan to store data files in another location, you can later move the database and its associated files after you let the installer create them for you.

    (Alternatively, you can create the **NuanceMC.mdf** database, the **NuanceMC_log.LDF** transaction log, and the **NuanceMCDump.bak** device inside SQL Server first and specify where you want these files to reside, but Nuance recommends that you be an advanced user to create your own database.)

4. Insert the *Nuance Management Server Software and Documentation* DVD in the DVD reader of your server. Browse the DVD until you find the **Nuance Management Server and Console Installation.exe** file and double click it to launch the installation process.

5. Initially, you wait for a moment while the InstallShield wizard uncompresses the software; then the **DME Nuance Managmenet Server & Console Installation** wizard displays to walk you through the installation process.
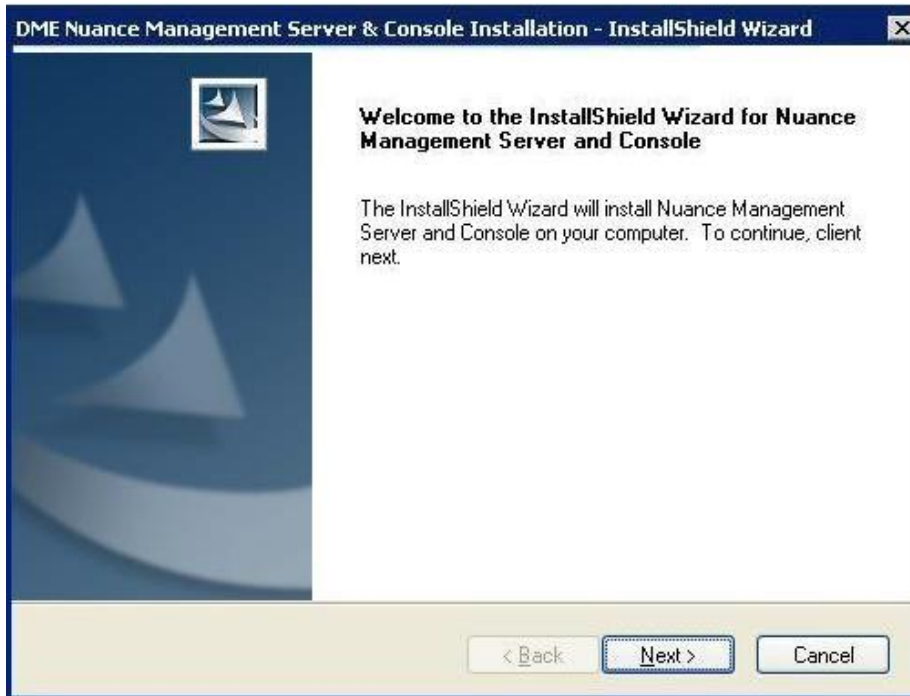
6. Click **Next** to see the License Agreement page and accept the terms of the license agreement; then click **Next** to proceed to the **Customer Information** page of the wizard.
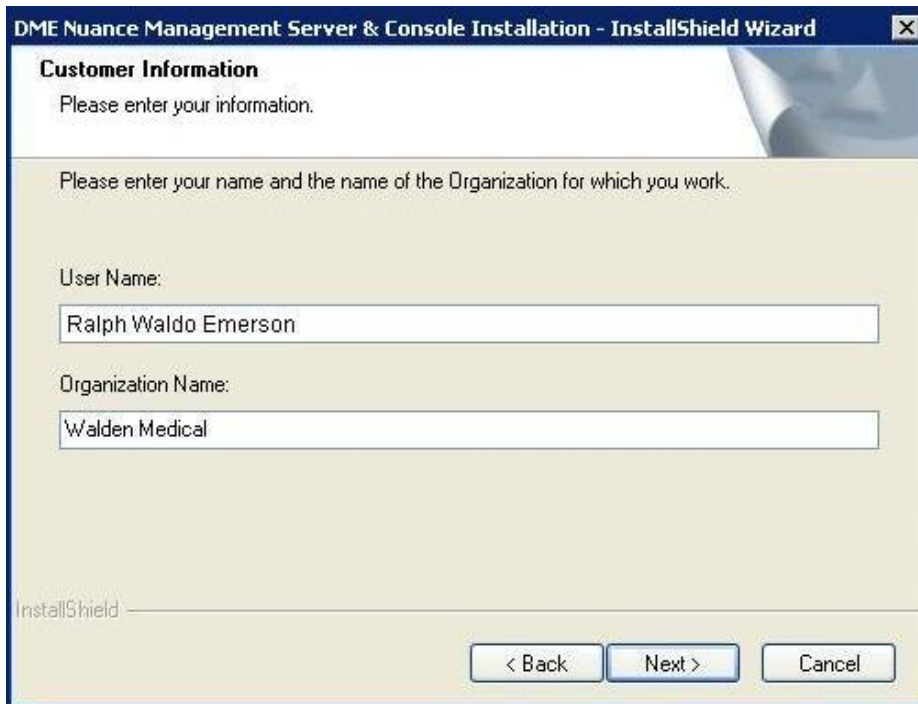
7. In the **Customer Information** page of the wizard, enter your name (or the name of an appropriate contact person) and your organization name in the **User Name** and **Company Name** text boxes and click **Next** to proceed to the **Choose Destination Location** dialog box.
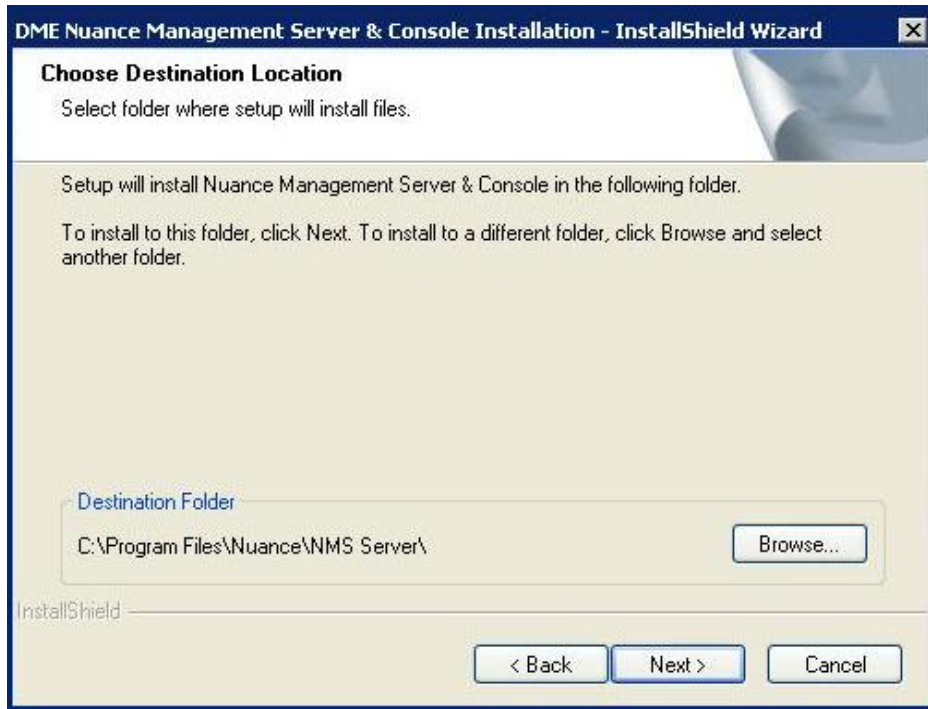
8. The **Choose Destination Location** page of the wizard presents the location where it installs the *NMS Server* by default. If you want to change where the wizard installs the server, click **Browse...** and browse to a location you prefer.

9. Click **Next** to proceed to the **Database Server** page.

10. In the **Database server that you are installing to** text box, enter the machine name or IP address of the physical server where you have installed the SQL Database Server software.

    The wizard automatically creates the database and its backup directory in default locations on that server.
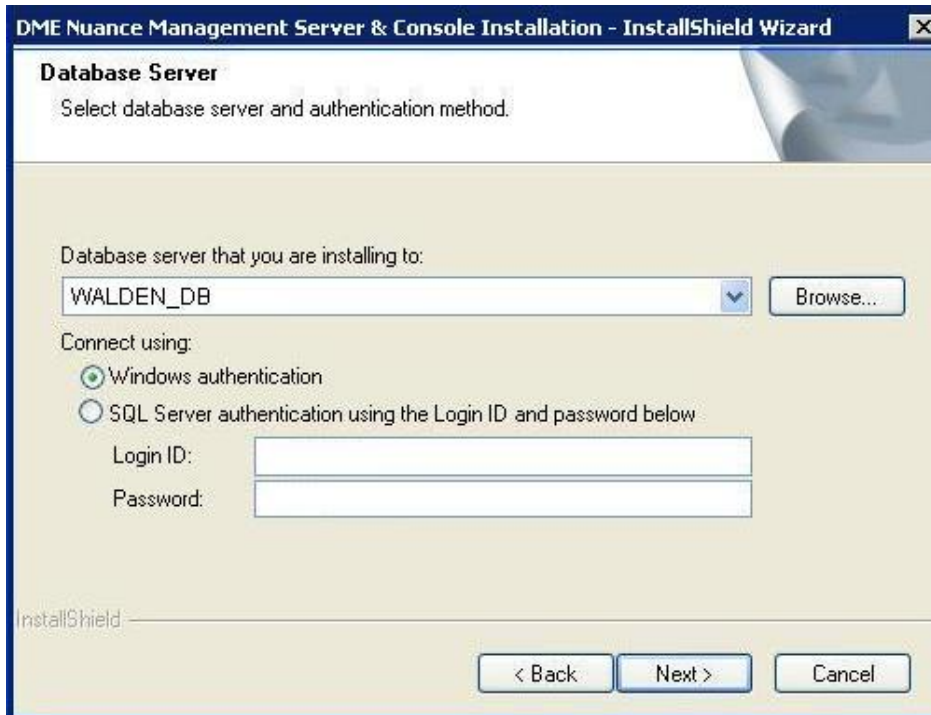
Under **Connect using**, you see from two ways for the server to access the database—using a Windows login and password to authorize access, as indicated by **Windows authentication** or an SQL Server login and password, as indicated by **SQL Server authentication**.

You should choose the same type of authentication for access to the database that you chose when you installed the SQL Server.

Nuance recommends **Windows authentication**. If you choose this type of authentication, the **Login ID** and **Password** text boxes become unavailable, as they are not required.

If you choose **SQL Server authentication using the Login ID and password below**, you then enter the database system administrator login name and password that you set up in SQL Server earlier into the **Login ID** and **Password** text boxes provided.

Click **Next** to continue.
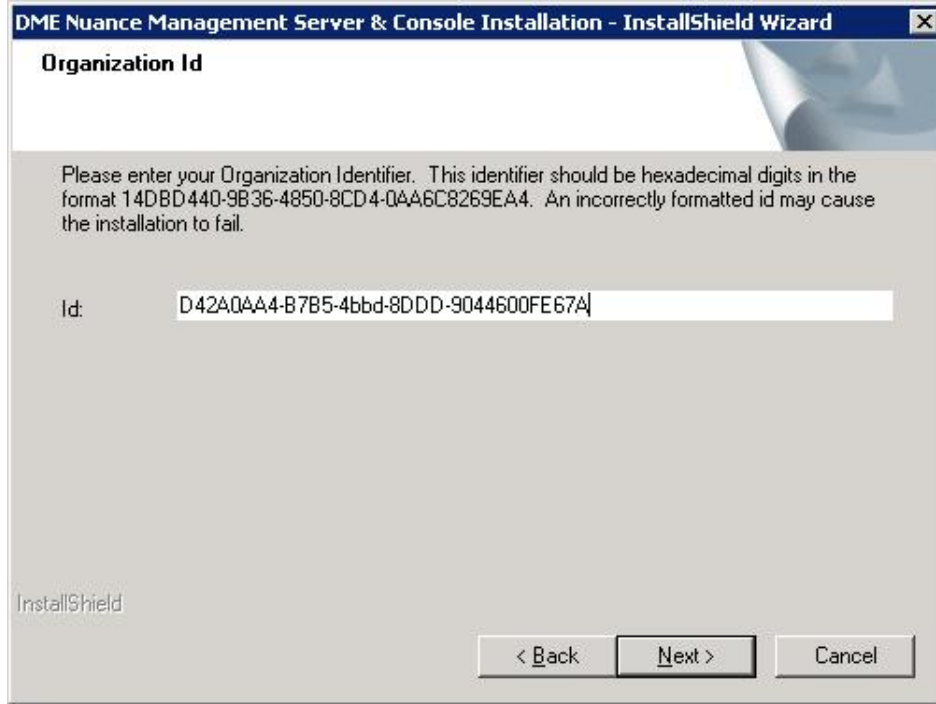
11. In the **Organization ID** page of the wizard, enter the unique ID that Nuance has assigned you. You should receive this ID on a slip of paper inserted with your *DME* software package. Carefully enter the ID into the **ID** text box here. You do not have to write it down or keep track of it on paper after you enter it here, as you will later be able to find the ID any time you need it through the *NMC Console*. Click **Next** to continue.
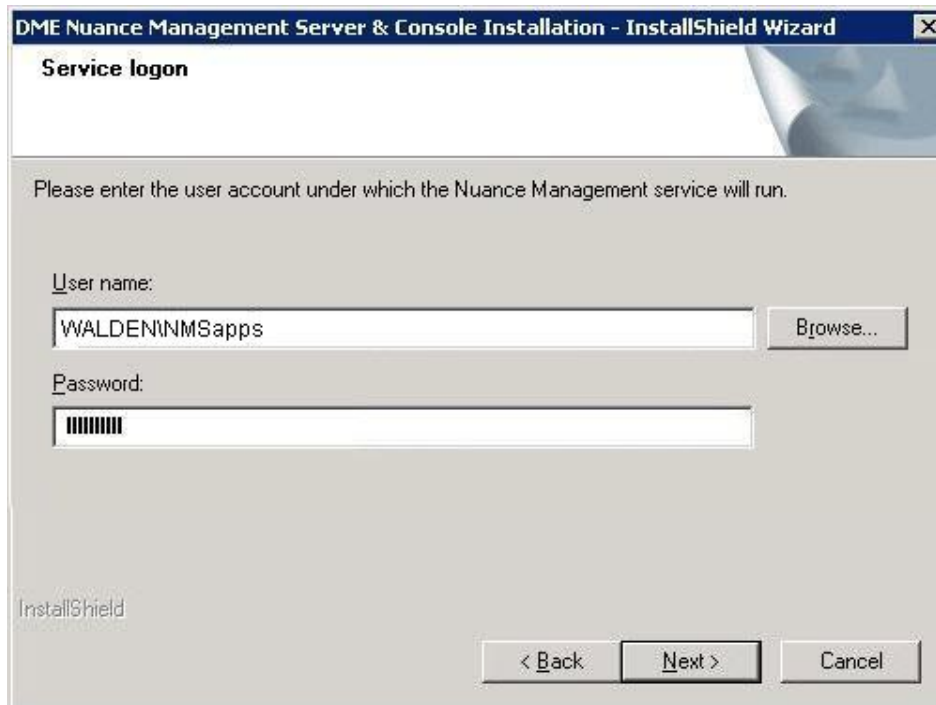
12. In the **Service logon** page, the wizard asks you for the user account that the *NMS Server* service is going to run under. You should enter the Windows user name and password of the account you created at the start of this procedure for all services to run under (such as **NMSapps**).

    If the wizard determines that the user account you enter is not an administrator account or does not have rights to start the *NMS Service* or is inadequate in any other way, the wizard fails to let you proceed and stays on this page until you enter an acceptable account or click **Cancel**. If this situation arises, you should enter the local administrator or local system account and password in this page. If you need to enter such an alternative account here, you later need to change the account that the service is running under as described in *Changing the account running NMS Server* under *Changing the account running NMS Server on page 80.*

13. Click **Next** to continue.
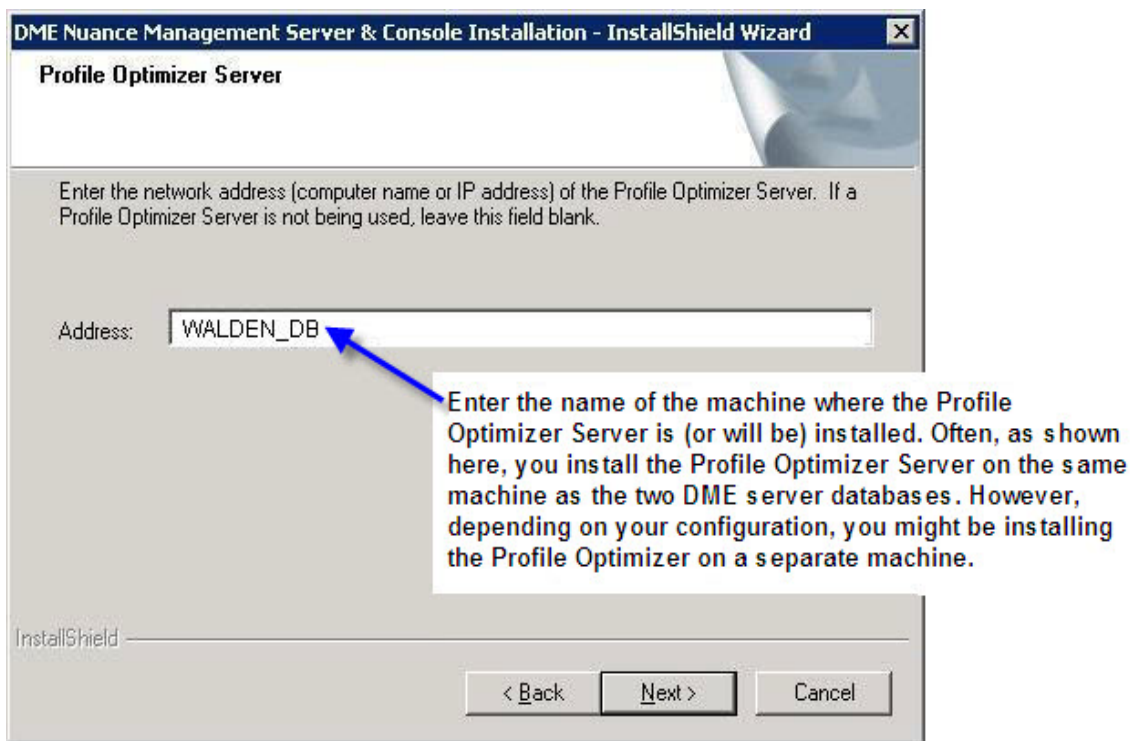
14. In the **Profile Optimizer Server** page of the wizard, you enter the machine name or IP address of the physical server where the *Profile Optimizer Server* is (or will be) installed. The *NMS Server* needs to know this information to communicate with and pass data between itself and the *Profile Optimizer*. Often you are installing the Profile Optimizer Server on the same machine as the *DME* server databases, as shown above. Click **Next** to continue.
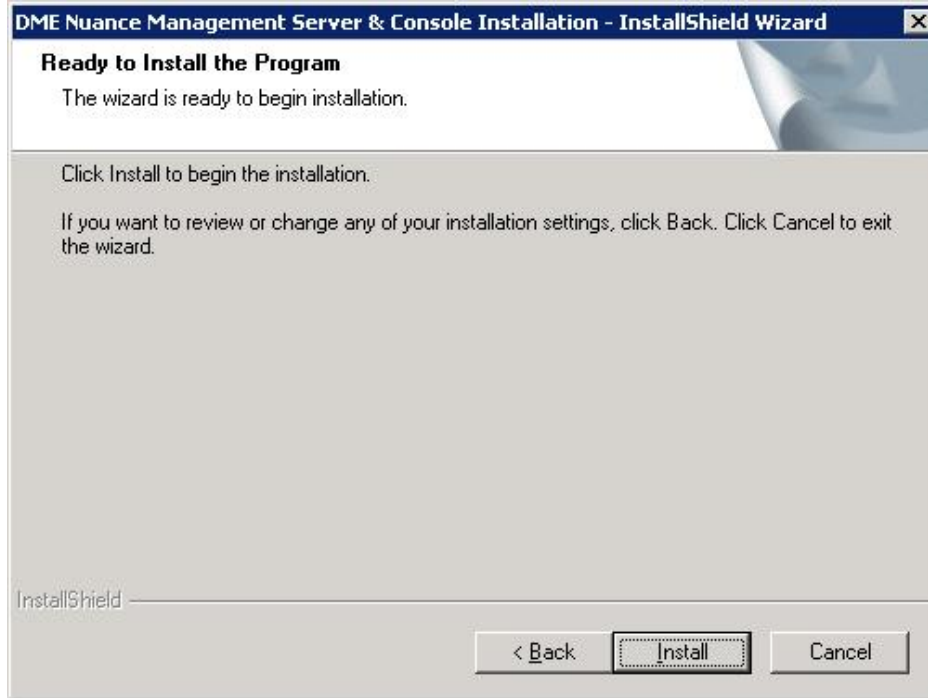
15. In the **Ready to Install the Program** page of the wizard, you can click **Back** to return to any of the previous dialogs or, if you are ready, click the **Install** button to launch the actual installation.

16. When the installation is complete, click **Finish** to close the wizard.
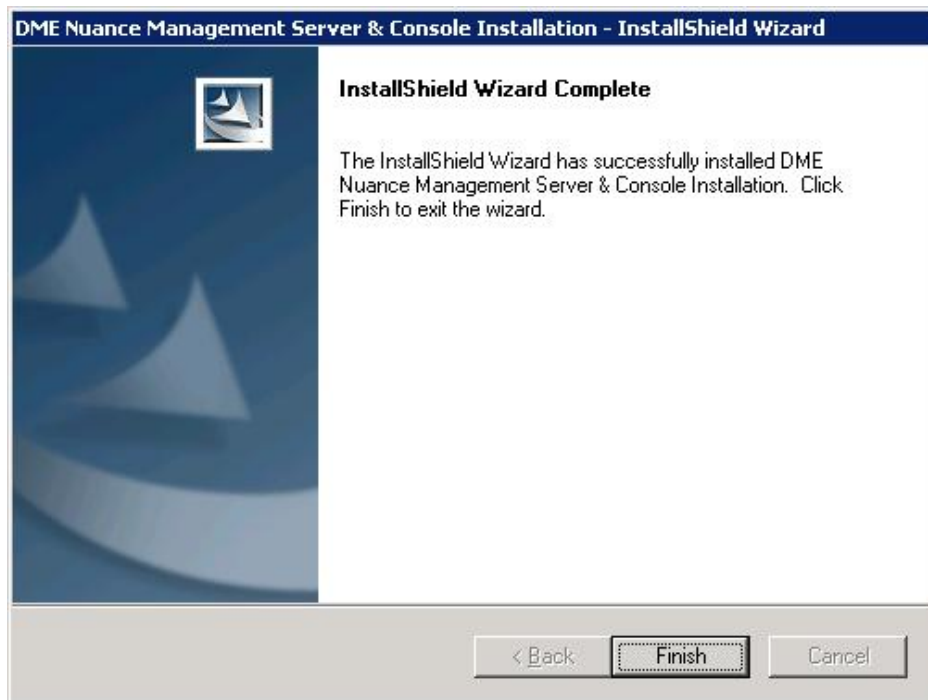
17. If you installed the *NMS Server* and *NMC Console* with the Windows Server 2008 Firewall turned on during the installation, you must now open Port 8731 so that the *NMC Console* can communicate with the *NMS Server*.

18. As part of the process of installing the *NMS Server*, the installer:

    ■ Creates the actual *NMS SQL Database*, a transaction log file, and a dump device on the SQL Server that you installed earlier. When you look in SQL Server, you see:

        ● Database, named **NuanceMC.mdf**

        ● Transaction log named **NuanceMC_log.LDF**

        ● Dump device named **NuanceMCDump.bak**.

    ■ Installs the service that the *NMS Server* uses, the **Nuance Management Service**.

After the installation completes, the *NMS Server* automatically starts.

You are now ready to install the *Profile Optimizer Server*.

Ensuring DME server anti-virus recommendations are met

Nuance recommends anti-virus software on all *Dragon Medical Enterprise Network Edition* servers and clients to protect the system from potential downtime due to viruses. However, be aware of the recommended restrictions.

After you have installed the servers, be sure to exclude from the anti-virus scan any files found in the folders indicated below or with the extensions listed below.

On NMS Servers, Profile Optimizer Server, SQL Database Server:

■ **Nuance** folder and all subfolders

■ Files with these extensions:
DAT, DRA, ENH, INI, LCK, LOG, NWV, SIG, TXT, USR, VER, VOC, WAV

Configuring network traffic switch to ping NMS Servers for load balancing

If you have a large network with multiple *NMS Servers*, you can include a network traffic switch in your network to balance the load on the *NMS Servers*. The network traffic switch can be an F5 or similar switch.

To configure the network traffic switch to send a message to the *NMS Server* to see if the server is operational, you would have the network traffic switch send the following message in the URL line of the browser:

```
http://<NMS-Server-Name>:8051/Nuance.NMS.Services/
   NMSServiceStatus/Rest/Status
```

The *NMS Server* delivers the following XML-formatted response to the network traffic switch:

```
<ServiceStatusResponse xmlns=
"http://schemas.datacontract.org/2004/07/Nuance.NAS.Connector.
DictationTranscription" xmlns:i="http://www.w3.org/2001/
XMLSchema-instance">
  <Status>Running</Status>
  <ServerDateTimeUTC>2010-12-13T20:50:13.0969590Z
    </ServerDateTimeUTC>
  <InterfaceType>basicHttpTransport</InterfaceType>
</ServiceStatusResponse>
```

If the *NMS Server* is down, the switch receives an error. If the network traffic switch makes this call and the *NMS Server* sends anything other than the expected response, the switch can tag that server as down and reroute the traffic accordingly.

Verifying all necessary ports are open

Be sure that all of the following ports are open on the *NMS Server*:

- 8730
- 8051
- 433 and 80
- 1433 on both the *NMS Server* and the database server where the *NMS SQL Database* resides
- 808 for communication with the *Profile Optimizer*

Chapter 3: Installing Profile Optimizer components

To install the *Profile Optimizer* components of the *Dragon Medical Enterprise Network*, you carry out the procedures in these sections:

Before Installing Profile Optimizer components of DME

Before you actually install the *Profile Optimizer*, you should gather the information and install some additional prerequisite software, as indicated in this section. This section details the information you need about configuration settings you will set during the installation process.

Creating account to run all services

Note:

Before you carry out this procedure, be sure you have a Windows administrator account to run all servers under. It should be the same one you are running the *NMS Server* under (named something like **NMSapps**). For details about the requirements for this account, refer to *Before installing Nuance Management Server and Console* on page 26.

During the installation, the wizard prompts you to enter the name of this user account and the password to it. You must set up this account with **Log on as Service** rights so that it can start *Profile Optimizer* and *Speech Node* services when the installation is complete.

For more information on how to set rights to start a service, refer to *Installing Profile Optimizer Speech Nodes on independent machine(s) or virtual machine(s)* on page 65.

Gathering information you need

Before you begin, you need to have the following information:

- **Name or Address of Installation Machine** You need the name or address of the machine where you intend to install the *Profile Optimizer Server*. If your network uses dynamic addresses, you should use the computer name to identify it, just in case the dynamic address changes in the future.

- **Location of Master User Profiles folder** If you are planning to put the user profiles directory on the same machine with the *Profile Optimizer* installation, you should know that in advance.

- **Name of Machine where Profile Optimizer Database Server resides and name of folder for Database Files** Profile Optimizer requires access to the *Profile Optimizer Database* (possibly on the same machine) through its physical server's name. You will need to provide the database server name during the installation.

- Create a folder to contain the database files for the *Profile Optimizer Database* and create it on the machine where the *Profile Optimizer Database* is installed. Be sure you know where this folder is located, as you will need to provide the full path to it during the installation. You create this folder on a disk of the machine, not inside SQL Server's Object Explorer

Installing software to support Profile Optimizer Speech Nodes installation/operation

You install two extra packages on machines where you are planning to install *Profile Optimizer Speech Nodes*:

Windows Installer 3.1 If you are installing a *Speech Node* on a machine with any supported operating system other than Windows Server 2008, the installer requires that the machine have Windows Installer 3.1 or greater on it. (Windows Server 2008 automatically installs a later version of Windows Installer.) For information on operating systems that support *Speech Nodes* refer to *Dragon Medical Enterprise Network Edition Planning and Deployment Guide*.

Dragon Medical SDK Client Version 10.1 You must install *Dragon Medical SDK Client Version 10.1* software on workstations where you plan to install *Speech Nodes*. This software is included on the *Nuance Management Server Software and Documentation* DVD.

Installing prerequisite software for Profile Optimizer Server

Before you install the *Profile Optimizer* components, you must install the Windows Server and other prerequisite software. Some of this software is required for both the *NMS Server* and the *Profile Optimizer Server*.

You will probably install the databases for *NMS Server* and *Profile Optimizer Servers* on the same physical server, then install the *Profile Optimizer* on the same machine as the database.

Before you install the *Profile Optimizer Server*, you must install all of the following (if you have not already installed them):

- Windows Server 2008 or 2003 SP2, if the server software is not already installed.
- SQL Server 2008, using the *Nuance Management Server MS SQL 2008* DVD included in the *DME Network Edition* software package (does not have to be on the same physical server as the *Profile Optimizer*).
- Any Windows updates available.
- .NET Framework 3.5 SP1. This software is readily available on the web at the link provided.

You need to install additional prerequisite software for *Speech Nodes*. For more information and instructions on additional packages you must install for *Speech Nodes*, refer to the next major section, *Installing additional prerequisite software for Speech Nodes* on page 55.

Installing Windows Server and .NET Framework

Follow these steps:

1. If you have not already done so, install Windows Server 2008 or 2003 SP2. Follow the instructions in *Installing SQL Server 2008* on page 32.

2. After you install the server software, you should download any Windows updates to be sure you have all updates available. Then, once you have all updates available, turn off automatic updates.

3. If you have not already done so, install SQL Server 2008 following the instructions provided in this manual. You must have the database software installed before you install *Profile Optimizer*.

4. Install .NET Framework 3.5 SP1. You can download it from the web.
   Allow approximately 1 hour to install it. Retrieve the *setup.exe* file from the link below and save it on your local disk:
   http://www.microsoft.com/downloads/details.aspx?FamilyId=333325FD-AE52-4E35-B531-508D977D32A6&displaylang=en

5. Once you have saved the **setup.exe** file, double click on the file to initiate the .NET Framework installation.

6. When the .NET Framework installation is complete and Microsoft displays a dialog box that suggests you retrieve any updates available for the program, click on the **Windows Update** link and follow the on-screen instructions to install them.
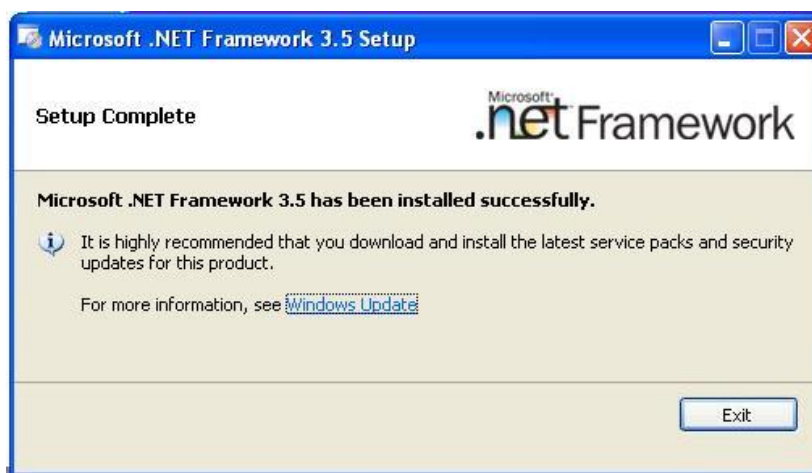
For information and instructions on additional packages you must install for *Speech Nodes* only, refer to the next major section, *Installing additional prerequisite software for Speech Nodes* on page 55.

If you are installing only the *Profile Optimizer Server* right now, you can proceed to *Installing Profile Optimizer Server with or without Speech Nodes on same machine* on page 57.

Installing additional prerequisite software for Speech Nodes

On machines where you are installing *Profile Optimizer Speed Nodes*, you must install all the same software you installed for the *Profile Optimizer Server*, except that:

- You have the option of installing a *Speech Node* on a workstation rather than a server.
- You are required to install additional software packages—an installer and an SDK.

Operating Systems and related software for Speech Nodes

- You can install a *Speech Node* on any of the following Windows Operating Systems: Windows XP SP3, Windows Vista, Windows 7, or Windows Server 2008. For more information on operating systems that support *Speech Nodes*, refer to the *Dragon Medical Enterprise Network Edition Planning and Deployment Guide*.
- Any Windows updates available.
- .NET Framework 3.5 SP1.

Additional software packages for Speech Nodes Only

Additional packages that you need to install on *Speech Nodes* only are:

- Windows Installer 3.1 or greater, only if you are installing the *Speech Node* on any operating system other than Windows Server 2008.
- *Dragon Medical SDK Client Edition* 10.1, required for every *Profile Optimizer Speech Node*.

More information on each additional package is in the corresponding section below.

Installing Windows Installer 3.1 or Later (For Speech Nodes on any operating system other than Windows Server 2008)

Every machine where you use install a *Profile Optimizer Speech Node*, Windows Installer 3.1 or greater must be on the machine.

Caution:

If you are installing on a Windows Server 2008 machine, you installed the Windows Installer when you installed the operating system, so you can skip this section.

To install Windows Installer 3.1:

1. Proceed to the web site at:

   http://www.microsoft.com/downloads/details.aspx?FamilyID=889482FC-5F56-4A38-B838-DE776FD4138C&displaylang=en

2. Scroll down the web page until you find a heading that says **Files in This Download** and a list of files below it (see illustration):
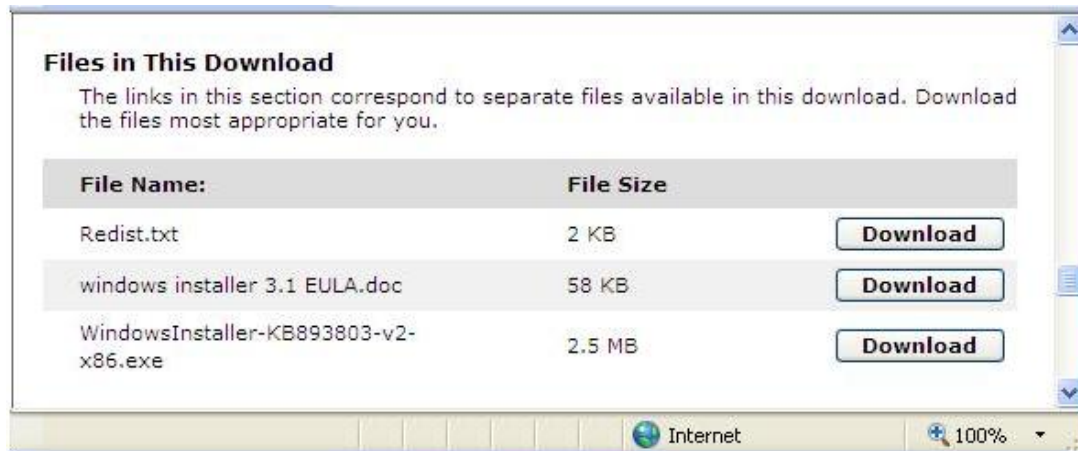
3. Click the third **Download** button for the executable to download the file for the software.

4. When you are prompted to either save or run the file, click **Run** and follow the wizard instructions Microsoft provides.

Installing Dragon Medical SDK Client Edition

You can find the *Dragon Medical SDK Client* software on the *Nuance Management Server Software and Documentation* DVD. You must install this software on every machine or virtual machine where you plan to install a *Profile Optimizer Speech Node*. To install the software:

Note:

After you install the *Dragon Medical SDK Client*, you can use the *Dragon Medical SDK Client* **nat-speak** command to pre-configure default settings for multiple workstations. For details, refer to *Setting default Client options on command line before installing* on page 168.

1. In the **Dragon Medical SDK Client** directory of the *Nuance Management Server Software and Documentation* DVD, find the **Dragon SDK Client Edition10.msi** file and double click it.

2. Click **Next** and, when choosing the type of installation, be sure to select **Typical/ Complete**.

3. Click **Next** until you reach the installation page of the wizard.

4. Click **Install**.

5. When the installation is complete, click **Finish**.

When you have finished installing this required software, you are ready to install the *Profile Optimizer Server* and *Speech Nodes*.

Installing Profile Optimizer Server with or without Speech Nodes on same machine

This section of the installation covers installing the *Profile Optimizer Server* with or without a *Speech Node* on the same machine. If you have already installed the *Profile Optimizer Server* and want to install one or more *Speech Nodes* on another machine, you should proceed to *Installing Profile Optimizer Speech Nodes on independent machine(s) or virtual machine(s)* on page 65.

Caution:

When you are installing the *Profile Optimizer Server*, since you are also installing the *Profile Optimizer Database*, regardless of whether you install both the server and database on the same physical server, you should:

- Be sure to install SQL Server on the machine where the database will reside before installing the *Profile Optimizer Server*.
- After the database software is installed, go to a drive (such as **C:**) on the machine where you have installed SQL Server and create a folder for the database files, such as **ProfOpt_DB**. Note the full path to this folder is **C:\ProfOpt_DB**. You later enter this path during the installation, so the *Profile Optimizer Server* knows where to find the files.

After you have installed all other prerequisite software and SQL Server, regardless of whether or not you plan to install any *Speech Nodes* on the same machine, you install the *Profile Optimizer Server* as follows:

1. Create a folder on the database server's hard drive to store the database files of the *Profile Optimizer*. Make a note of the full path to this file, as you enter it later in this installation process.
2. Insert the *Nuance Management Server Software and Documentation* DVD in the DVD reader of your server. Browse the DVD until you find the **ProfileOptimizerServices.msi** file and double click on it to launch the installation. After you see the wizard start, click **Next** to proceed.

3. When the **Profile Optimizer Services** page of the wizard appears, choose the parts of the product you want to install on the particular machine. To intall both the *Speech Node* and the server, you must install both at the same time by selecting both check boxes (as shown below), because if you try to use the installer on the same machine after installing a single component, **not** selecting the check box for a component **uninstalls** that component. To install the *Profile Optimizer Server* alone on a machine, select only the **Install Profile Optimizer Server** check box, instead of both check boxes.
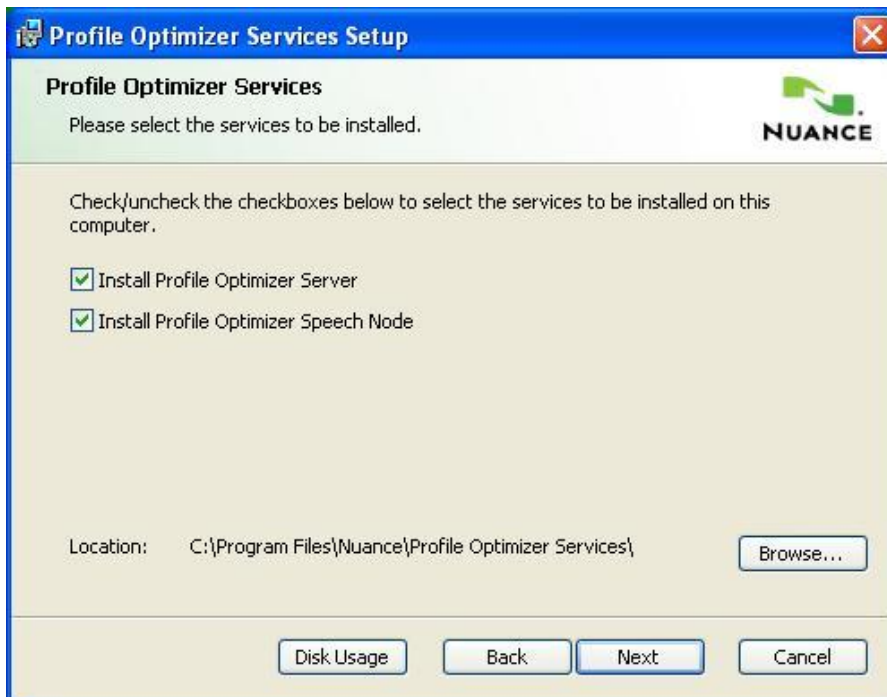
If you are trying to install the *Speech Node* along with the server but the **Install Profile Optimizer Speech Node** check box is grayed out, it is probably because you do not have the required prerequisites installed, including Windows Installer 3.1 or greater and the *Dragon Medical SDK Client*. If this situation arises, click **Cancel** and go back to the instructions in *Installing additional prerequisite software for Speech Nodes* on page 55 then return to the beginning of this section and start over.

If you do want to install the *Speech Node* on the same machine as the server, you can install only a single non-virtualized node, because you are allowed to install only one *Profile Optimizer Speech Node* on the same machine with the server.

4. Click **Next** to proceed to the **Service Account Configuration** page of the wizard.
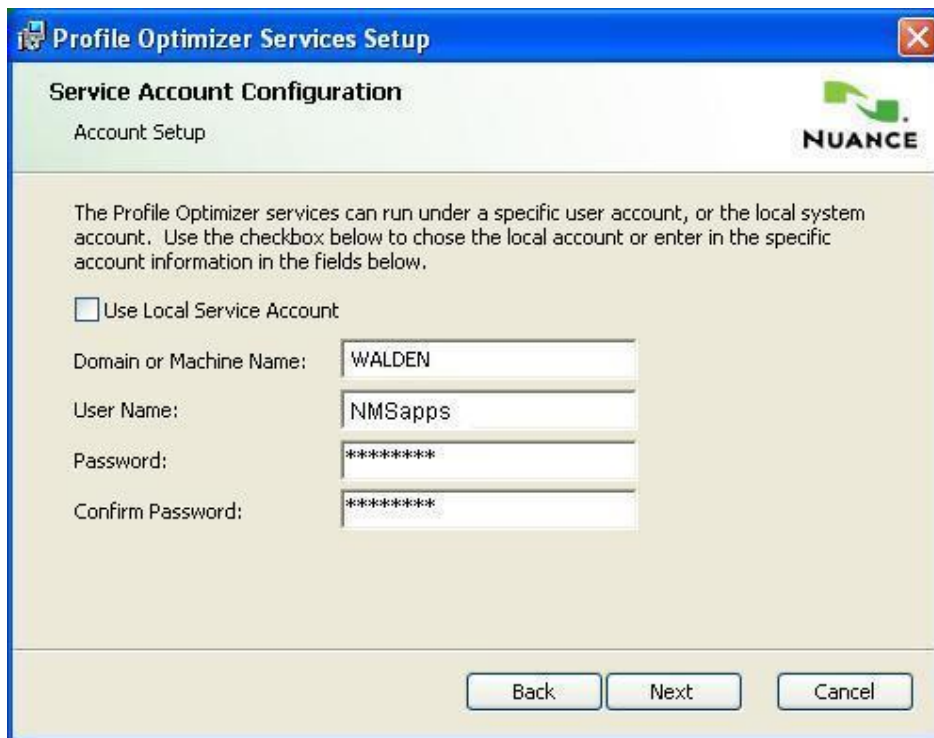
On this page, you enter the domain and user name of the account to run the services under. Nuance recommends that you enter the account you created earlier to run all services under, that it be the same account you are running the *NMS Server* under, and that you assign an appropriate name, such as **NMSapps**, to the account. After you enter the password, you need to enter it again in **Confirm Password**.

If the domain, machine name, user account name, or password is not valid, the installer does not let you proceed until the values you enter are valid.

You can also choose to run all *Profile Optimizer* services other than the *Speech Node* service under the ***Local Service Account*** by checking the check box labeled **Use Local Service Account**.

You might make this choice to have the non-*Speech Node* services inherit the security context of the Windows service control manager, which requires that anyone attempting to access the services enter credentials.

(If you are installing both the server and the *Speech Nodes*, the check box is labeled **Use Local Service Account for Non-Speech Node Services** to clarify that you cannot run *Speech Node* services under the ***Local Service Account***.

Caution:

The account that the *Profile Optimizer Server* and *Speech Nodes* run under must have full rights to access the master user profiles, including rights to modify files in the profiles directory.

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5. After you click **Next**, the **Profile Optimizer Folder Configuration** page of the wizard appears. Here you set the paths, shown in the next illustration, to the *Profile Optimizer* log files and the task result files.
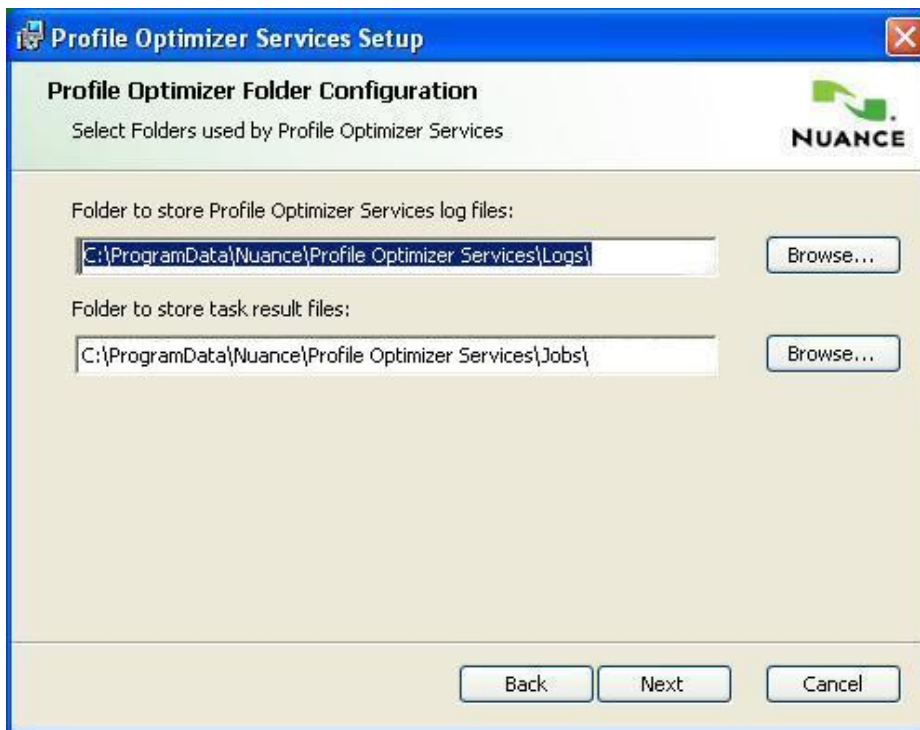
- **Folder to store Profile Optimizer Services log files**—Full path to the file that should contain the logs that all *Profile Optimizer* processes create. You can enter your own custom path or click **Browse** to find the location you want. The default location is *C:\Program Data\Nuance\Profile Optimizer Services\Logs*.

- **Folder to store task result files**—Full path to the output files that speech tasks create. These files include *Speech Node* logs and *Dragon* logs that the *NMS Server* can retrieve (for more information on logs, see the *Nuance Management Server Administrator Guide.* You can enter your own custom path or click **Browse** to find the location you want. The default location is *C:\Program Data\Nuance\Profile Optimizer Services\Jobs*

6. When you have entered the information, click **Next** to proceed to the **Server Configuration** page of the wizard. Here you enter information required for the *Profile Optimizer Server* to connect to the *NMS Server* and the database server where the *Profile Optimizer SQL Database* resides (usally the same physical server where the *NMS SQL Database* resides, but not always). Nuance recommends that you use Windows Authentication to connect to the *Profile Optimizer SQL Database.*
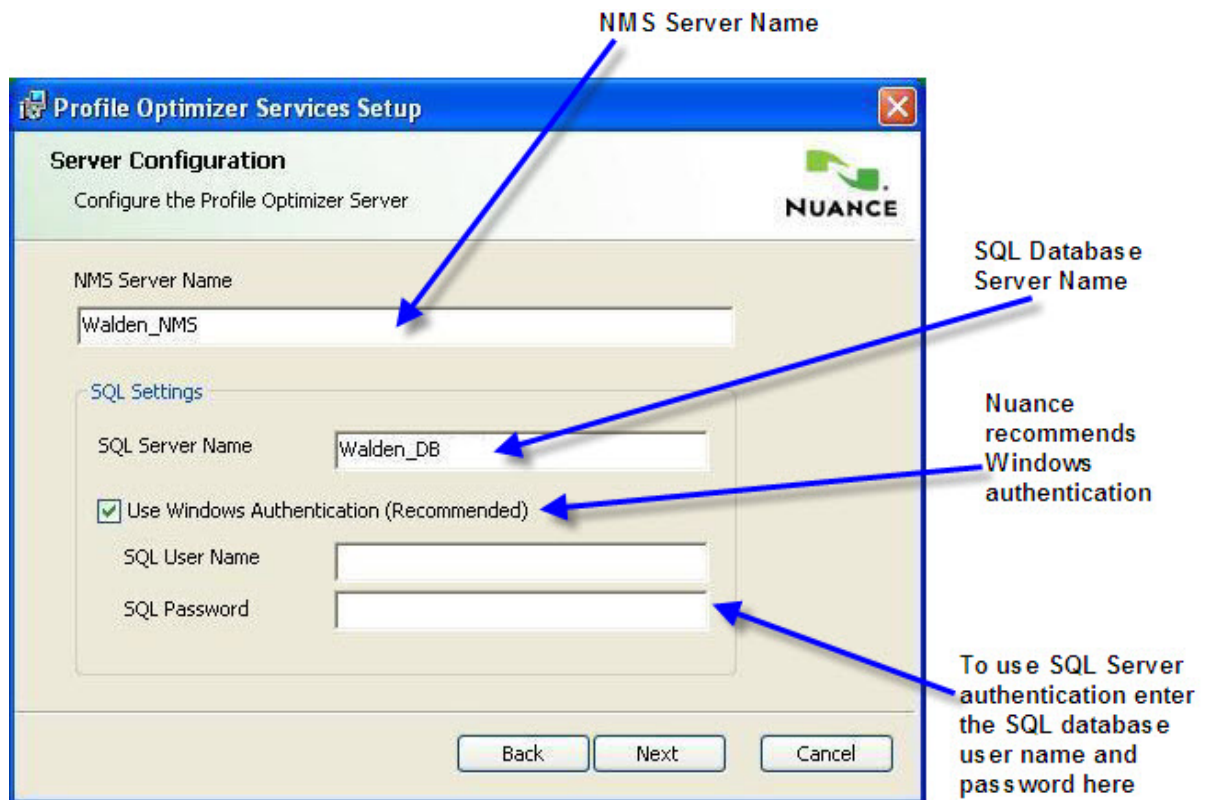
- **NMS Server Name** Enter the machine name of the physical server where you installed the *NMS Server* software. (You probably installed the *NMS* database on a separate machine.)
- **SQL Server Name** Enter the machine name of the physical server where you installed the SQL Server database software.
- **Use Windows Authentication** check box. Check this box to use Windows Authentication. To instead use SQL Server Authentication, you need to fill in the SQL system administrator user name and password in the **SQL User Name** and **SQL Password** text boxes.

7. When you have entered the account information, click **Next** to proceed to the **Database Creation** page of the wizard. Here, you see the name of the physical server that is the database server in the **SQL Server Name** text box.
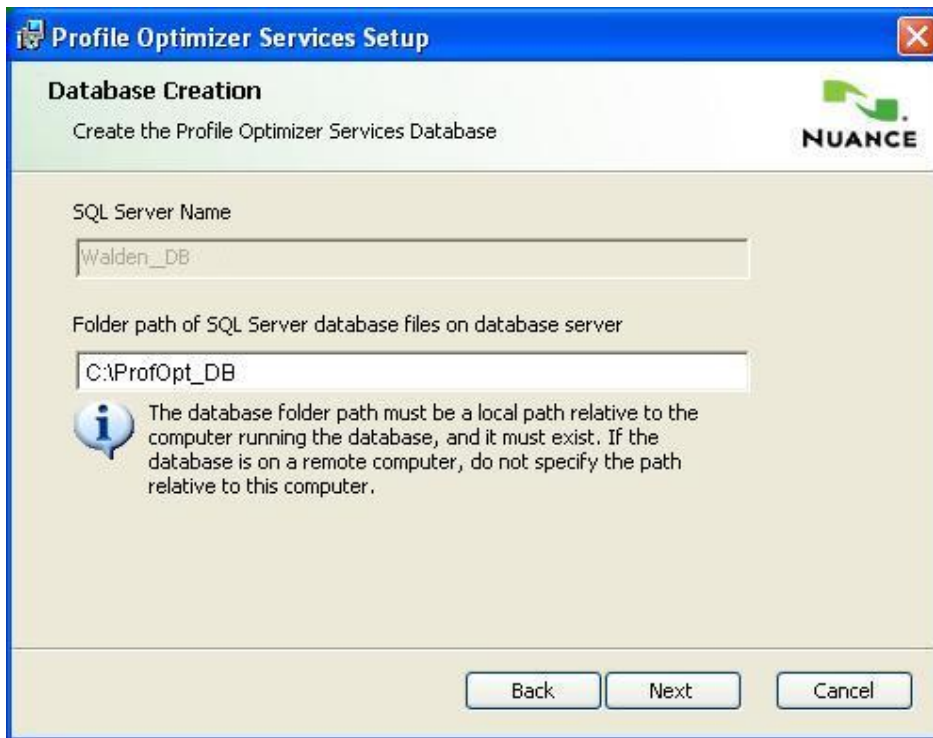
Below the database server name, in **Folder path of SQL Server database files on database server**, enter the full path to the folder on the SQL Server machine that you created at the beginning of these instructions or during the SQL Server installation. The purpose of this file is to store the database files that host the database. (The full path must start with the disk name; for example, **C:\ProfOpt_DB**.)

Note:

You create the database files folder for the *Profile Optimizer* database on the main disk drive of your machine, not inside the SQL Server Manager Object Explorer tree structure. If you are installing the database on the local machine, the installer creates this folder for you.

---

8. Click **Next** to proceed to the **Ready to install Profile Optimizer Services** page, where you click **Install** to launch the installation.
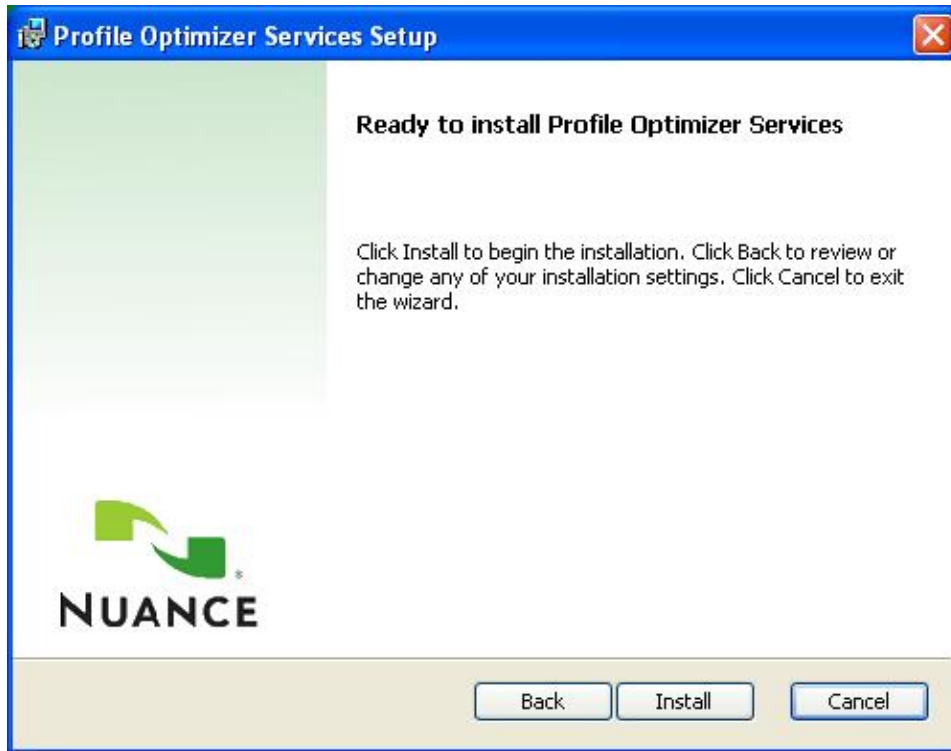
9. When the installation is complete, you receive the final page of the wizard. Click **Finish** to exit the wizard.
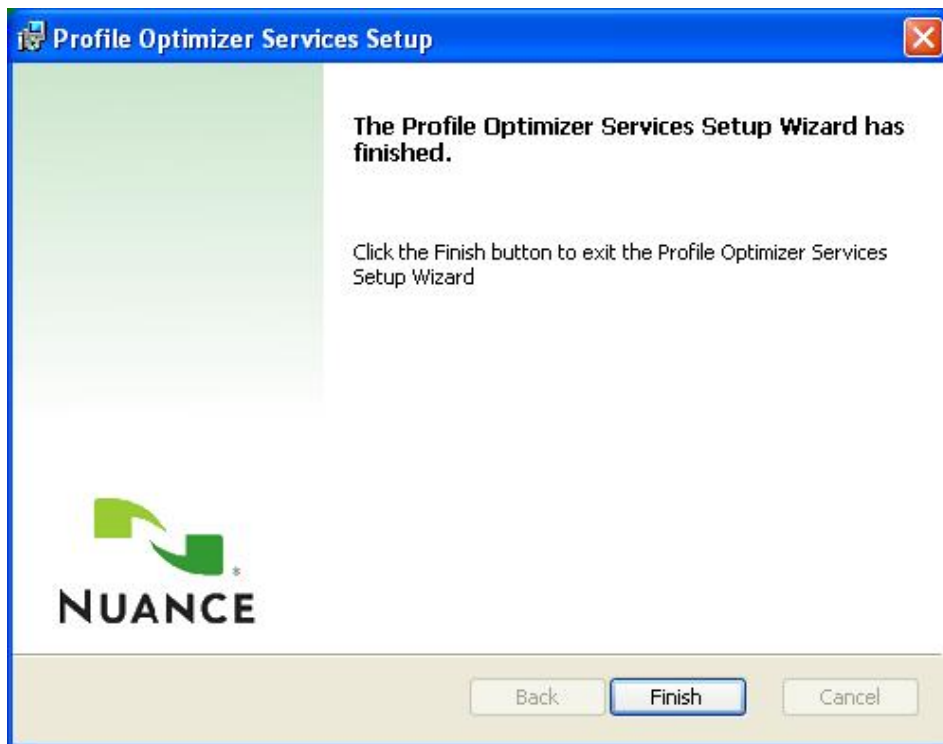
10. As a result of installing the *Profile Optimizer Server,* the installer:

  - Creates the actual database in SQL Server.
  - Install all services of the *Profile Optimizer Server*, including:
    - Profile Optimizer Core Services
    - Profile Optimizer NMS Integration
    - Profile Optimizer Host Manager
  - Installs the service of the *Profile Optimizer Speech Node*:
    - Profile Optimizer Speech Node

You can now verify that the server installations were successful by proceeding to *Starting servers and logging in to NMC Console* on page 73. The services should start automatically after you complete the installation. However, even after the *Profile Optimizer Server* is running, it is not fully operational until you have installed at least one *Speech Node*.

Either before or after you verify the services are running, if you have not yet installed any *Speech Nodes*, to install one or more nodes on machines other than the *Profile Optimizer Server* machine, you should proceed to the next section, *Installing Profile Optimizer Speech Nodes on independent machine(s) or virtual machine(s)* on page 65

Installing Profile Optimizer Speech Nodes on independent machine(s) or virtual machine(s)

Before you install any *Speech Nodes*, be sure to install the *Profile Optimizer Server* (see *Installing Profile Optimizer Server with or without Speech Nodes on same machine* on page 57.

In large *DME Network* configurations, you usually install multiple *Profile Optimizer Speech Nodes* on their own independent machines or on virtual machines. Once you have installed them on one or more separate machines, *Profile Optimizer Speech Nodes* automatically find the *Profile Optimizer Server* and add themselves to the network as resources for the *Profile Optimizer*. Because of this self-attaching feature of *Profile Optimizer Speech Nodes*, you can add more nodes as your network requirements grow.

Installing Profile Optimizer Speech Nodes

To install *Profile Optimizer Speech Nodes* on their own machines or virtual machines:

1. Be sure that on the *Speech Node* machine you have all prerequisite software installed, including the operating system and related packages, plus the installer and SDK required for *Speech Nodes* only, as covered in *Installing additional prerequisite software for Speech Nodes* on page 55.

2. Insert the *Nuance Management Server Software and Documentation* DVD in your server's DVD reader. Browse the DVD until you find the **ProfileOptimizerServices.msi** file and double click on it to launch the installation.

3. After you see the wizard start, click **Next** to proceed.

4. When the **Custom Setup** page of the wizard appears, select only **Install Profile Optimizer Speech Node**.
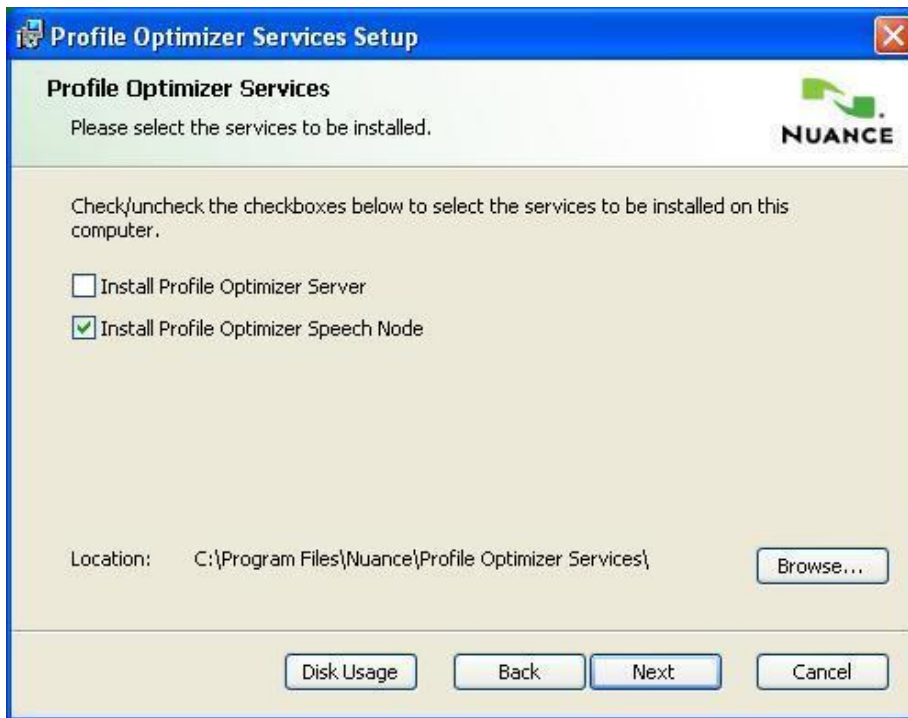
If you attempt to install a *Profile Optimizer Speech Node* on an operating system other than Windows Server 2008 without first installing the prerequisite Windows Installer 3.1 and *Dragon Medical SDK Client* software, the **Install Profile Optimizer Speech Node** check box is grayed out so that you cannot select it. If this situation arises, click **Cancel** and go back to the instructions in *Installing additional prerequisite software for Speech Nodes* on page 55*Installing additional prerequisite software for Speech Nodes* on page 55 then return to the beginning of this section and start over.

5. Click **Next** to proceed to the **Service Account Configuration** page of the wizard.

On this page you enter the user name and password of the account that this *Speech Node* service will be running under. The account should be the same account that the *NMS Server* and the *Profile Optimizer Server* are running under (unless you chose to have the Local Service Account run the *Profile Optimizer*), and should have an appropriate name, such as **NMSapps**.

If you are running the *Profile Optimizer Server* under the Local Service Account, you need to run all associated *Speech Nodes* under that account as well.

After you enter the password, you need to enter it again in **Confirm Password**.

If the domain or machine name or the user account name or password are not valid, the installer does not let you proceed until the values you enter are valid.

6. Click **Next** to proceed to the **Profile Optimizer Folder Configuration** page. Here you enter the full path to the folder that you want to store *Profile Optimizer* service log files that the *Speech Node* produces.
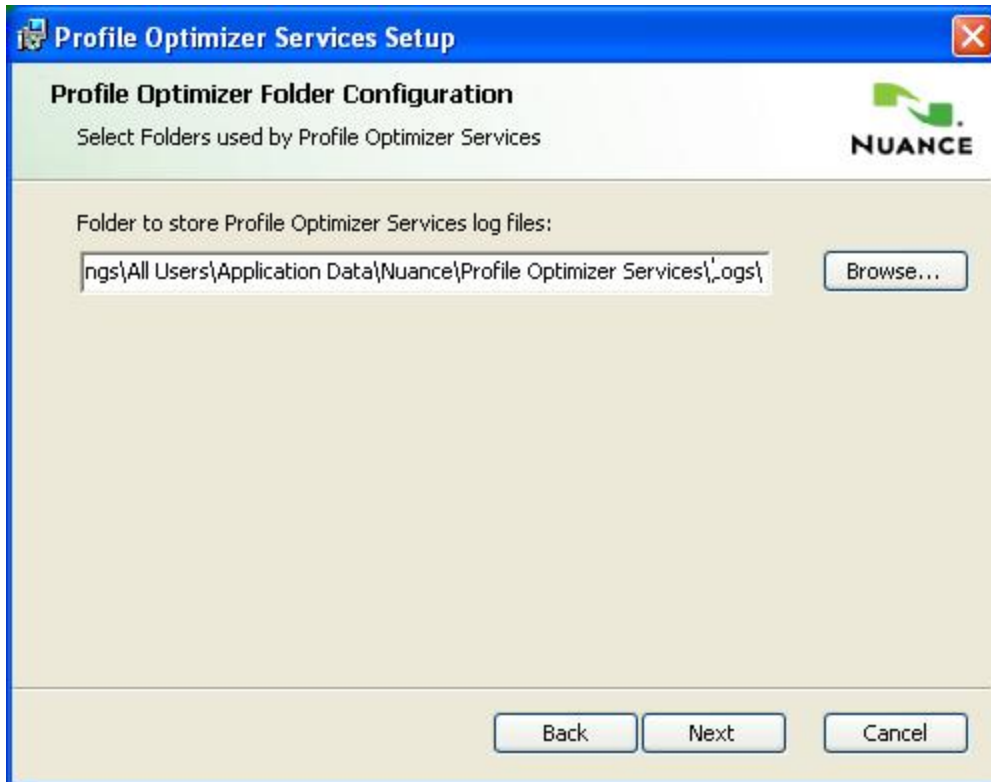
In the **Folder to store Profile Optimizer Services log files** text box, you can enter your own custom path or click **Browse** to find the location you want. The default location is operating system dependent, so yours may not match the one shown here, which is on a Windows XP SP3 machine.

For instance, the default location on a Windows 2008 Server would be:
C:\Program Data\Nuance\Profile Optimizer Services\Logs

And the default location on a Windows XP workstation is:
C:\Documents and Settings\All Users\Application Data\Nuance\Profile Optimizer Services\Logs

7. Click **Next** to proceed to the **Speech Node Configuration** page of the wizard. Here you enter the name of the physical server where the *Profile Optimizer Server* for this *Speech Node* resides.
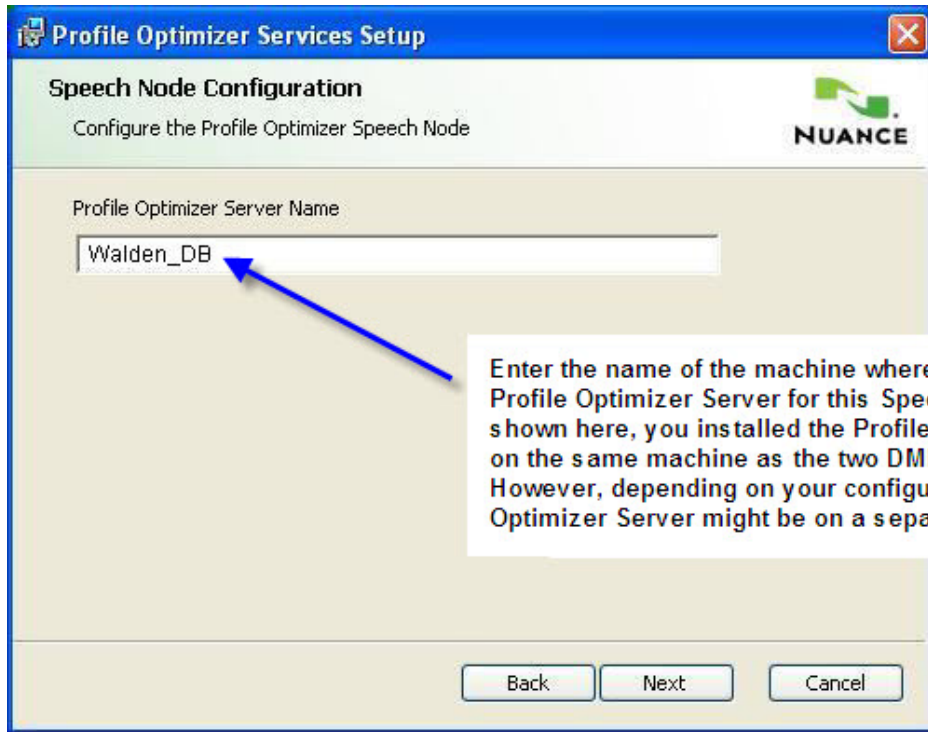
In many cases, the *Profile Optimizer Server* resides on the same machine as the *ProfileOptimizer SQL Database*, as is the case for the *Walden* organization shown throughout this chapter, where the *NMS Server* is installed on **Walden_NMS**, and the *Profile Optimizer* and all databases are installed on the **Walden_DB** machine (see above illustration).

8. Click **Next** to proceed to the **Ready to install Profile Optimizer Services** page of the wizard. Here you click **Install** to launch the installation process and wait for it to complete.
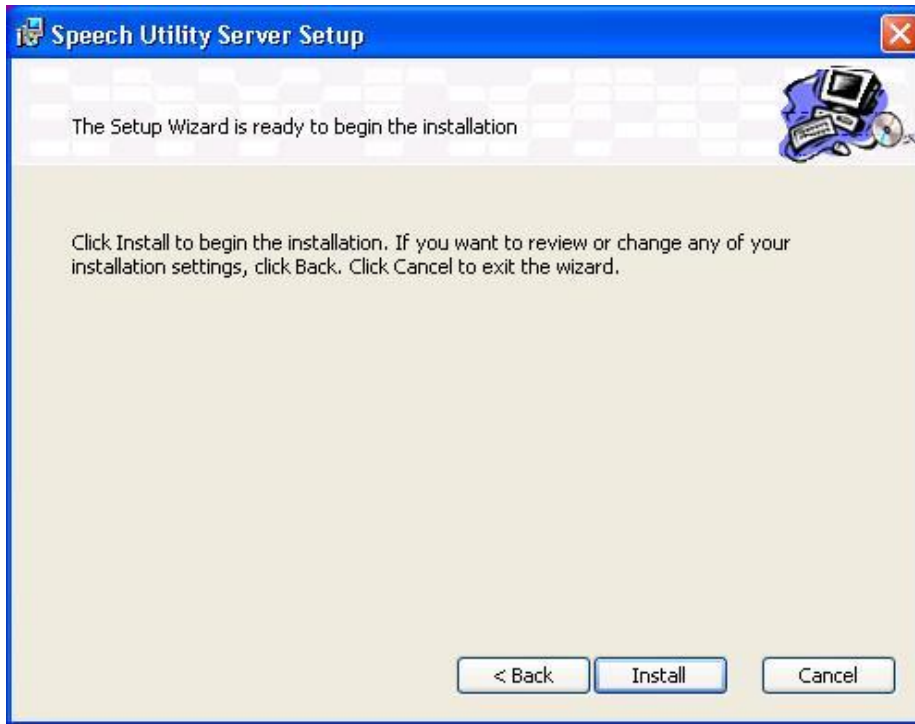
9. When the installation is complete and you receive the final page of the wizard, click **Finish** to exit the wizard.

While installing a *Profile Optimizer Speech Node*, the process installs the Profile Optimizer Speech Node service. This service should start automatically after you complete the installation.

You are now ready to verify that the *Profile Optimizer Server* and *Speech Node* services are running. Be sure to follow the steps outlined in the next chapter, *Starting servers and logging in to NMC Console* on page 73.

Ensuring DME server anti-virus recommendations are met

Nuance recommends anti-virus software on all *Dragon Medical Enterprise Network Edition* servers and clients to protect the system from potential downtime due to viruses. However, be aware of the recommended restrictions.

After you have installed the servers, be sure to exclude from the anti-virus scan any files found in the folders indicated below or with the extensions listed below.

On NMS Servers, Profile Optimizer Server, SQL Database Server:

- **Nuance** folder and all subfolders
- Files with these extensions:
  DAT, DRA, ENH, INI, LCK, LOG, NWV, SIG, TXT, USR, VER, VOC, WAV

Verifying all necessary ports are open

Although the installer opens the ports for you, you should verify that all of the following ports are open on the *Profile Optimizer Server*:

- 8000
- 8001
- 905

Chapter 4: Starting servers and logging in to NMC Console

Installing Nuance certificates

Although you have installed the *NMS Server* software, you cannot log in to the *NMS Server* through the *NMC Console* until you install the *Nuance Software Certificates*.

Caution:

You must install these *Nuance Software Certificates* on every machine where you want to log in to the *NMC Console*.

These certificates are in the **Nuance Software Certificates.msi** file provided on the *Nuance Management Server Software and Documentation* product DVD.

You must have Windows administrator privileges on the machine to install the certificates.

Installing Nuance Security Software Certificates

To install the Nuance Software Certificates:

1. If it is not already there, insert the *Nuance Management Server Software and Documentation* DVD into your DVD reader.

2. Browse the DVD for the file named **Nuance Software Certificates.msi**.

3. Double click on the file and when you are prompted, click **Save** to download and save it or **Run** to run it without downloading it. If you save it, then find the file where you saved it and double click on it.

4. The **Nuance Software Certificates InstallShield Wizard** appears.
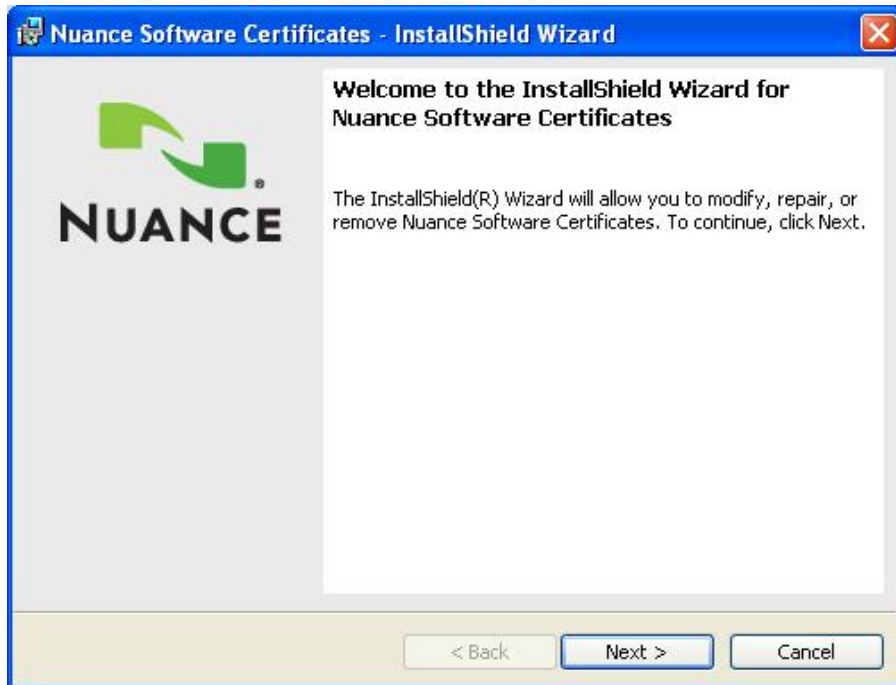
5. Click **Next** to continue to the **Custom Setup** page.
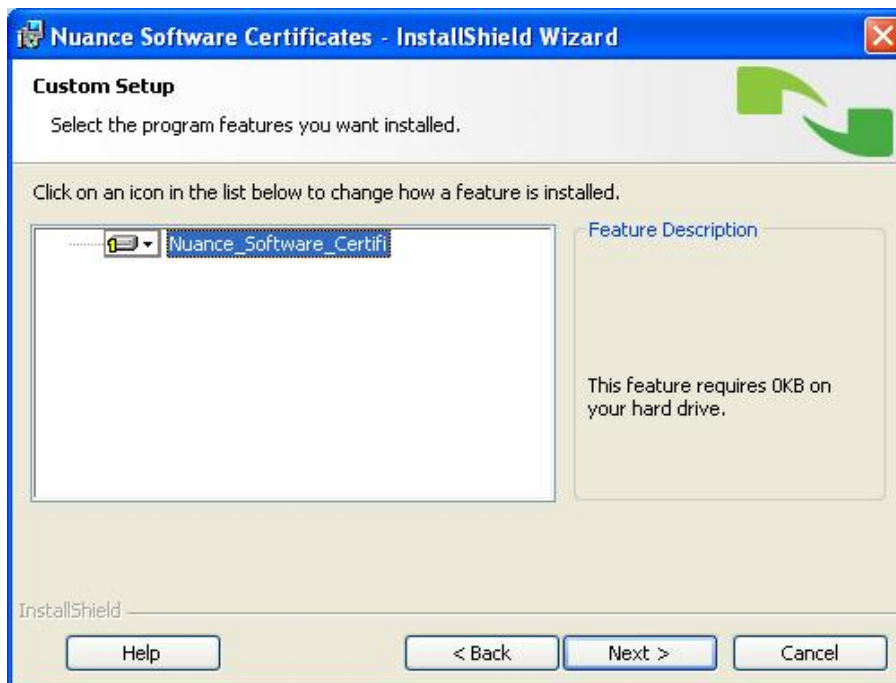
6. On the **Custom Setup** page, choose to download the feature or and all of its subfeatures on the local hard drive. Then click **Next** to continue.

7. On the **Ready to Install the Program** page, click the **Install** button and give the installer time to install the certificates.

8. When the installation is complete, you should see the **InstallShield Wizard Completed** page and can click **Finish** to close the wizard.

You are now ready to run the *NMC Console*. For instructions, proceed to *Logging in to the NMS Server through the NMC Console* on page 77.

Logging in to the NMS Server through the NMC Console

Before you can log in to the *NMS Server* using the *NMC Console*, you must be sure you have installed the Nuance Software Certificates. If you have not installed them on the machine you want to use the *NMC Console* on, install them before you log in. Refer to *Installing Nuance certificates* on page 74.

Caution:

If the time and date setting on a workstation machine you are trying to log in through is more than 5 minutes different from the time setting on the *NMS Server*, you will not be able to log in through the *NMC Console* on that workstation. If you have trouble logging in, synchronize the clock settings on those machines.

Once you are sure the *NMS Server* is running, you should be able to log in to the *NMC Console*. To verify you can log in:

1. Once the server is running, you use the IP address or name of the machine where the server was installed to access the server and configure it.

2. Go to any workstation on the network and open a browser window.

3. In the URL line of the browser, enter **http://<*IP_address*>/nmc/Client.xbap**, entering your server machine's IP address (but not the angle brackets). Then click the **Go** or similar button in the browser. Or, if you know the server name, use its name instead of its IPaddress:
 http://<*servername*>/nmc/Client.xbap
(The URL shown here is based on the location of the **.xbap** file if you installed the *NMS Server* under the default directory.)

4. When the **Nuance Management Console** login box appears, enter **admin** as the user name and **password** as the password, then click **Log on**.

5. To change the standard login and password, refer to the *Nuance Management Server Administrator Guide*.

6. The **Home** page appears. In this page, you see links to the various features of the *NMS Server*.
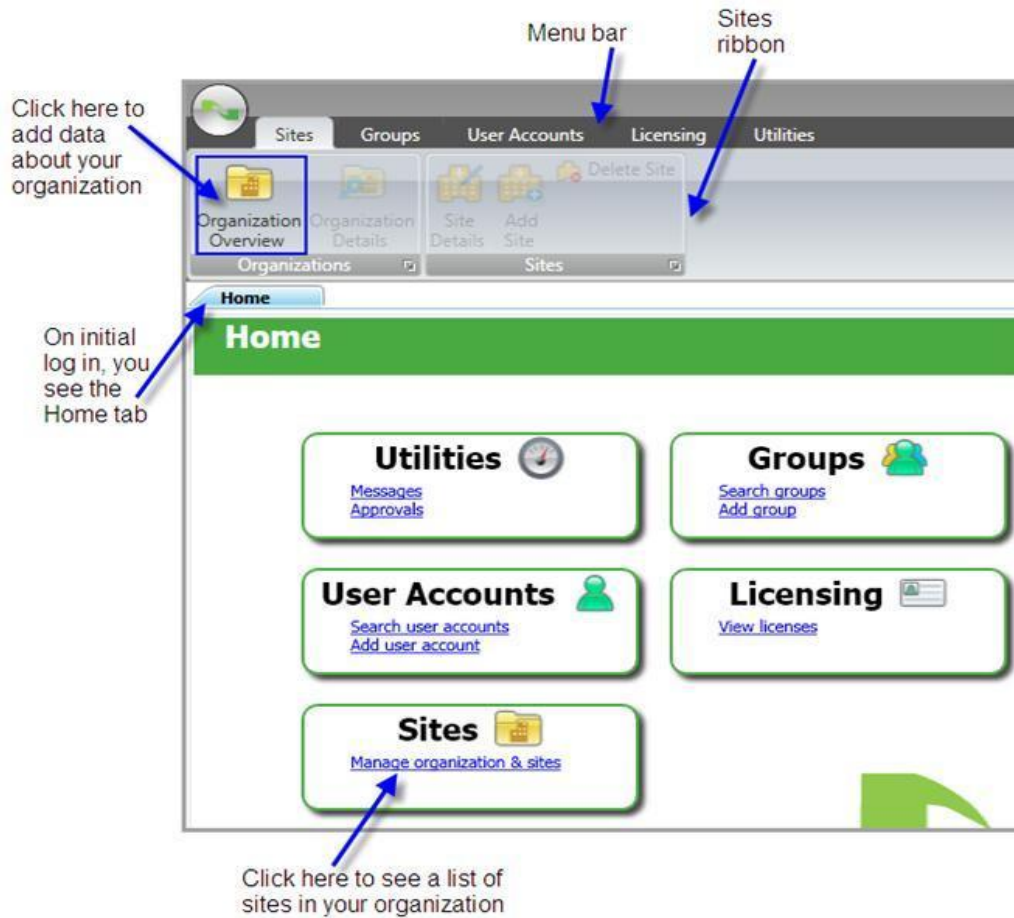
Note:

Be sure you change the standard login and password before you log out.

For how to the change the password and other information on configuring the *Dragon Medical Enterprise* network and the *Nuance Management Server*, refer to the *Nuance Management Server Administrator Guide* (PDF) or the *Nuance Management Console Help*.

Ensuring NMS Server can communicate with Speech Node(s)

To ensure the *NMS Server* can communicate with the *Profile Optimizer Speech Nodes*, you need to enter the **System Settings** dialog in the *NMC Console* and enter the login/password required to access the *Profile Optimizer Server*.

You enter this data so that the *NMS Server* can send data to tasks that run on *Speech Nodes*, as well as interact with the *Profile Optimizer Server*.

Caution:

You must fill in the data under *Profile Optimizer Server* in the **System Settings** dialog box before you allow any providers to dictate.

1. Click on the circle icon with the Nuance logo to the upper left and select **System Settings** from the drop-down menu. The **System Settings** dialog box appears (see next illustration).

2. Click **Profile Optimizer** and fill in the following values:
   - **Profile Optimizer Server login**—Enter the Windows user account that the *NMS Server* should use to access the *Profile Optimizer Server* and its *Speech Nodes*. If the server is on a Windows Domain, first supply the domain name followed by a backslash.
   - **Profile Optimizer Server password**—Enter the password that the *NMS Server* should use to access the *Profile Optimizer Server*.
   - **Confirm password**—Re-enter the password.

Starting Nuance Management Server and Profile Optimizer Server services

After the *NMS* and *Profile Optimizer* servers are installed, if the services do not start on their own, be sure that the account the servers are running under has Windows administrator level privileges, has rights to start a service, and that the same account is the one all entities are running on   all servers and (if Windows-based) file servers of the entire *Dragon Medical Enterprise* network, including *NMS Server*, *Profile Optimizer Server*, all *Speech Nodes* and the machine hosting the master user profiles directory.

Caution:

The account running the services for the *NMS Server*, *Profile Optimizer Server*, and *Speech Nodes* must have full access rights on all those machines and on the machine that hosts the master user profiles.

Changing the account running NMS Server

If you had no trouble entering the user account the server should run under during the *NMS Server* installation, skip to the next subsection, *Starting NMS Server service* on page 80.

If during the installation you were forced to change the account that the *NMS Server* runs under to the local administrator or local system account, you need to change that account to the same one that the other servers are running under (such as **NMSapps**):

1. Click **Start > Control Panel** and double click **Administrative Tools**, then double click **Services**.
2. In the **Services** list, find the **Nuance Management Service**.
3. Right click on the service name and select **Properties** to open its **Nuance Management Service Properties** dialog box.
4. Click the **LogOn** tab and in the **This Account** text box enter the domain and user name of the account that all *DME* services should run under, separating them with a backslash: *<DOMAIN>\<user name>*
5. Enter the password in the **Password** and **Confirm Password** text boxes.
6. Click **Apply** to change the account and then click **OK** to close the dialog box.
7. Now you are ready to start any *DME* services that do not automatically start.

Starting NMS Server service

After you are sure you have all the necessary privileges, to start *NMS Server* service:

1. Click **Start > Control Panel** and double click **Administrative Tools**, then double click **Services**.
2. In the **Services** list, find the **Nuance Management Service**.

3. To start the service, right click on the service name to open its **Nuance Management Service Properties** dialog box.

4. If the **Startup type** is not set to **Automatic** select **Automatic** from the drop-down list.

5. Click the **Start** button in the lower third of the dialog box.

6. Click **OK** to close the dialog box.

7. If you have *Profile Optimizer* components installed on the same machine as the *Nuance Management Server* components, to *Starting Profile Optimizer services* on page 81*NMC Console*, proceed to *Logging in to the NMS Server through the NMC Console* on page 77.

Starting Profile Optimizer services

After you are sure you have all the necessary privileges, to start the services of the *Profile Optimizer* or for one or more *Profile Optimizer Speech Nodes*:

1. Click **Start > Control Panel** and double click **Administrative Tools**, then double click **Services**.

2. In the **Services** list, find the following services for the *Profile Optimizer Server*:

    - **Profile Optimizer Core Services**
    - **Profile Optimizer Host Manager**
    - **Profile Optimizer NMS Integration**

    If a *Speech Node* is installed on the machine, you see the service for the *Profile Optimizer Speech Nodes*:

    - **Profile Optimizer Speech Node**
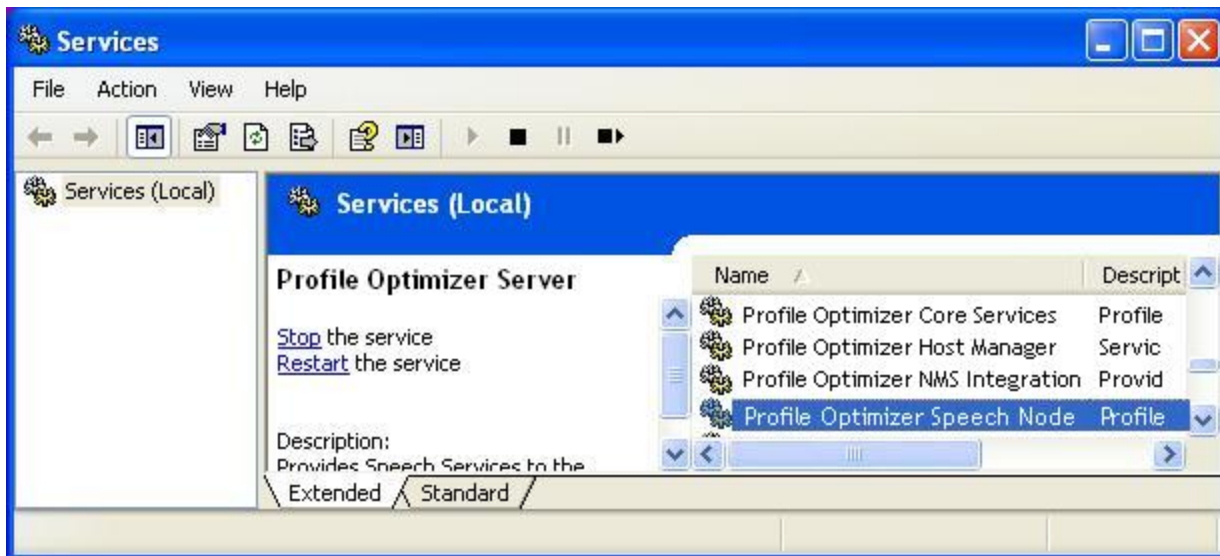
3. Start each service manually by clicking on the Service name to open its <*Service Name*> **Properties** dialog box.

4. If the **Startup type** is not set to **Automatic** select **Automatic** from the drop-down list.

5. Click the **Start** button in the lower third of the dialog box.

6. Click **OK** to close the dialog box.

7. Additional privileges may be required to start the *Profile Optimizer Speech Nodes*. For more information see *Installing Profile Optimizer Speech Nodes on independent machine(s) or virtual machine(s)* on page 65.

8. If you have not already done so, verify that you can start the *NMC Console* (see *Logging in to the NMS Server through the NMC Console* on page 77).

Starting Profile Optimizer Speech Nodes

Running Profile Optimizer Speech Node service

Once you have installed *Profile Optimizer Speech Nodes*, to be sure the *Speech Nodes* are running and to start them if they are not:

1. Click **Start > Control** panel and double click **Administrative Tools** to open the **Administrative Tools** dialog box.

2. Find and double click **Services**. The **Services** dialog box opens, displaying a list of services installed on the machine.
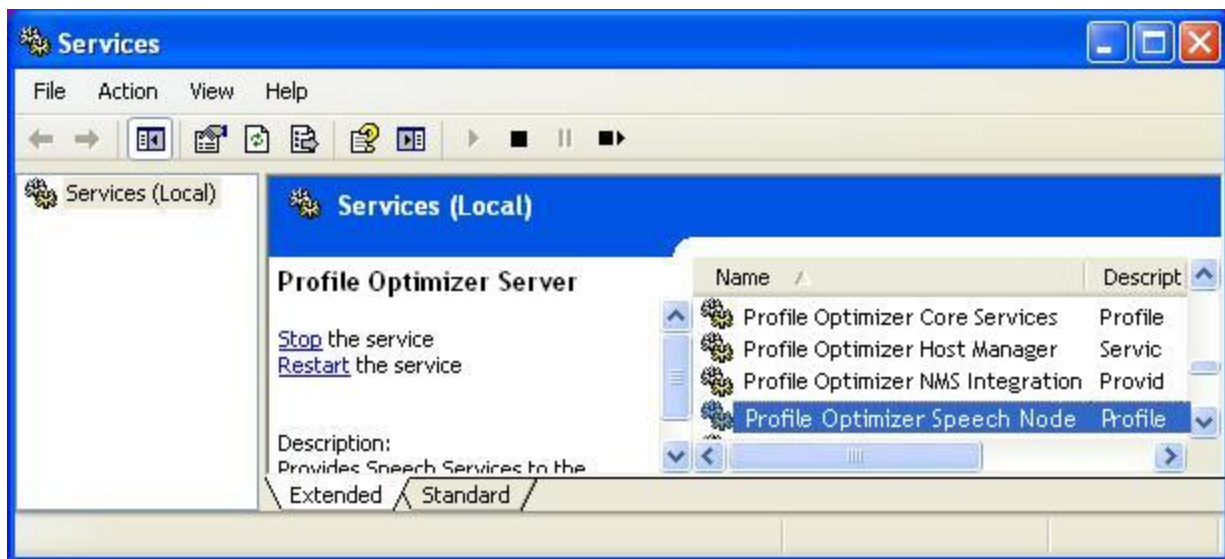
3. Look in the **Name** column for the **Profile Optimizer Speech Node** service. Double click on the service name to open its **Properties** dialog box.
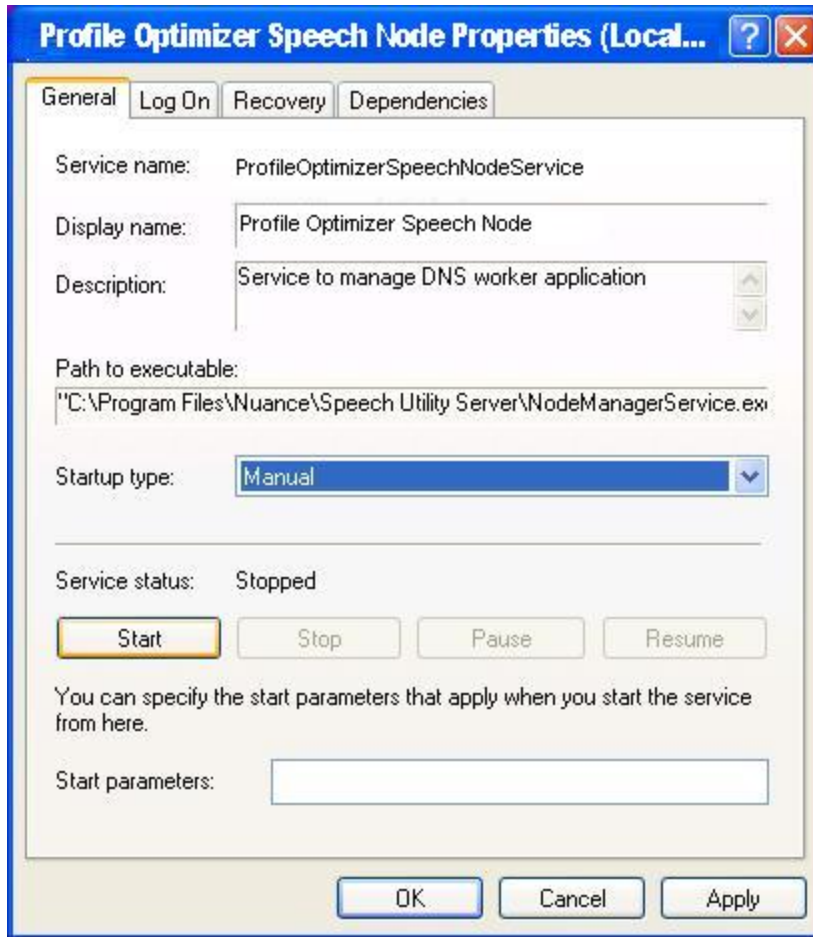
4. In the **Startup type** drop-down list, if the service is not already set to start automatically, select **Automatic**.

5. Under **Service status**, click the **Start** button to the left.

6. After the **Service status** says **Started**, you can click **OK** and close the dialog box.

Giving yourself rights to start the service

If you cannot start the *Profile Optimizer Speech Node*, you might have only had privileges to install the Speech Node; that means you might not have privileges to run the service that launches the node.

If you have **Log on as Service** level privileges, then the **SPARK Speech Node Manager** service should start immediately. If you do not have that privilege, you might receive the error shown below:

A quick way to correct this problem in the is to enter your credentials in the **Service Control Manager** by taking these steps:

1. Click **Start > Control** panel and double click **Administrative Tools** to open the **Administrative Tools** dialog box.

2. Find and double click **Services**. The **Services** dialog box opens, displaying a list of services installed on the machine.
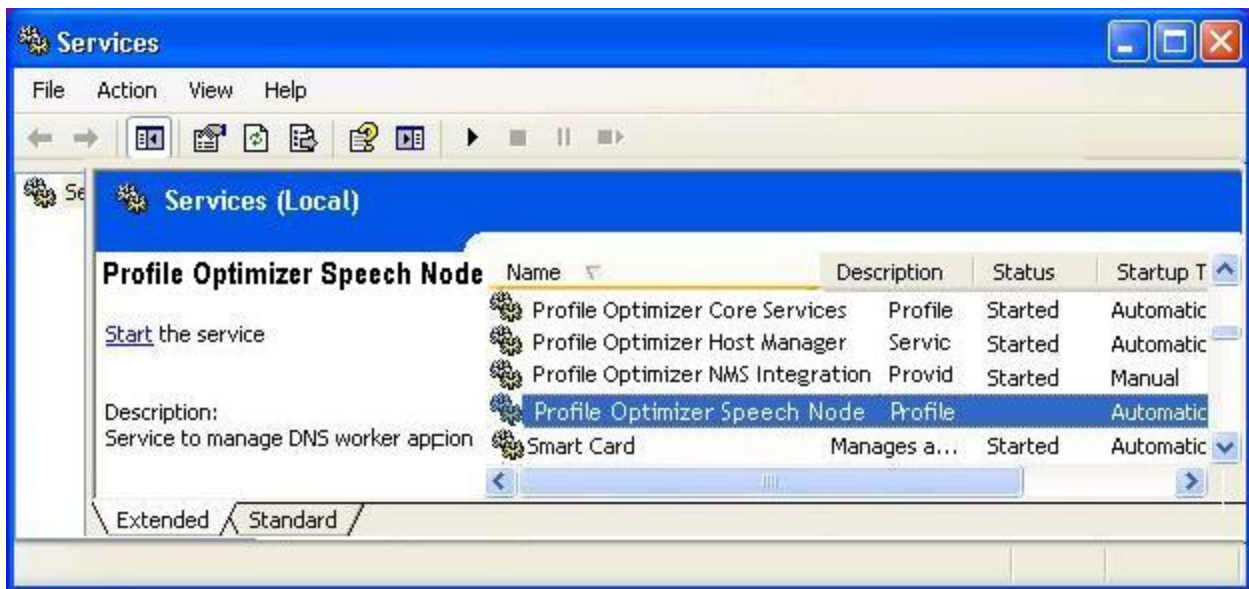
3. Look in the **Name** column for the **Profile Optimizer Speech Node** service. Double click on the service name to open its **Properties** dialog box.
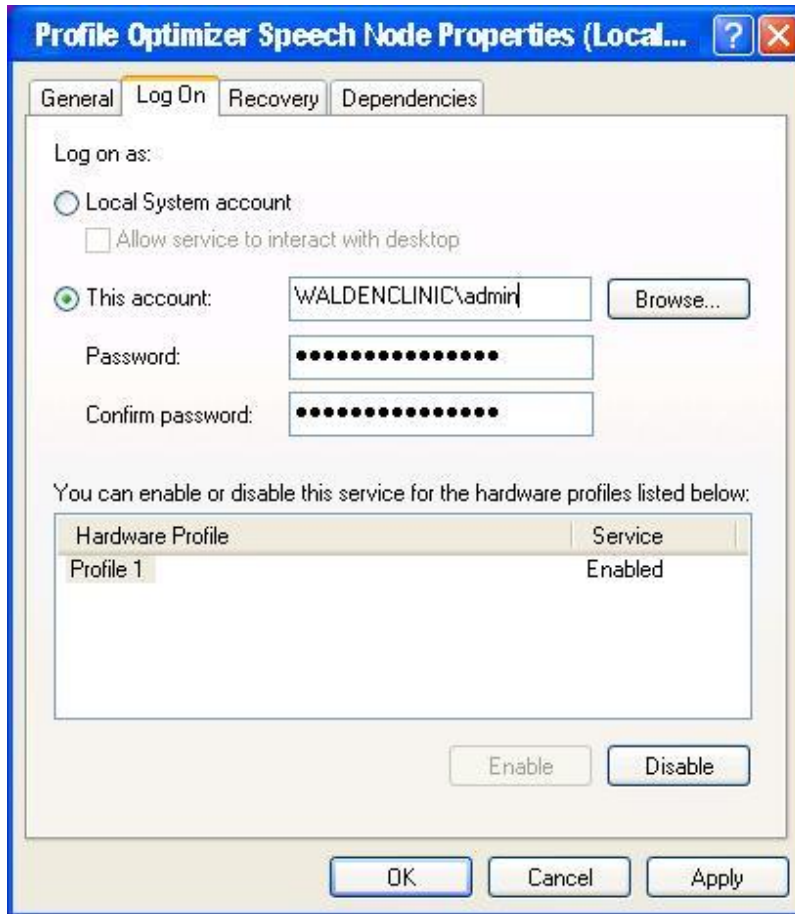
4. Click the **Log On** tab, then to enter a network domain level user's login and password, click
This account and enter the domain and user name of the individual who should have access
and enter it in the format of *<DOMAIN>\<username>* with a backslash between them. The
user must be a Windows administrator level user.

To allow a local machine user to have access, click **This account** and enter
<machineName>\<username> with a backslash between them or **.***<username>*, where **.** pre-
cedes the login name.

Next, you prepare to log in to the *NMC Console* by first installing the Nuance certificates on the
workstation you want to log in on. Proceed to *Installing Nuance certificates* on page 74.

Ensuring DME server anti-virus recommendations are met

Nuance recommends anti-virus software on all *Dragon Medical Enterprise Network Edition* servers and clients to protect the system from potential downtime due to viruses. However, be aware of the recommended restrictions.

After you have installed the servers, be sure to exclude from the anti-virus scan any files found in the folders indicated below or with the extensions listed below.

On NMS Servers, Profile Optimizer Server, SQL Database Server:

- **Nuance** folder and all subfolders
- Files with these extensions:
  DAT, DRA, ENH, INI, LCK, LOG, NWV, SIG, TXT, USR, VER, VOC, WAV

Chapter 5: Setting up Master User Profiles machine

Choosing master user profiles location for a site

For each site of your *DME Network* you must determine where on the network the master user profiles should be located. In fact, a *DME* site is, by definition, a facility location or group of facility locations in your organization that use the same server location for their user profiles. If all of your user profiles are stored in a single server location, your organization needs only one site.

All user profiles for a single site should be in their own subdirectory of the master user profiles directory.

The *NMS Server* lets you store you master user profiles on a Windows server, a networked Windows workstation (a server is not required), or a web server with or without SSL—this last option allowing you to access your master user profiles over the Internet. (The machine storing the master user profiles must be Windows-based.)

If you choose to use a networked Windows server or workstation, you should determine the path to where the master user profiles will reside and be able to access it any of these ways:

- Mapped Drives—Connects to a shared network folder that has a drive letter assigned to it.
- UNC Paths—Connects to a shared network folder using the Universal Naming Convention (UNC) to locate a user. The UNC is a way to identify a shared file on a computer or network without having to know the storage device it is on. Format is: *<servername>**<sharename>**<path>**<filename>*.
- HTTP (**http:**)—Connects to machine on the Internet or your local intranet running a web server. Format is: **http://***<myserver.com>***/<webdav>**
- HTTP with SSL (**https:**)—Connects to machine on the Internet or your local intranet running a secure socket layer (SSL) web server. Format is: **https://***<myserver.com>***/***<webdav>*

The location(s) you select must be accessible to all computers where healthcare providers dictate. Each location must have adequate storage space for the master user profiles.

Caution:

If the master user profiles directory is on a separate server or workstation, you must share the top level master user profiles directory in Windows and give **Everyone** full read/write/modify control over the directory, so that the *Dragon Medical Client* can write to those directories when it creates the master user profile for each healthcare provider.

Caution:

Be sure that when you set up the master user profiles directory, you locate it either on a Windows machine or on a device connected to a Windows machine with .NET Framework 3.5 SP1 installed on it and that the machine is in the same Windows domain as your *DME* servers.

If you choose to use server, choose one of the supported web servers.

Supported Web Servers

- Microsoft Internet Information Services (IIS) 6.0 on Windows Server 2003
- Microsoft Internet Information Services (IIS) 7.0 or 7.5 on Windows Server 2008
- Apache HTTP Server 2.0.54 and higher on Windows Server 2003
- Apache HTTP Server 2.2.16 and higher on Windows Server 2008

Information required for setting up Web Server

If you have chosen to store the master user profiles on a web server or secure web server, you should determine the following information so that you can tell **Dragon** how to connect to the HTTP server:

- **The network location**—You need to know the URL address of your HTTP server.
- **HTTP settings**—For your **http** (or **https**) connection you need to know authentication, firewall, and proxy server information.
- **SSL settings**—For your **https** connection you need to know Certificate store information, and the type(s) of SSL protocols used.
- If you are using **Open SSL**, you need the locations of the cipher list, certificate authority file, and certificate authority directory.

Setting up machine to host master user profiles

Caution:

If you have proxy servers in your network, they must all point to the machine hosting the master user profiles.

Any time after you have installed the *NMS Server* and started its service (even before you have the *Profile Optimizer Server* installed or running), you can set up the machine that hosts your master user profiles by taking these actions:

- *Creating master user profile directory* on page 90
- *Mapping disk drive on the client workstation* on page 90
- *Setting up server/client access to the master user profile directory* on page 91

Creating master user profile directory

On the machine that you selected to host the master user profiles for *DME* network:

Caution:

Be sure the machine is a Windows server or workstation with .NET Framework 3.5 SP1 installed and that the machine is in your Windows domain. If you are using a RAID array, be sure to attach the device to a Windows machine meeting these requirements. The requirements that machine be a Windows machine with specific software installed differ from roaming user storage requirements for previous non-network editions of *Dragon Medical*.

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1. Create a directory to store the profiles. You can have more than one directory for profiles, but you should store all user profiles from providers at the same site in the same location.
2. Write down the machine name and full path to the directory.

Mapping disk drive on the client workstation

On the workstations where you have the *Dragon Medical Client* installed or in the Windows user profiles of all providers who will later dictate:

If your workstations uses a mapped drive to access the master user profiles, map a drive letter to the location where the master user profiles are located on every machine running the *Dragon Medical Client*. This mapping must be the same on every workstation and every Windows user profile.

Setting up server/client access to the master user profile directory

On any network machine:

1. Log in to the *NMC Console*. Refer to *Logging in to the NMS Server through the NMC Console* on page 77.

2. If you do not already have a site defined for this set of master user profiles, create the site under your organization by clicking the **Add Site** icon. Be sure to provide data in the highlighted text boxes (where data is required) and then click the **Dragon settings** tab. (For more details, see the *Nuance Management Server Administrator Guide*.)

3. Under the **Dragon settings** tab, click the **Configure** button and the **Master Profiles Settings** dialog box appears with the **General** tab open.

4. Fill in the following text boxes:

   - **Name**—Enter the name that you want to appear in the *Dragon Medical Client* GUI to indicate that the provider is working with a master user profile from this netweork network rather than a local copy.

   - **Location**—Enter the path that the *NMS Server* sends to the *Dragon Medical Client*. The *Dragon Medical Client* uses this path to access the master user profiles from the workstation. Click the magnifying glass icon to the far right in the text box. When the **Search for Folder** dialog box appears, browse through it and find the machine, then the directory where the master user profiles reside or type the full path directly into the text box. Or explicitly enter

the path. The location must be accessible to all server machines and workstations on the network and can be either a mapped drive, a UNC location, or a web server URL (**http://** or **https://** for a secure web server). If you cannot browse to the location, when you explicitly enter the path, be sure it is in the format shown in the dialog box, based on the way servers on your network will access the master user profiles location:

- **NMC UNC Path**—Enter the path that the *NMS Server* uses to find the master user profiles. You must enter a UNC path in the format *****machinename******profilesdirectory*. Click the magnifying glass icon to the far right in the text box. When the **Search for Folder** dialog box appears, browse through it and find the name of the machine where the master user profiles reside, then browse through to the exact location or type the UNC path into the text box. Or you can enter the path explicitly. The machine must be accessible by all server machines and workstations on the network.

5. If you have set up a web server for your profiles, after you enter the **http://** URL in the **Location** text box and the UNC to the path for the *NMS Server* in the **NMC UNC Path** text box, click the **HTTP Settings** tab and enter your web server information.

6. If you have set up a secure web server for your profiles, after you enter the **https://** URL in the **Location** text box and the UNC to the path for the *NMS Server* in the **NMC UNC Path** text box, click the **SSL Settings** tab and enter your secure web server information.

7. If you have a mapped drive or UNC location for your profiles, after you enter the mapped drive as **S:** or **S:***<profilesdirectory>* in the **Location** text box, or enter the UNC path as *****<machinename>******<profilesdirectory>* in the **Location** text box, you enter the UNC to the path for the *NMS Server* in the **NMC UNC Path** text box.

8. Click **Save** to save the settings and close the dialog box.

9. If you have not already done so, be sure you have assigned appropriate access rights to appropriate types of *DME* users, as outlined in *Assigning access to servers, clients, master user profiles across network* on page 4.

10. If you have roaming user profiles from an earlier version of *Dragon Medical* and would like to upgrade them for use with *Dragon Medical Enterprise Network Edition*, refer to the instructions provided, starting with *Preparing to upgrade Dragon Medical Clients to Network Edition* on page 114

Opening client ports to access user profiles on web server or secure web server

Caution:

It is critical that if they are not already open, you open the ports required for the *Dragon Medical Client* to access the master user profiles on a web server or secure web server.

To allow the *Dragon Medical Client* to access master user profiles on a web server (http) that is not SSL, open port 80.

To allow the *Dragon Medical Client* to access master user profiles on a secure (SSL) server (https), open port 443.

Installing software required to store master user profiles on web server

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Caution:

If you have never set up a web server or secure web server before, do not attempt to do so; these instructions assume you have experience setting up a web server. Appropriate settings vary.

After you install the *NMS Server* and *NMC Console*, if you choose to store your master user profiles on a web server or secure web server, be sure you have the correct type of server, download the required software, and make the correct selections while installing the web server.

Note:

Storing your master user profiles on a web server or secure web server is entirely optional. You can choose to store them on a mapped drive, on any *DME Network* physical server or workstation with adequate storage space, or on their own Windows server or workstation within your network's domain without using a web server at all.

To store the master user profiles on one of the web servers below, first be sure you have .NET Framework 3.5 SP1 installed as well as the associated WebDAV software for the server. For more information, visit the software provider's site (some links below are provided for reference):

- Microsoft Internet Information Services (IIS) Version 7.0 or 7.5 0 on Windows Server 2008:
  - 32-bit Version: http://learn.iis.net/page.aspx/350/installing-and-configuring-webdav-on-iis-7/webdav_x86_75.msi
  - 64-bit Version: http://learn.iis.net/page.aspx/350/installing-and-configuring-webdav-on-iis-7/webdav_x64_75.msi
- Microsoft Internet Information Services (IIS) Version 6.0 on Windows Server 2003: Refer to *Installing Microsoft Internet Information Services 6.0 web server (optional)*
- Apache Server 2.2.16 or higher on Windows Server 2008:
  This server should run on Windows Server 2008 Core and also runs on Windows 7 or Vista. For more information see:
  - http://httpd.apache.org/docs/2.2/platform/windows.htm
  - http://www.markwilson.co.uk/blog/2007/07/apache-http-server-on-windows-server-2008-server-core.htm
  - http://www.thesitewizard.com/apache/install-apache-on-vista.shtml
- Apache Server 2.0.54 or higher on Windows Server 2003.

For more information on installing Apache web server, see: http://www.apache.org/

Installing Microsoft Internet Information Services 6.0 web server (optional)

Caution:

If you have never set up a web server or secure web server before, do not attempt to do so; these instructions assume you have experience setting up a web server. Appropriate settings vary.

You install a Microsoft Internet Information Services 6.0 web server on a Windows Server 2003 system. With that version of the operating system, you receive IIS 6.0 and the WebDAV module.

To install an IIS 6.0 web server, take these general steps:

- Install IIS 6.0 web server and its WebDAV module on the physical server.
- Customize the web server settings for *Dragon Medical*.
- Configure HTTP or SSL settings in the *NMC Console*.

Installing IIS Server and WebDAV component on physical server

To install IIS 6.0 and the WebDAV module in Windows Server 2003 or 2003 R2:

1. Log on to the server as a local Windows administrator user.
2. Go to your server desktop and click **Start > Control Panel**, then click **Add or Remove Program**.
3. Once the **Add or Remove Programs** dialog box opens, look down along the left vertical bar and click the **Add or Remove Windows Components** icon to start the **Windows Components Wizard**.
4. When the wizard appears, check the check box for **Application Server** and highlight the selection and, when the **Details...** button becomes available, click the button to open the **Application Server** dialog box.

Caution:

Do not uncheck any of the already checked boxes or the wizard will uninstall those components.

5. In the list, check the check box for **Internet Information Services** and highlight the selection, then click the **Details...** button to open the **Internet Information Services** dialog box.
6. In the list, check the check box for **World Wide Web Service** and highlight the selection, then click the **Details...** button to open the **World Wide Web Service** dialog box.
7. In the list, check the check box for **WebDAV Publishing**.

8. Click **OK** in each successive open dialog box until you return to the wizard; then click **Next** to initiate the installation.

9. When the **Completing the Windows Components Wizard** page of the wizard appears, to exit the wizard, click **Finish**.
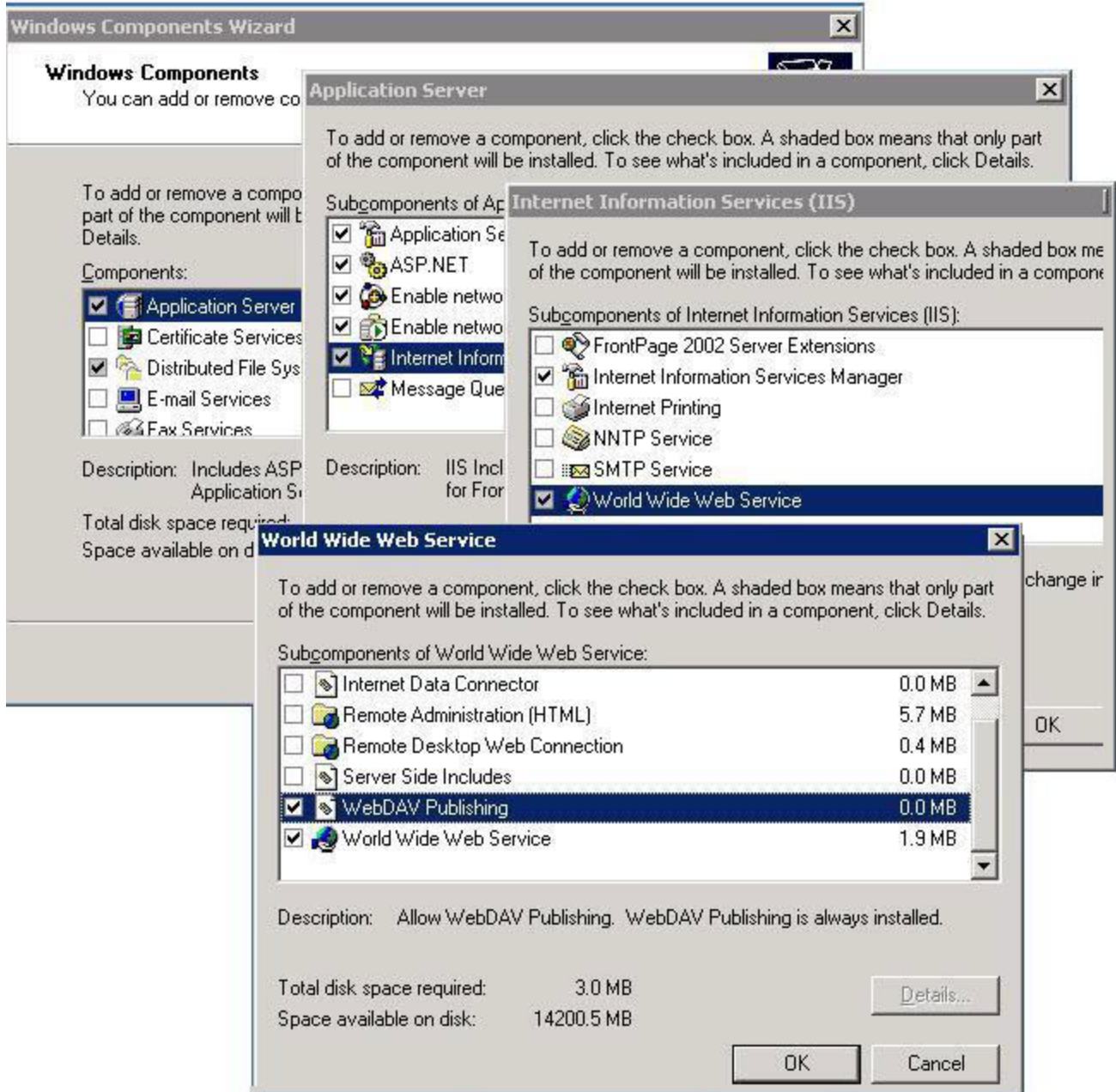
10. To ensure WebDAV is enabled or enable it if it is not, select **Start > Programs > Administrative Tools > Internet Information Services (IIS) Manager** and expand the IIS Explorer in the left pane.

11. Select **Web Service Extensions** (below **Web Sites**) and, in the right pane of the **IIS Manager** dialog box, select **WebDAV**, then click **Allow** to change its **Status** to **Allowed** (see next illustration).
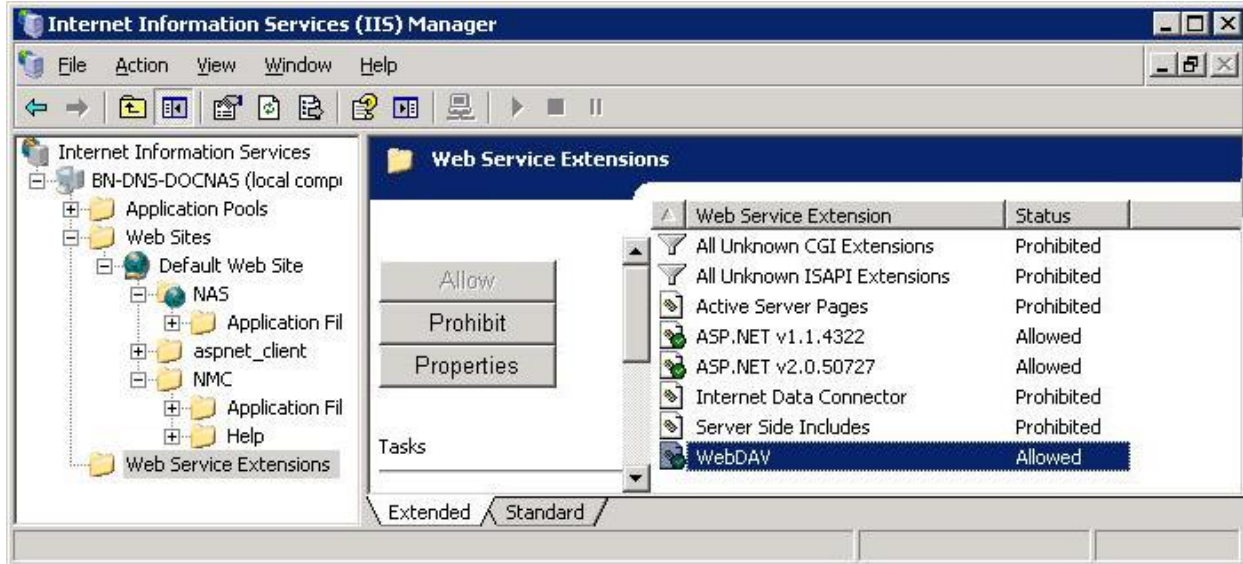
Customizing web server settings for Dragon Medical

Note:

Do not choose **Digest authentication**, as the *DME Network* does not support the option for an IIS web server housing the master user profiles.

Caution:

You should not give the right to log on locally to healthcare providers dictating with *Dragon Medical Client*. Only administrator level users should have log on rights to the web server hosting the master user profiles.

To customize the web server settings for the *Dragon Medical Enterprise* master user profiles:

1. Create a virtual directory for the web server. To create that virtual directory using Windows Explorer:
    i. Open Windows Explorer.
    ii. Right-click the folder you want to be a virtual directory, and click **Sharing and Security**.
    iii. Click the **Web Sharing** tab and then click **Share this folder**.
    iv. In the **Alias** text box, type the name for the virtual directory, the select the permissions under **Access permissions** and **Appliction permissions**.
    v. Click **OK** in the **Edit Alias** dialog box, then **OK** again **Properties** dialog box.
2. To open the **IIS Manager**, select **Start > Programs > Administrative Tools > Internet Information Services (IIS) Manager**.

3. Add wildcard MIME mapping to the virtual directory. *Dragon Medical Client* requires this type of mapping. Take these steps in the **IIS Manager**:
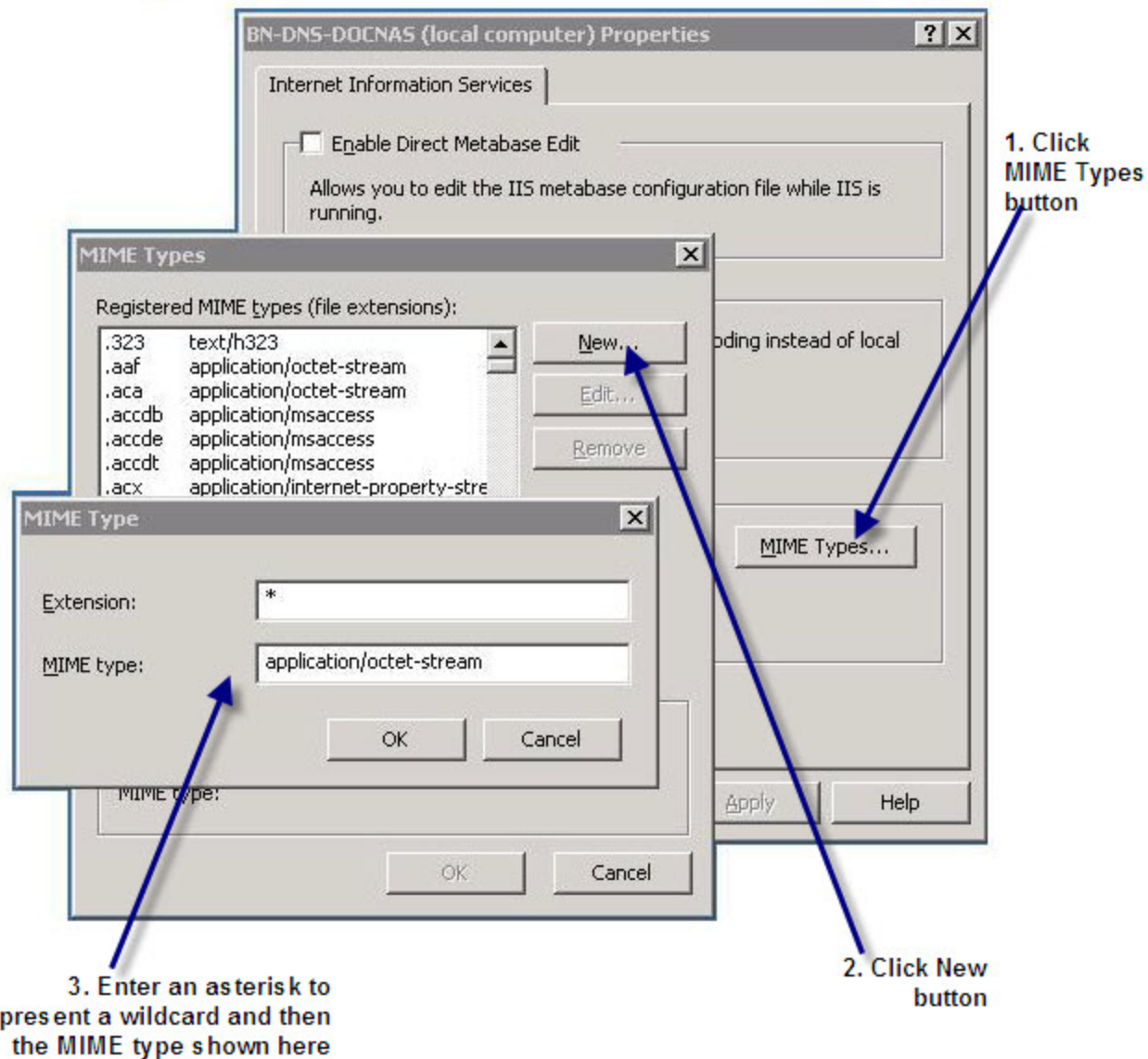
i. Right click on the local computer name and select **Properties** from the drop-down menu.

ii. In the local computer **Properties** dialog box, click the MIME Types button.

iii. In the **MIME Types** dialog box, click the **New...** button.

iv. In the **Extension** text box, type an asterisk (*****).

v. In the **MIME type** text box, type **application/octet-stream**.

vi. Click **OK** until you return to the **Internet Informatin Services** tab, where you click **Apply** to apply the changes and **OK** to close the dialog box.

4. In the **IIS Manager**, expand the tree under the local computer by double-clicking on it; then right-click the **Default Web Site** folder (or your individual Web server folder or the virtual

directory) and select **Properties**. You see several tabs where you enter information about the web site. The tabs you fill out for your master user profiles web server are:

- **Web Site**
- **Virtual Directory** or **Home Directory**
- **Directory Security**

Entering settings under Web Site tab
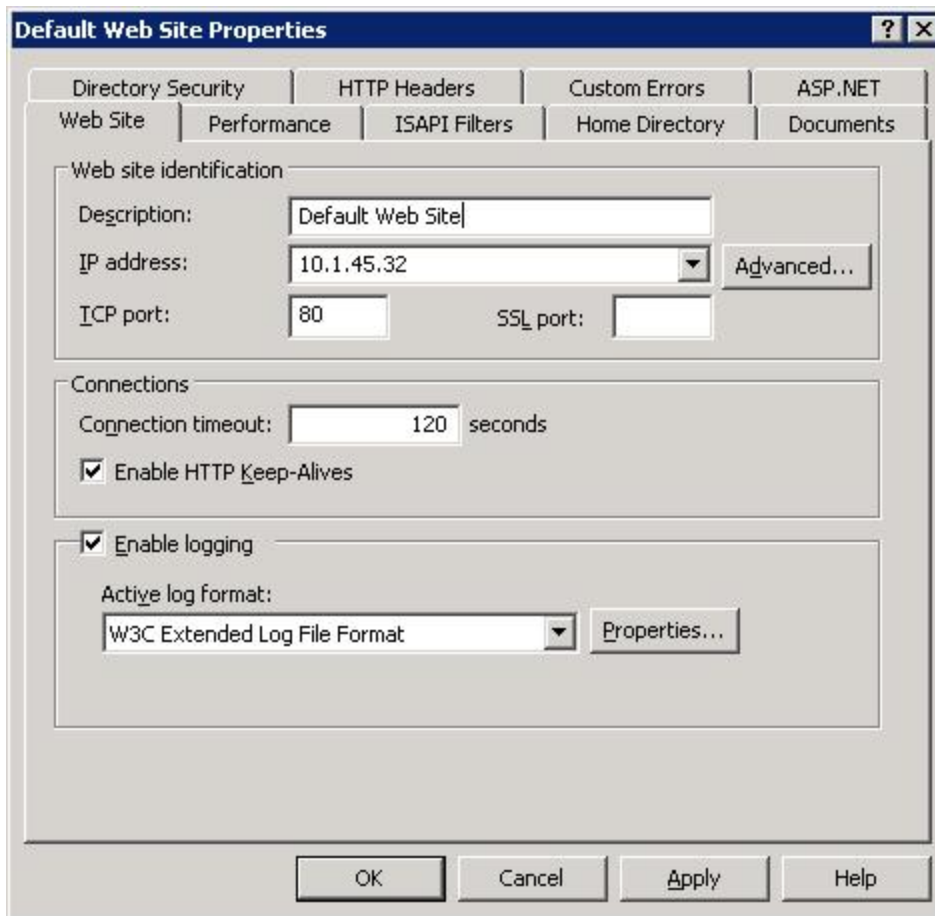
You should enter these settings under the **Web Site** tab:

1. Click the **Web Site** tab.
2. Under **Web site identification**, enter:
   - **Description**   Optional. **Master user profiles web server**.
   - **IP address**   Set to IP address of this machine.
   - **TCP port**   Set to **80**.
   - **SSL port**   Set to **443** only if you are creating a secure (SSL) web server.
3. Under **Connections**, enter:
   - **Connection timeout   120** seconds.
   - **HTTP Keep-Alives**   Check the check box to enable them.

4. Under **Enable logging**, enter:
    - **Active log format**   Select **W3C Extended Log File Format**from the drop-down list.
    - (Optional) Click the **Properties…** button to set up logging options.
5. Click **Apply** and proceed to either the **Home Directory** tab or the **Virtual Directory** tab.

Entering settings under Virtual Directory or Home Directory tab
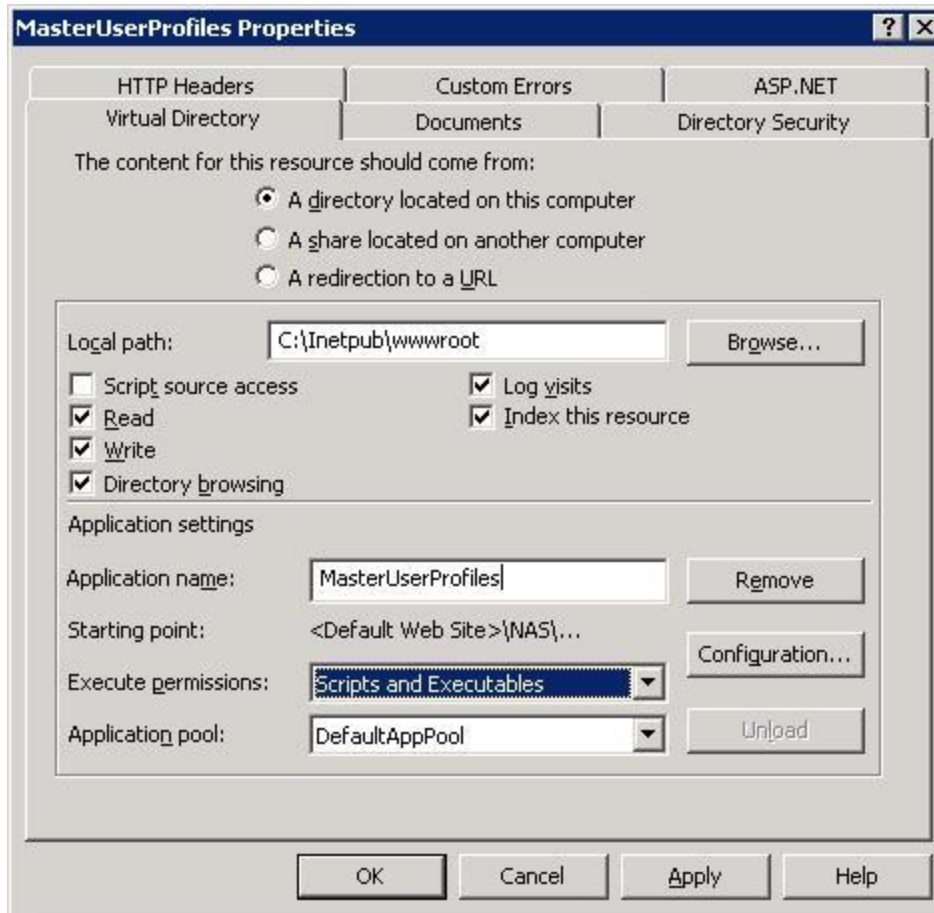
You should enter these settings under the **Virtual Directory** or **Home Directory** tab:

4. **The content for this resource should come from**—Select **A directory located on this computer**.
5. **Local path**—Enter the full path to the web site folder. If you use the default folder, the path is `C:\Inetpub\wwwroot`.
6. Check off the following check boxes under the local path to indicate the kind of access to the master user profiles you want to grant to the user accounts running the other services of the *DME Network*:
    - **Read**
    - **Write**
    - **Directory Browsing**

- **Log visits**
- **Index this resource**

7. **Application name**—You should see the name you gave to your virtual directory, in this case **MasterUserProfiles**.

8. **Execute permissions**—Select **Scripts and executables** from the drop-down list. You need the option of running executables on the master user profiles so that the acoustic and language model optimization results can be integrated into the profiles. When you choose this selection, the **IIS Manager** warns you that you could be exposing the site, so be sure your firewall and other security precautions are adequate to protect the site from malicious attack.
To avoid giving permission to run scripts on the entire machine, be sure that you set the permissions to **Scripts and executables** only on the virtual directory, not on its parent directory.

9. **Application pool**—Select **DefaultAppPool** from the drop-down list.

10. Click **Apply** to apply the changes.

Entering settings under Directory Security tab

Under the **Directory Security** tab, you select **Basic authentication** for the virtual directory you created for your web server. You also view and verify certificate information that ensures the identity of the computer if you are installing the software on a remote computer, rather than locally.

Caution:

Basic authentication transmits user names and passwords across the network in an unencrypted form. You must use your web server's encryption features to ensure the security of login information.

To use **Basic authentication** to control access to your web server, you grant each Windows administrator account that needs access the right to log on locally. (You can add each administrator to a group and then give the group access to the necessary files.)

Caution:

You should not give the right to log on locally to healthcare providers dictating with *Dragon Medical Client*. Only administrator level users should have log on rights to the web server hosting the master user profiles.

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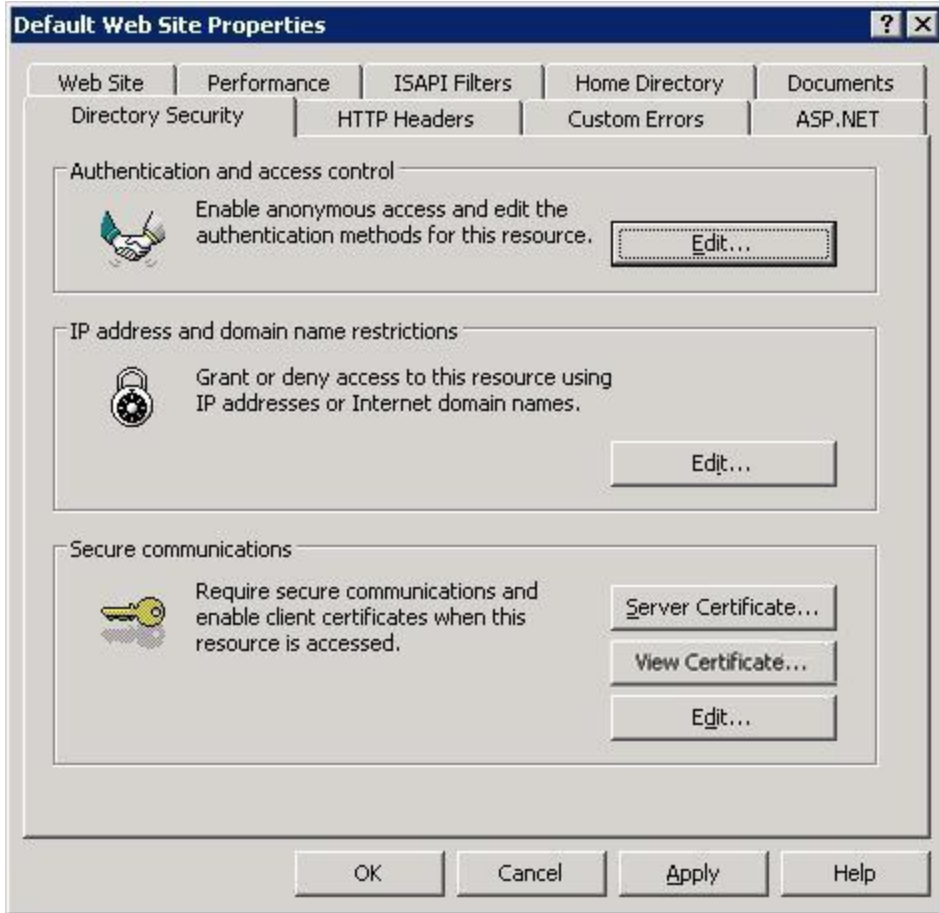
1. To enable **Basic Authentication**:
    i. In the **Authentication and access control** section, click the **Edit...** button.
    ii. When the **Authentication Methods** dialog box pops up, check off **Basic authentication**.
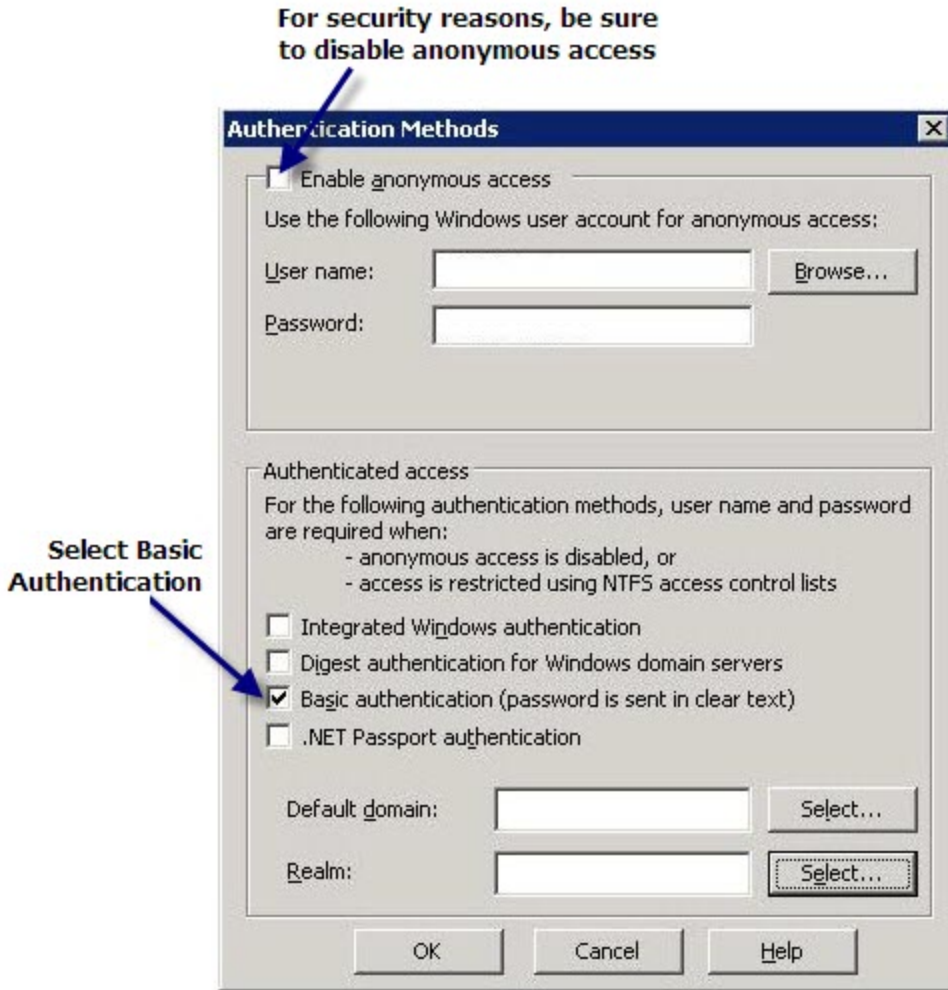
iii. When you are warned that this type of authentication passes unencrypted passwords over the network, click **Yes** to proceed.

iv. Be sure that if you see a check mark in the check box for **Enable anonymous access** you click it to remove the check mark. For security reasons, you should not allow anonymous access.

v. Leave the **Default domain** text box empty to have the domain name be the name of the machine itself when a party accessing this web server does not provide the domain name.

vi. Click **OK** to save the changes and return to the **Directory Security** tab. If you are setting up a secure (SSL) web server, proceed to the next step. Otherwise, skip to step 5.

2. If you are setting up a secure (SSL) web server, for the web server to selectively allow only *Dragon Medical Client* machines access to the master user profiles, you need to require that the web server enable security certificates on any client that tries to access the web server. Take these steps:

i. In the **Secure communications** section, click the **View Certificate...** button.

    ii. When the **Certificate** dialog box pops up, under the **General** tab you should see **Certificate Information** indicating that this certificate's purpose is to ensure the identity of the remote system seeking access.

    iii. Under the **Certification Path** tab, click the **View Certificate** button and again under the **General** tab you should see root **Certificate Information** that ensures the validity of all issuance and application policies.

3. If the **View Certificate...** button is not available, you can purchase an SSL certificates on the web and install it. The button should then become available. For more information on purchasing and installing an SSL certificate, you can visit http://www.rapidssl.com/index_ssl.htm or a similar site.

4. For instructions on installing an SSL certificate, visit http://www-.rapidssl.com/resources/install/chainedssl/MS_IIS5.html.

5. Click **Apply** to apply all changes in the **Directory Security** tab and then click **OK** to close the dialog box.

Now that you have finished entering all of the settings for the web server, restart the World Wide Web Publishing Service or wait for the process to recycle for the changes to take effect.

Caution:

You must share the top level master user profiles directory in Windows and give **Everyone** full read/write/modify control over the directory, so that the *Dragon Medical Client* can write to those directories when it creates the master user profile for each healthcare provider.

Configuring HTTP or SSL settings in NMC Console

Later, when you set up sites in the *NMS Server*, to set up access to the master user profiles, you enter HTTP settings for interacting with a non-secure web site or SSL settings for interacting with a secure web site. For details, refer to the related topics in the *NMC Console Help* or the *Nuance Management Server Administrator Guide*.

For specific HTTP settings that you should enter in the **HTTP Settings** tab in the *NMC Console* for this type of web server, refer to *Setting HTTP connection settings for web server* on page 106.

For specific SSL settings that you should enter in the **SSL Settings** tab in the *NMC Console* for this type of web server, refer to *Setting SSL connection settings for secure web server* on page 108.

Installing SSL certificates for IIS 6.0

1. After you have downloaded an SSL certificate for IIS, the **View Certificate...** button becomes available under the **Directory Security** tab.

2. Click the **View Certificate...** button to see the certificate and verify that it is valid. It should look something like the one shown below.

Note:

All certificates should be valid, not expired, free of errors, and properly signed.

3. Keep the certificate open and click the **Certification Path** tab to display the path to the certificate that *Dragon Medical Client* workstations will need to follow.

4. In the **Certification Path** tab, expand the path in the **Certification path** box. The **Certificate Status** text box near the bottom of the dialog box should say **This certificate is OK.**(See the next illustration.)

5. Click the next **View Certificate** button and view the certificate for **All Issuance and Application Policies** to be sure it was issued to the correct organization and is valid for the expected time period.

6. Install the **Root Certificate** for **All Issurance and Application Policies** (see previous illustration) on every *Dragon Medical Client* workstation and install it to **Trusted Root Certification Authorities**.

Caution:

If you do not install the above certificate on every *Dragon Medical Client* workstation, when the workstation attempts to access a master user profile on the web server, the provider will receive this error: **This Certificate cannot be verified up to a trusted certification authority.**

When you save the certificate, be sure to save it to *<PC-name>/<Site-name>* where the *PC-name* matches the name of the computer and the *Site-name* matches the name of the site you created in **IIS Manager**. Or you can save it to a name that matches the Active Directory host name.

Setting HTTP connection settings for web server

Caution:

If you have never set up a web server before, do not attempt to do so; these instructions assume you have experience setting up a web server, and appropriate settings to use vary.

After you install your web server, you must set HTTP connection settings in the *NMC Console*. For details on how to set up a site, refer to the *Nuance Management Server Administrator Guide*.

Note:

You set these **HTTP Settings** only to store master user profiles on a web server.
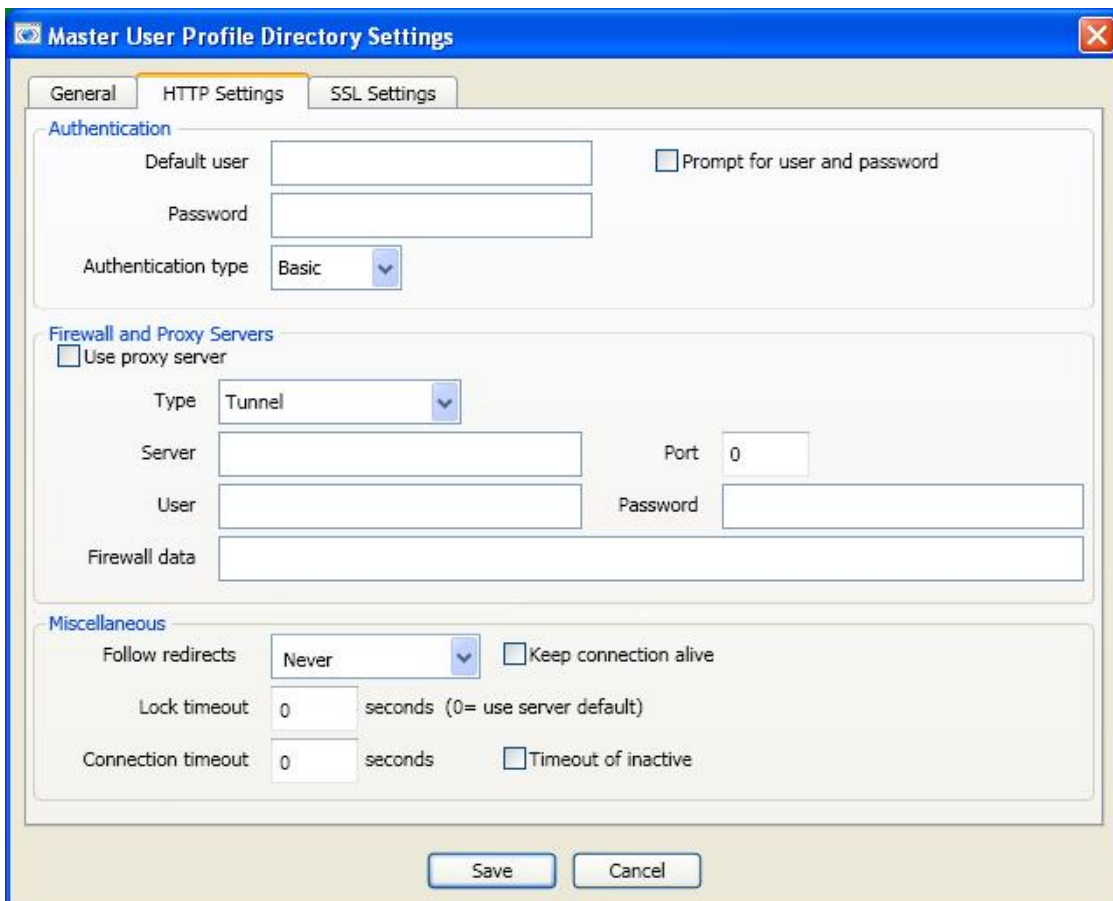
Making selections on HTTP Settings tab

The next table shows the settings you should select for each type of web server (not using SSL).

Recommended HTTP settings for particular web servers

Web Server Type & Version	IIS 6.0, 7.0, or 7.5	Apache 2.0.xx or 2.2.xx	Other Considerations Based on Your Site Configuration
Authentication			
Prompt for user and password	Off		Turn off to prevent prompt for a username/password when *Dragon Client* accesses master user profiles.
Default user	Empty		Enter username for the account that the servers run under, such as **NMSapps**.
Password	Empty		Enter password for the account that servers run under.
Authentication type	**Basic**	**Basic** or **Digest**	For IIS, always choose **Basic**. For Apache, choose type you set up on the web server. **Basic authentication** sends transmits as plain text. **Digest authentication** transmits passwords in encrypted form.
Firewall and Proxy Servers			
Use proxy server	Off		Check (On) if you are connecting through a proxy server.
Type	**HTTP**		**HTTP** for web page transactions. **Tunnel** if you are using tunneling software. **Socks4** for SOCKS4 protocol/transparent client access across firewall. **Socks5** for SOCKS5 protocol/transparent access across firewall and SOCKS5 server DNS lookup.
Server	Empty		Enter name of the proxy server.
Port	Empty		Enter number of port for proxy server or firewall.
User	Empty		Enter user name for logging in to proxy server or firewall.
Password	Empty		Enter password for logging in to proxy server or firewall.
Firewall data	Empty		Enter any special authentication string required.
Miscellaneous			
Follow redirects	Off	**Always** or **Same Scheme Only**	Never turn off. Handles redirects of incoming connections.
Keep connection alive	Off		Could be turned on even if turned off for the site. If on, keeps the connection alive after current communication ends, which can be useful if the connection setup process involves multiple message transfers between the web server and the client or server interacting with it. Should be off if you have **Follow Redirects** set to anything other then **Never**.
Lock timeout	**0**		Must always be **0**, so that no user is ever locked out.
Connection timeout	**60**		Must be **60**.
Timeout of inactive	On		Must be On.

Setting SSL connection settings for secure web server

Caution:

If you have never set up a secure web server before, do not attempt to do so; these instructions assume you have experience setting up a secure web server. Appropriate settings vary. Be sure that you install an SSL certificate that is trusted for directory on every workstation. You should push install the SSL certificate as Trusted Root Certificate Author.

After you install your secure web server, you must set SSL connection settings in the *NMC Console*. For details on how to set up a site, refer to the *Nuance Management Server Administrator Guide*.

Note:

You set these SSL Settings only to store your master user profiles on a secure web server.

Settings on SSL Settings tab
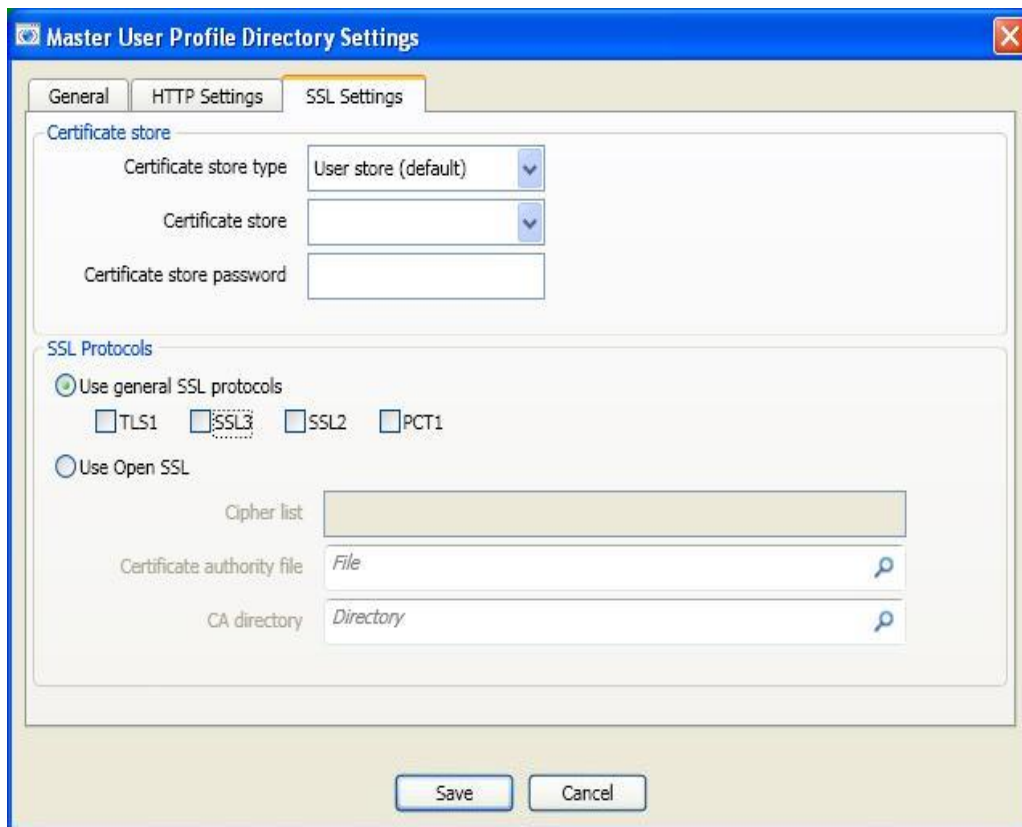
Recommended settings for SSL web servers

The table below shows the settings you should select for various versions of each type of secure web server. In general, you have flexibility in selecting these settings and should select those appropriate for your installation.

Recommended settings for particular secure web servers

Web Server Type & Version	IIS 6.0, 7.0, or 7.5	Apache 2.0.xx or 2.2.xx	Other Considerations Based on Your Site Configuration
Certificate store			
Certificate store type	User Store	User Store	
Certificate store	My	My	
Certificate store password	Empty	Empty	
SSL Protocols			
Use general SSL protocols	On	On	Check all protocols your server might receive legitimate input from: **TLS1**, **SSL3**, **SSL2**, and **PCT1**.
Use Open SSL	On	On	
Cipher List	String of ciphers if applicable.		These options apply only if you are using **OpenSSL** as a Certificate Authority.
Certificate authority file	Name of file containing list of certificate authorities to trust.		Refer to the *Nuance Management Server Administrator Guide* for details.
CA directory	Path to the directory where certificate authority certificates reside.		

Assigning access to folders and master user profiles across network

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Caution:

Windows accounts that all *NMS* and *Profile Optimizer* processes on the network run under, even the *Dragon Medical Client*, must have read permission to the following:

<*Drive Letter*>:\Program Files\ folder and all subfolders

Assigning permissions to NMS and Profile Optimizer component files

To ensure all *NMS* and *Profile Optimizer* processes can interact with one another, during the installation you set up a single administrator level account (name it something like **NMSapps**) that all the software will be running under and give full access rights across all servers to the directories where you install the software. The software these conditions apply to includes:

- *NMS Server*
- *NMC Console*
- *NMS SQL Database*
- *Profile Optimizer Server*
- *Profile Optimizer Database*
- Each *Profile Optimizer Speech Node*

Caution: Run All Services under the same Windows user account

All services should run under this same Windows administrator level account with full access rights across all servers and the master user profiles directory.

Directories where the components are installed should have full read/write/modify permissions.

Caution: Ensure Full access to the Master user profiles directory

It is especially important that the account that *NMS* and *Profile Optimizer* components run under has complete read/write/modify access to the **master user profiles directory**. If the servers and *Speech Nodes* cannot access the master user profiles, the *DME* product cannot function properly. Each windows user account that logs in to the *Dragon Medical Client* workstation should also have access to the master user profiles that allows reading profiles and writing to/modifying profiles, an action the *Dragon Medical Client* takes frequently to keep profiles current.

Caution: Regarding Privacy of Patient Data

To protect the privacy of patient data and the integrity of the master user profiles, you should ***not*** give Windows user accounts of *Dragon Medical Clients* rights to log in to the master user profiles machine; the *Dragon* software writes to and modifies the profiles in the background.

Assigning permissions to master user profiles

Caution:

Be sure that when you set up the master user profiles directory, you locate it either on a Windows machine or on a device connected to a Windows machine with .NET Framework 3.5 SP1 installed on it and that the machine is in the same Windows domain as your *DME* servers.

To ensure every dictating healthcare provider has appropriate access to files (such as his or her user profile), you must give full read/write/modify permissions to all files and directories housing the master user profiles for healthcare providers that dictate on that client or allow the same level of access to the master user profiles through an **http** or **https** connection. This level of permission/access ensures that when the provider dictates, the software can interact with the master user profiles effectively.

Assigning folder permissions to Dragon Medical Enterprise server and client files

You must assign particular levels of permissions to certain folders that *Dragon Medical Client* reads from and writes to when processing speech.

NMS Servers/NMS and Profile Optimizer Databases:

<*Drive Letter*>:\Users\All Users\Application Data\Nuance folder and all subfolders:

> All users must have read, write, and modify permissions.

<*Drive Letter*>:\Program Data\Application Data\Nuance folder and all subfolders:

> All users must have read, write, and modify permissions.

<*Drive Letter*>:\Program Files\Nuance folder and all subfolders:

> All users must have read permission.

Dragon Medical Client workstations (Windows 7, XP, and Vista):

<Drive Letter>:\`Program Data\Nuance` folder and all subfolders:

>All users must have read, write, and modify permissions.

<Drive Letter>:\`<`*Windows_user_ID*`>\AppData\` folder and all subfolders:

>All users must have read, write, and modify permissions.

<Drive Letter>:\`Documents and Settings\All Users\Application Data\Nuance` folder and all subfolders:

>All users must have read, write, and modify permissions.

Assigning Dragon Medical Clients access to registry keys

You must assign particular levels of access to certain registry key settings. You assign these rights to all Windows user accounts for all dictating healthcare providers using *Dragon Medical Client* .

Dragon Medical Client workstations:

Workstation Windows user accounts that *Dragon Medical* runs under must have rights to update the registry in order to read/write to particular keys in the registry:

`HKEY_LOCAL_MACHINE\SOFTWARE\Nuance`

`HKEY_CURRENT_USER\SOFTWARE\Nuance`

Turning off Automatic Updates

On each machine you plan to use in the *DME Network*, be sure to turn off Windows Automatic Updates. You should, instead, qualify each update Windows sends by installing it first on a single test machine of the network and then updating other machines on the network only after you determine that it clearly will not disrupt the network.

Once you are sure an update does not negatively affect *DME*, you should install the update during off-hours and, if required, reboot each machine during those hours to ensure that requests to reboot do not disrupt the *DME* servers or workstations during peak hours of dictation.

Chapter 6: Upgrading roaming and local users to Dragon Medical Enterprise

Preparing to upgrade Dragon Medical Clients to Network Edition

If you are planning to install the *Dragon Medical Client* for *Dragon Medical Enterprise Network Edition* on a computer where *Dragon Medical* 10.1 is already installed, you do not have to uninstall the non-*Network Edition* first. However, Nuance recommends you uninstall *Dragon Medical* first if doing so would not disrupt the operation of your medical facility.

Before you begin to upgrade from non-Network Edition Dragon Medical—Overview of process

If you choose to uninstall the non-*Network Edition* of *Dragon Medical*, you should be sure to take these steps first:

- Save and back up all user profiles.
- If you have any local users (not roaming) from *Dragon Medical* 10.1 (non-*Network Edition*), prepare to migrate them to the *Network Edition* as explained in *Converting local user profiles to DME master user profiles* on page 127
- Save any *Dragon Medical* 10.0 roaming user profiles to a location where the *NMS Server* can access them.
- Upgrade any user profiles from *Dragon Medical* 8.x or 9.x and save the upgraded user profiles to a location where the *NMS Server* can access them. For details on upgrading roaming user profiles, see *Upgrading Dragon 8.x and 9.x roaming user profiles to DME* on page 1.
- Uninstall the previous edition of *Dragon Medical* (optional, but recommended).
- Install the new *Dragon Medical Enterprise Network Edition* client on each client workstation.

Note:

The term **roaming user profiles** has been changed for *DME*. Since all users of the *DME Network* are *roaming* by definition (the master copy of their profiles always resides on a central machine), the profiles stored on a central machine are now called **master user profiles**. When a provider dictates, the *Dragon Medical Client* retrieves a copy of the master user profile and that copy is called the **local cache user profile**.

When you upgrade previously existing **roaming user profiles** or **local user profiles** for use with *DME*, these profiles all become **master user profiles**.

Overview of migrating local users from Dragon Medical Version 10.1

If you have local users from Dragon Medical 10.1, to migrate them to *Network Edition*, you take these general steps:

1. I*Creating user accounts for healthcare providers* on page 117
2. Export the local user profiles to a different location, so that the action you take does not affect the user profiles of dictating providers.
3. Enable the **Roaming** feature on the workstation and save the local users to the roaming user location.
4. Export each roaming user profile to a location where the *NMS Server* can access it.
4. Create user accounts in *NMS Server* for the healthcare providers dictating with the local user profiles you are converting.
5. Associate the user accounts with the master user profiles for the corresponding healthcare professionals.

For more details, refer to *Converting local user profiles to DME master user profiles* on page 127.

Overview of upgrading roaming user profiles from Dragon Medical Version 10.0 to 10.1

If you have pre-existing roaming user profiles from *Dragon Medical* Versions 10.0, you can skip the step of upgrading those profiles and proceed immediately to *Associating new user accounts with upgraded user profiles* on page 134.

Overview of upgrading roaming user profiles from Dragon Medical Version 8.x or 9.x

When you have pre-existing roaming user profiles from *Dragon Medical* Versions 8.x or 9.x, to allow healthcare providers to dictate using those profiles in *Dragon Medical Enterprise*, you take these steps:

1. In the *NMC Console*, create user accounts for each healthcare provider, as described in *Creating user accounts for healthcare providers* on page 117
2. Upgrade roaming users to DME, as described in *Upgrading Dragon 8.x and 9.x roaming user profiles to DME* on page 119
3. *Associating new user accounts with upgraded user profiles* on page 134.

After you install Dragon Medical Client Network Edition, take these steps on client

After you install the *Dragon Medical Client* for *Network Edition*, on the new client:

1. Log in to the *Dragon Medical Enterprise Client* with the *NMS Server* user account login and password.

2. Reimport any custom words, commands, and vocabularies as instructed in the *Dragon Medical Enterprise Network Edition* Dragon Help.

3. Alternatively, you can also use the Data Distribution Tool to export or import words, commands, or vocabularies. You run the Data Distribution Tool from inside the *NMC Console*; see the *Nuance Management Server Administrator Guide*'s chapter on the *Using the Data Distribution Tool* for more information.*Creating user accounts for healthcare providers* on page 117

Creating user accounts for healthcare providers

When you are upgrading your roaming user profiles to *DME*, you begin by creating a user account for each dictating healthcare provider.

> **Note:**
>
> More details about creating user accounts are available in the *Nuance Management Server Administrator Guide*.

To create user accounts:

1. Log in on the *NMC Console*. For details, see *Logging in to the NMS Server through the NMC Console* on page 77

2. On the Menu bar, click on the **User Accounts** ribbon.

3. When the **User Accounts** ribbon appears, click the **Add User Account** icon. The **User Account Details** window opens.

4. Configure the options and settings on tabs in the **User Account Details** window:

   - **Details**—Enter data in the shaded text boxes (required data) for now. Required information includes the healthcare provider's first and last names and the login.

Caution:

If you are creating a user account to be managed in Active Directory, the login you enter must match an existing login in Active Directory. If, additionally, you are setting up providers to log in only once (called Single Sign-On), the login you enter must match the user name that the provider enters to log in to Windows and must also be a login in Active Directory.

- **Address**—Physical location information. None of this data is required right now.
- **Group Memberships**—If you have created no other groups, two groups exist when you first run the product, **NMC Administration** and **Dragon Medical**. Add the dictating user account to the **Dragon Medical** group.
- **Dragon Settings**—To apply default settings for now, click the **Use group rules** button. For more information, refer to *Configuring user account Dragon settings* in the *Nuance Management Server Network Edition Administrator Guide*.
- **User Profile**—Ignore these settings. The *Dragon Medical Client* provides them.

3. Click **Save** to save the user account settings.

4. When you save the user account, the *NMC Console* pops up a dialog box that asks you if you want to grant a license to the user account now.

You should click **Yes**.

5. When the next message asks you the type of license to assign, you can select either a **Physician Author** or **Non-Physician Author** license. The number of licenses available shows in parentheses after the license type. If no licenses of a particular are available, that license type is grayed out. If you need a license that is not available, contact your Nuance representative.

6. Repeat the above steps for each healthcare provider whose profile you plan to upgrade.

7. Depending on the type of user you are creating, return to either the Active Directory or Single Sign-On instructions, or proceed to the next section,

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Note:

For now, you can skip setting options and other information for the user accounts that you want to associate with upgraded master user profiles. To later assign all related user accounts the same option settings, you can:

- Create a group.
- Set all options for that group.
- Add the user accounts that should have those same option settings to the group.

For details on how to carry out these tasks, refer to the *Nuance Management Server Administrator Guide*.

Upgrading Dragon 8.x and 9.x roaming user profiles to DME

Dragon Medical Enterprise provides an **upgrade.exe** utility that you can use to upgrade *Dragon Medical* roaming user profiles from several earlier versions to *Dragon Medical Enterprise (DME) Network Edition*. You can upgrade these profiles from these versions:

- *Dragon Medical* Version 8.x
- *Dragon Medical* Version 9.x

When you upgrade these files, you take that action on a workstation you select where you have installed *Dragon Medical SDK Client Edition Version 10.1* rather than on the *NMS Server*.

You do not have to upgrade user profiles from the Version 10.0 of *Dragon Medical*. Instead of upgrading these users, you can just copy them to the master user profiles directory of the *DME* network and associate each profile with a user account in *NMS Server*, as described later in this section.

Before upgrading Dragon roaming user profiles

Caution:

- Before you upgrade them, Nuance recommends you back-up your Version 8.x and 9.x roaming user profiles.
- Nuance recommends that you **never** upgrade your roaming user profiles across a network to either a mapped drive or UNC path; upgrading over a network will take an undetermined length of time. In addition, the **Upgrade.exe** application does not support upgrading users over an HTTP connection.
- Nuance recommends that you plan to upgrade the *Dragon Medical* 8.x or 9.x roaming user profiles at a time when healthcare providers are not using them to dictate, such as at night or on a weekend. If there is no time when all your user profiles are not in use (because healthcare providers dictate 24/7), you can upgrade multiple sets of roaming user profiles at appropriate times.
- Nuance recommends that you migrate user profiles to the location on the *DME* network only after you have upgraded them on another machine.
- The **upgrade.exe** utility can take 2-3 minutes or more to upgrade each roaming user profile, depending on the speed of your processor and the size of the profile. The upgrade process creates new master user profiles in the location you specify.

Upgrading Dragon roaming user profiles with Upgrade.exe

To upgrade *Dragon Medical* 8.x or 9.x roaming user profiles to *DME* master user profiles:

1. Select a machine where you will carry out the roaming user profiles upgrade and, if it is not already installed, install the *Dragon SDK Client Edition* Version 10.1. on that machine.

2. If you have multiple sets of roaming user profiles on different machines, create a list of all locations where you currently have roaming user profiles that you plan to upgrade.

3. Back-up all the existing roaming user profiles to a separate location using the system backup utility at your facility.

4. On each *Dragon Medical* 8.x or 9.x client workstation where the healthcare providers dictate, save and close any open users who employ the *Roaming User* feature.

5. Copy the existing roaming user profiles directories into a folder on the machine where you plan to carry out the upgrade. In the directory, you see a separate folder for each healthcare provider's user profile.

6. Create a directory on the same machine where the upgrade utility should place the upgraded profiles when they are complete. In the example shown here, the directory is named **User-ProfilesDir**.

7. Find the **upgrade.exe** file in the *C:\Program Files\Nuance\Dragon SDK Client Edition10\Program* directory.
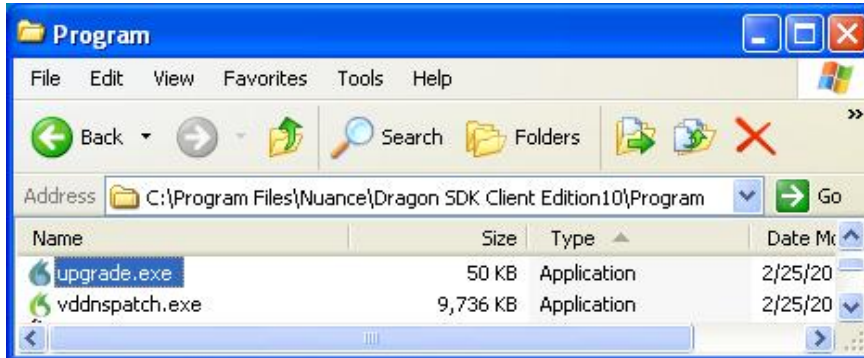
8. Double click **upgrade.exe** to execute the utility. The **User Upgrade Wizard** opens, displaying the **Select Users to Upgrade** page.
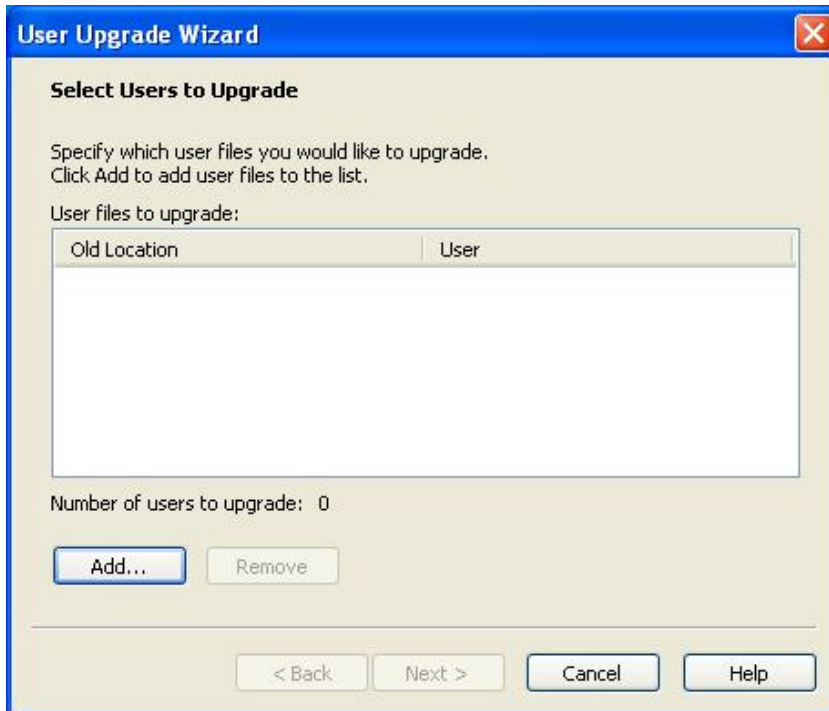
9. Click the **Add** button and, when the **Browse For Folder** dialog box appears, find the directory containing the existing roaming user profiles and click on that directory to highlight it. You should then see its folder name in the **Folder** text box below the list box.

10. Click **OK** and, when the **Browse For Folder** dialog box closes, notice that in the **Select Users to Upgrade** page you can now see the names of all of the users in the folder.
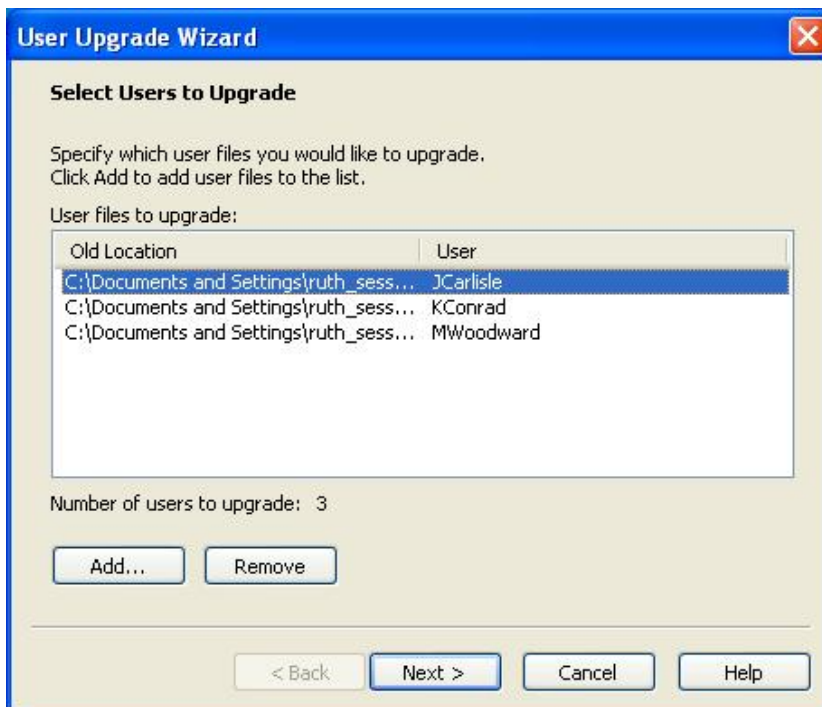
11. Click **Next** to begin the upgrade of the user profiles you see listed. When the **Choose Destination** page of the wizard appears, click the **Browse** button and browse to the location where you want the utility to place the upgraded profiles.
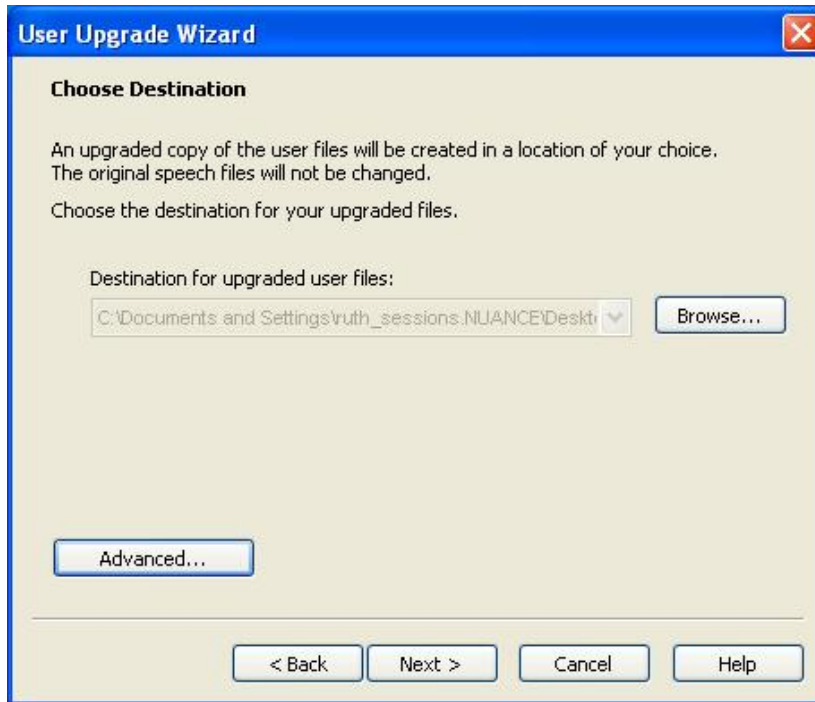
12. While you are in the **Choose Destination** page of the wizard, you can also click the **Advanced** button to open the **Advanced Options** dialog box. Here you can click on any piece of information about a particular user profile and modify its setting.
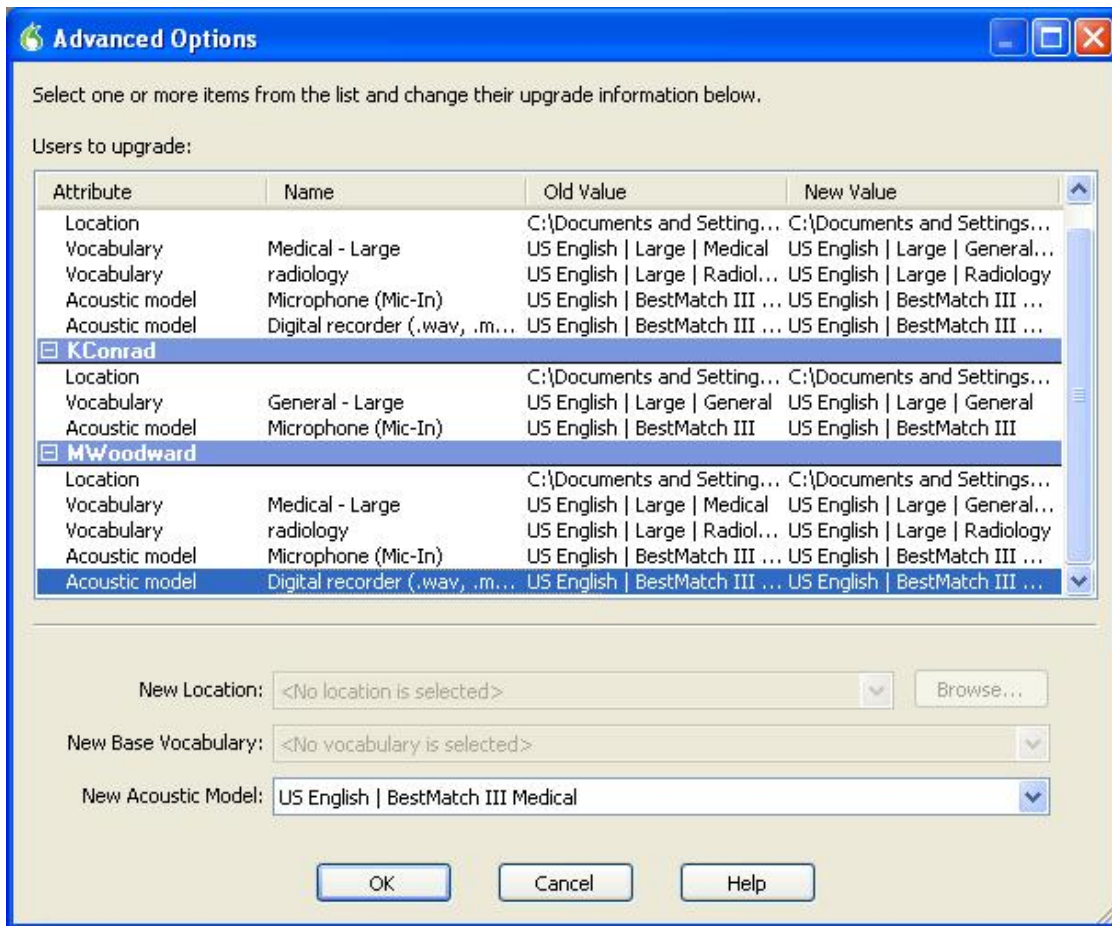
For instance, on this page you could:
- ***Place a particular user profile in a special location*** on the network by setting the **New Location** text box:
  - Click on the **Location** under the user profile name and then click the **Browse** button to the right of the **New Location** text box below the list of all profiles.
  - Browse to the new location you want and click **OK** to return to the **Advanced Options** dialog box.
- ***Select a different vocabulary*** to use as the basis for a particular user profile vocabulary by clicking on the drop-down list in **New Base Vocabulary** text box and selecting the vocabulary you want.
- ***Select a different acoustic model*** to use as the basis for a particular user profile acoustic model by setting the **New Acoustic Model** text box:
  - Click on the drop-down list in **New Acoustic Model** text box and select the vocabulary you want.

13. Click **OK** to return to the **User Upgrade Wizard** and click **Next** to proceed to the **Upgrade Users** page of the wizard.

14. Press the **Begin** button to start the upgrade process.
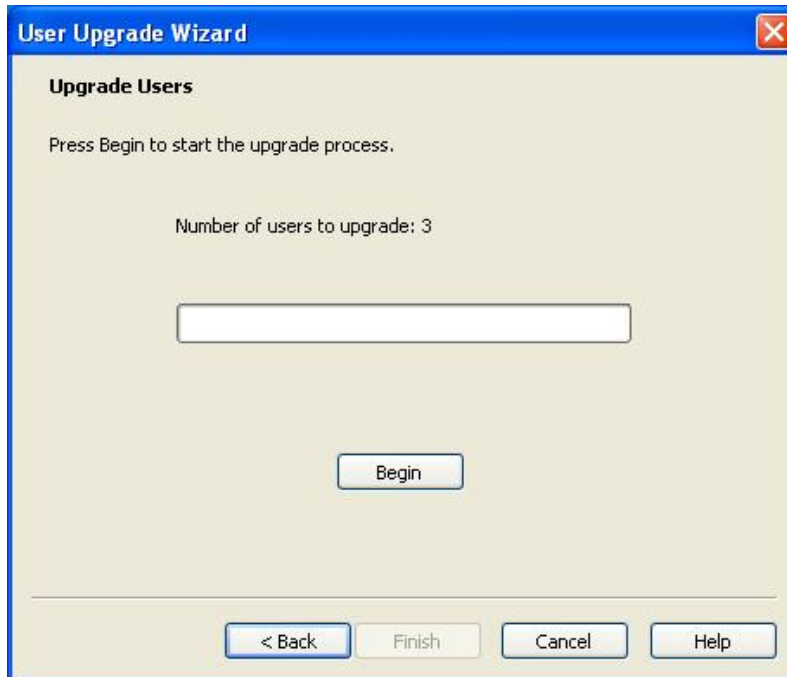
15. If at any time during the upgrade process you want to cancel it, click the **Stop** button. When you click **Stop**, the wizard backs out of the process and restores the user profiles to their previous state.
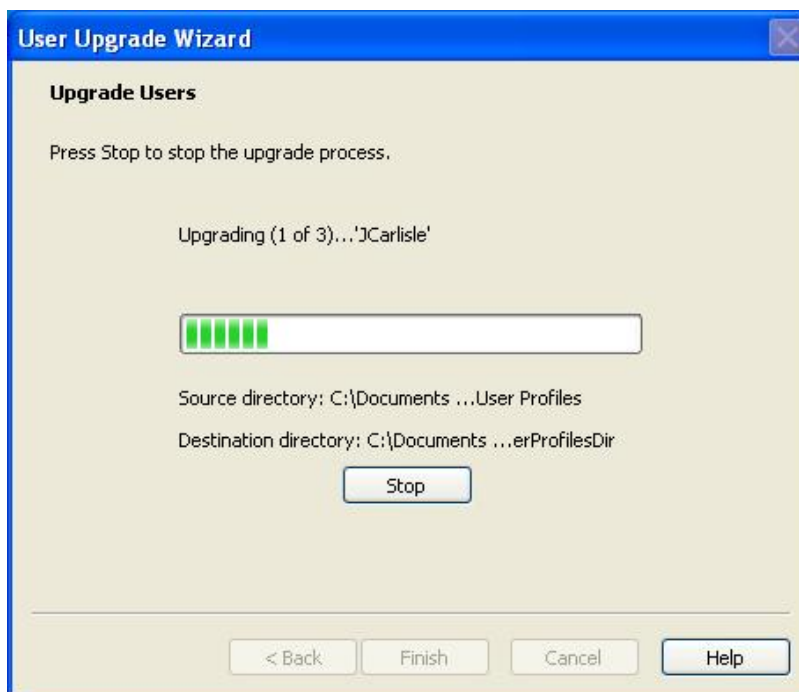
16. When the upgrade process is complete, you can click the **Details...** button for more information. When you are satisfied that the users have been updated, click the **Finish** button and the wizard closes.

17. Find the new upgraded profiles in the destination folder you directed the wizard to place them in. Notice that **upgrade.exe** renames each master user profile in the format *name*(v10), as shown in the next illustration.
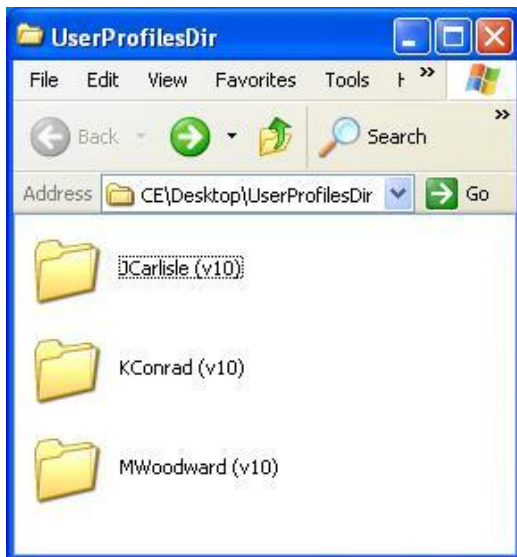
18. Copy the new profiles to the new master user profiles directory on the *DME Network.*

19. Proceed to the next section, *Associating new user accounts with upgraded user profiles* on page 134.

Upgrading Roaming Users from the command line

(For advanced users only)

Note:

If you using Microsoft Vista, you must either run the DOS window as an Administrator or run an elevated command prompt.

To launch an elevated command prompt in Vista, press the Win key, type **cmd.exe**, right click on **cmd.exe** icon, and select **Run as administrator**.

---

1. Open a DOS window to get to the DOS Command Prompt.
2. From the DOS prompt, to run **upgrade.exe** from the location where the *Dragon Medical SDK Client Edition* 10.5 is installed:
   - Switch directories to the default location of **upgrade.exe**, *C:\Program Files\ Nuance\NaturallySpeaking10\Program*
   - Enter this text on the command line:

```
upgrade.exe /silent <source-profiles-path> <destination-profiles-path>
```

   The **/silent** option is required to upgrade users in batch mode. If you do not use the **/silent** option, the **update.exe** GUI appears, and can extend how long it takes to process all profiles.
3. Copy the updated profiles to the path on the *NMS Server* machine that you set in the **System Settings** dialog box.

Steps for viewing the upgrade log

The **upgrade.exe** application included with the *Dragon Medical SDK Client Edition* Version 10.1 creates an upgrade log each time you run it. To open the directory containing the logs, click **Start > Dragon SDK Client Edition 10.1 > Show Dragon log**.

Look for files named **upgrade.mod** and **upgrdmod.log**.

Converting local user profiles to DME master user profiles

If you want to convert *Dragon Medical* (non-network) Version 10.0 local user profiles (stored only on *Dragon Medical Client* workstations) to *Dragon Medical Enterprise* (where they would become master user profiles on the network), you need to first convert them from *local* user profiles to *roaming* user profiles in the earlier version of *Dragon Medical*.

Note: If your local user profiles are from *Dragon Medical* Version 8.x or 9.x, you must first upgrade those user profiles to *Dragon Medical* Version 10.0 as instructed in your *Dragon* Version 10.0 documentation.

Before converting Dragon local user profiles

Caution:

Nuance recommends that you protect your profile data by taking these precautions:

- Before you convert them, back-up your Version 10.0 local user profiles.
- Plan to convert the *Dragon Medical* 10.0 local user profiles at a time when healthcare providers are not using them to dictate, such as at night or on a weekend. If there is no time when all your user profiles are not in use (because healthcare providers dictate 24/7), you can convert sets of local user profiles from particular workstations at appropriate times.
- Migrate user profiles to the location on the *DME* network only after you have converted them on another machine.
- Note that once you convert these profiles, you will no longer be able to use them with Version 10.0 of *Dragon Medical*. If you want to continue using Version 10.0 during a transition period, be sure you have backed them up to a separate location.

Overview of converting Dragon Medical 10.0 local user profiles to roaming user profiles

To convert *Dragon Medical* Version 10.0 local user profiles to *Dragon Medical* Version 10.0 roaming user profiles for use as *DME* master user profiles, on each workstation with users to migrate to *DME*, you take these major steps:

1. If any single healthcare provider has multiple user names for logging in, that provider has more than one profile. For efficiency, you should combine the multiple user profiles for one provider to create a single user profile for that person.
2. Export the local user profiles to a different location, so that the action you take does not affect the user profiles of dictating providers.
3. Enable the **Roaming** feature on the workstation and copy the user profiles to the roaming user profile location.
4. Export a copy of each roaming user profile location and rename its top level directory of that copy with a name that shows the files are for the new *Dragon Medical Enterprise (DME)* Network.
4. Create user accounts in *NMS Server* for the healthcare providers dictating with the local user profiles you are converting.
5. Associate the user accounts with the master user profiles for the corresponding healthcare professionals.
6. Install the *Dragon Medical Enterprise Client* on the workstation.

7. Log in to the *Dragon Medical Enterprise Client* with the *NMS Server* user account login and password.

Combining multiple Dragon Medical 10.1 profiles for a single provider

Any healthcare provider who has more than one user name, has more than one user profile. If you have any such providers, you need to reduce their profiles to a single user profile for using with *DME Network Edition*. The single profile can have more than one vocabulary and more than one audio input device (dictation source), so it is not any more restrictive than working with multiple profiles.

To combine the multiple profiles, take these steps:

Export custom words from extra profiles
1. On the DragonBar, select **Dragon > Manage Users**.
2. In the list of user names, decide which profile you want to merge the others into for the provider. If you are not sure which profile to select, you should find out the one that the provider most recently used and keep that profile. You can click the **Properties** button to find out the date each profile was last saved.
3. Open one of the profiles you do not expect to keep. You see the vocabulary it uses.
4. Select **Words > Export** to export all custom words created with this profile. When the **Export Words** dialog box opens, browse to the directory where you want to save the file and save the words in a **.txt** file. You can name it whatever you would like—usually a name containing the user name and the vocabulary helps identify the file. For example, you might name it **ConradCardiology.txt**.

Export commands from extra profiles
1. On the DragonBar, select **Tools > Command Browser** and open the **Task Pane**.
2. In the **Task Pane**, click **Manage** (under **Mode**). You then see a list of command types appear in the pane to the right.
3. Select all check boxes for all command types in the pane to the right.
4. In the **Task Pane**, click **Export** (under **Manage**).
5. When the **Export Commands** dialog box opens, browse to the directory where you want to save the file and save the custom commands as a **.dat** file using the same root name as you used for the **.txt** file of words. For example, you might name the file **ConradCardiology.dat**.

Export vocabularies from extra profiles
1. If the provider has multiple vocabularies, go to the DragonBar and select **Dragon > Manage Vocabularies...**. Select the vocabulary in the list and click the **Export** button to the right.
2. When the **Save As** dialog box opens, save the vocabulary in a **.Top** file using the same root name as you used for the words and commands. For example, you might name it **ConradCardiology.Top**.

Import commands into the profile you are retaining

1. Open the profile you are retaining and plan to upgrade to *Dragon Medical Enterprise Network Edition*.

2. On the DragonBar, select **Tools > Command Browser**.

3. Open the **Task Pane** and in the **Task Pane** click **Manage** (under **Mode**).

4. In the **Task Pane**, click **Import** (under **Manage**).

5. In the **Import Commands** dialog box, select the **.dat** file you saved earlier and click **Open**.

6. In the **Import Commands** dialog box, click **Import**.

7. If any of the commands would replace a command with the same name, you are prompted to replace the existing command. Click **No** if you are uncertain whether or not to replace the command. Remember, the user profile you are keeping is the newest one, so probably has the newest command by the same name.

Import vocabulary into the profile you are retaining

1. If it is not already open, open the profile you are retaining and plan to upgrade to *Dragon Medical Enterprise Network Edition*.

2. On the DragonBar, select **Dragon > Manage Vocabularies...** .

3. In the **Manage Vocabularies** dialog box, click **New** and in the **New Vocabulary** dialog box, name the vocabulary anthing you would like and choose a vocabulary to base it on from the pull down list for **Based on**. Then click **OK**.

4. When the **Vocabulary Optimizer** dialog box appears, click **Cancel**. When the **Manage Vocabularies** dialog box reappears, you see the additional vocabulary in the list.

Import words into the profile you are retaining

1. If it is not already open, open the profile you are retaining and plan to upgrade to *Dragon Medical Enterprise Network Edition*.

2. On the DragonBar, select **Words > Import**.

3. When the **Add Words from Word Lists** Wizard appears, click **Next**.

4. Click **Add File**and when the **Add File** dialog box opens, select the file of words you exported earlier and click **Open**.

5. Click **Next** to advance the wizard until you reach the end.

6. Click **Finish** to complete the process and close the wizard.

Exporting a local copy of local user profiles

Before you make the local user profiles into roaming user profiles (in the next section), you should export a copy of those profiles to ensure that if anything goes wrong, you still have them. To export the local user(s) from the workstation where *Dragon Medical* 10.0 is installed to a separate directory on the same machine or on a shared location on the network:

1. Create a temporary location for the 10.0 local user profiles (**CpyLocProfiles**).

2. Map a drive to the location for the 10.0 local user profiles (for example, **Z:\CpyLocProfiles**).

3. Start *Dragon Medical* Version 10.0.

4. On the DragonBar, select **Dragon > Manage User**.

5. When the **Manage Users** dialog box appears, select the name of the user you want to make a copy of and then select **Advanced > Export**.

6. Browse the repository where you are storing the copies of local profiles (**Z:\CpyLocProfiles**) and click **OK**.

7. Repeat the above steps for each user profile you want to copy.

Enabling *Roaming* feature on workstation

To enable the **Roaming** feature and allow the software to copy local user profiles to the roaming master user profile location, you take several steps on each workstation with local user profiles you want to migrate to *DME*. You take these steps in the earlier version of *Dragon Medical*:

1. Create a directory on the computer to use as a **Roaming User** directory (for this set of instructions, let's call it **RoamingProfiles**).

2. Close any open user by selecting **Dragon > Close user**.

3. On the DragonBar, select **Tools > Administrative settings**.

4. On the **Roaming** tab, click **Enable** to enable under **Roaming User** to enable the feature.

5. Under **Network Directories**, set a roaming user location that points to **RoamingProfiles**. This location can be the same one for all workstations or distinct for each workstation.

6. Check the **Allow non-roaming users to be opened** option to enable it.

7. Close the **Administrative settings** dialog box.

8. On the DragonBar, select **Dragon > Manage Users**.

9. In the **Manage Users** dialog box, select a user in the list and click **Advanced > Save to roaming**.
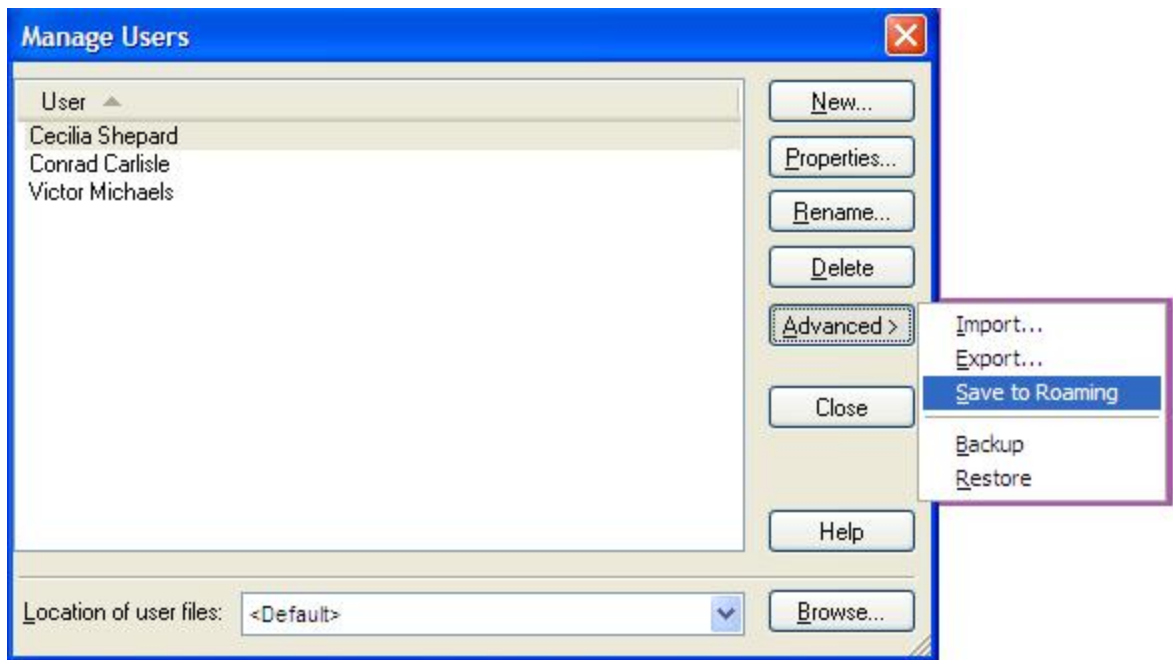
When the **Save To Roaming** dialog box pops up, select the correct location name (should

match the **Display Name** you entered on the **Roaming** tab earlier) and click **OK**. This action saves that user profile to the roaming users directory you created.

10. Repeat the previous step for each user listed in the **Manage Users** dialog box.

11. On the DragonBar, select **Tools > Administrativesettings**.

12. Disable **Roaming User**.

Migrating roaming users to DME master user profiles

To migrate the roaming user profiles to the DME, where they become master user profiles:

On the Dragon Medical Client computer:

1. In MyComputer, map a network drive to the location for master user profiles on the *Dragon Medical Enterprise Network*.

2. On the DragonBar, close any open user by selecting **Dragon > Close user**.

3. On the DragonBar, select **Dragon > Mange Users...**
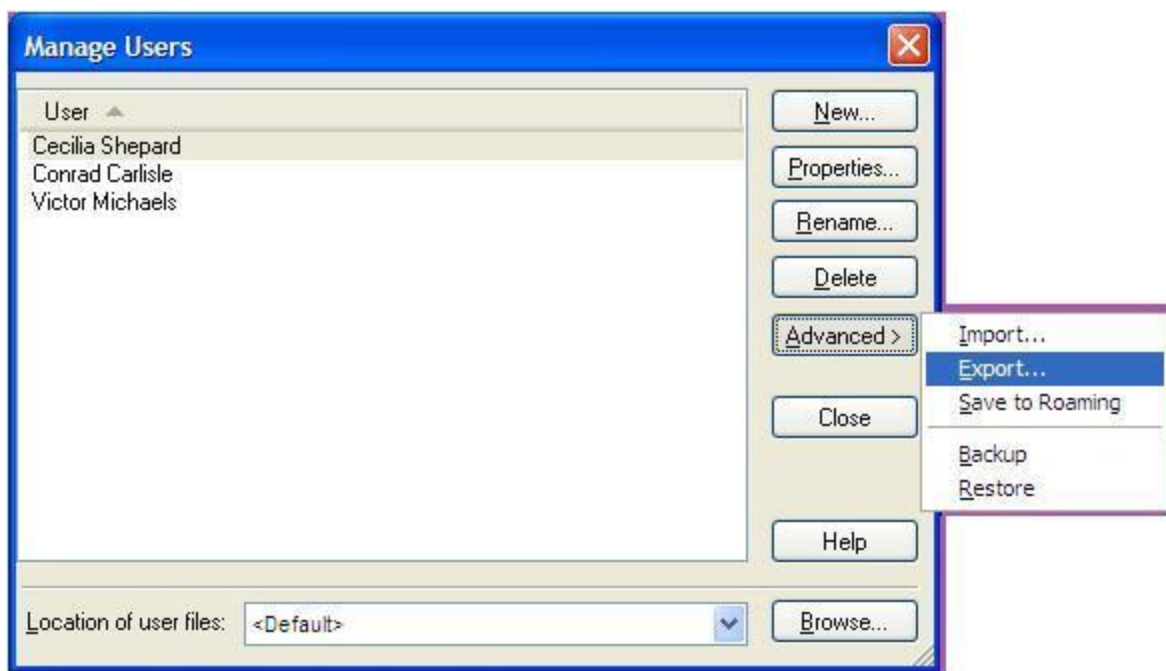
4. When the **Manage Users** dialog box opens, select a user name in the list and click **Advanced > Export...**.

5. Browse to mapped drive where the master user profiles for the *Dragon Medical Enterprise Network* reside (or will reside) and select the folder that you want to export the user profile to.

6. Click **OK** and wait for the export process to complete. When it completes, *Dragon* displays a message indicating the export process was successful.
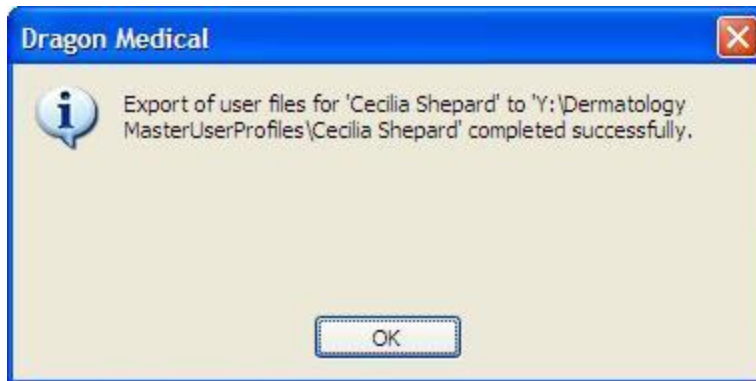
7. Repeat the previous three steps for each user in the **Manage Users** list whose profile you want to export.

On the NMS Server (through NMC Console):

1. Create user accounts in *NMS Server* for the healthcare providers who dictate with the local user profiles you are converting. For more information on creating users, refer to *Creating user accounts for healthcare providers* on page 117.

2. Associate the user accounts with the master user profiles for the corresponding healthcare professionals. For more information, see *Associating new user accounts with upgraded user profiles* on page 134.

3. Install the *Dragon Medical Enterprise Client* on the workstation. For more information, see *Downloading Dragon Medical Client MSI installer through NMC Console* on page 142.

4. Log in to the *Dragon Medical Enterprise Client* with the *NMS Server* user account login and password. For more information, see *Logging in to the NMS Server through the NMC Console* on page 77

Associating new user accounts with upgraded user profiles

If you have not already done so, you should upgrade any roaming user profiles from *Dragon Medical* Versions 8.x or 9.x before you proceed. If you have roaming user profiles from versions 10.0, you need only copy those profiles to the new master user profiles location that you configured on the *NMS Server* before you proceed. Then to allow healthcare providers to dictate with their newly upgraded user profiles, you need to:

- In the *NMC Console*, create a *Dragon Medical Enterprise* user account for each healthcare provider (refer to sections on configuring groups and user accounts in the *Nuance Management Server Administrator Guide* for details).
- Associate that user account with the corresponding master user profile.

Associating user accounts with upgraded Dragon roaming user profiles

To associate new user accounts with upgraded master user profiles:

1. Start the *NMC Console* and log in.
2. On the menu bar, click **Utilities**, and when the ribbon appears, click the **User Profile Association** icon. The **User Profile Association** tab opens, displaying a list labeled **User Accounts** to the left and another list labeled **Existing Profiles** to the right. (Under **Existing Profiles** you see only Version 10 or 10.1 profiles you have upgraded using the *Dragon* **User Upgrade** tool, but not yet associated with a *Network Edition* user account.)
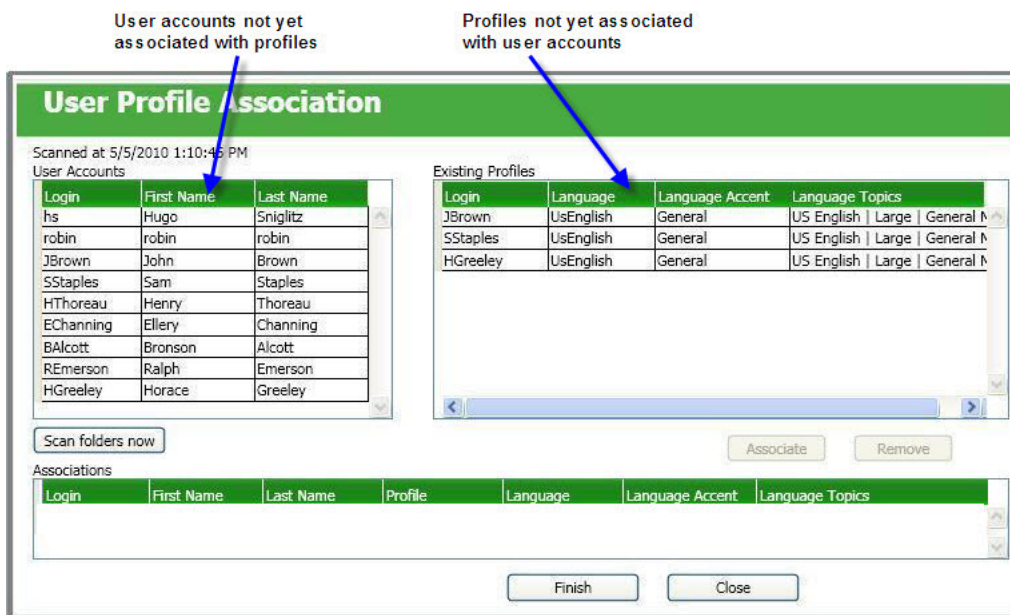
3. If you do not see the user accounts you are looking for in the **Users Accounts** list or the profiles you are looking for in the **Existing Profiles** list, click the **Scan folders now** button and wait a few minutes for the lists to update.

4. Click the login for the user account in the **User Accounts** list, then click the corresponding user profile in the **Existing Profiles** list, and click the **Associate** button to tie the profile to that user account.

The user account and associated user profile appear in the **Associations** list in the lower portion of the page.

5. Repeat the above steps until all healthcare provider user accounts have been associated with their profiles.

6. If you make a mistake, you can select a user account in the **Associations** list and click the **Remove** button. The user account and user profile return to the two lists above and you can associate them with a different user account or user profile.

7. Click **Finish** to save changes you made in the **User Profile Association** tool.

8. To exit the tool *without* saving your changes, click **Close** without clicking **Finish** first.

Overview of installing Dragon Medical Client

Caution:

If you have local user profiles that you want to upgrade from an earlier version of *Dragon Medical*, you must use that older version of *Dragon Medical* to convert the local user profiles to roaming user profiles before you upgrade your software. Be sure you have converted those user profiles before you remove the already existing installation of *Dragon Medical*. For instructions on how to convert them, refer to *Converting local user profiles to DME master user profiles* on page 127.

Caution:

The account that each *Dragon Medical Client* workstation runs under must have full read/write/modify access to the master user profiles directory so that *Dragon* can create and modify the master user profile for each healthcare provider.

When you install the *Dragon Medical Enterprise Network Edition Client Software*, you usually perform a *typical Dragon* installation. You usually do not set administrative options, formatting options, user options, or other options when you install *Dragon Medical Client*. This applies whether you install the *Dragon* client through the *Nuance Management Console* or outside of the console. As an administrator, you set almost all of those options through the *NMC Console* after you install *Dragon*. So, you do not have to set most options or *Dragon* settings during your custom MSI installation of *Dragon*.

However, if you want to set up *Dragon* so that the *DragonBar* always comes up in, for instance, Floating mode on every single client workstation in your network, you can still set some options in advance of the installation by using the *Dragon Medical SDK Client*, available on the *Nuance Management Server Software and Documentation* DVD. After you set the options, you can retrieve the **nsdefaults.ini** file and pass it as an argument to **msiexec.exe** (the MSI installer from Microsoft) on the command line by following the instructions in *Installing multiple clients with same default options using MSI* on page 168.

Note:

The *NMC Console* includes an icon that opens a dialog box where you can download a *Dragon Medical Client* MSI installation file. This installer automatically downloads the *Dragon Medical Enterprise vSync for EHRs* feature if the Citrix client is installed on the computer. This feature is required to use *Dragon Medical Client* with a published application in a Citrix environment. For more information, refer to the *Administration Guide for Dragon in a Citrix environment*.

Opening ports to access user profiles on web server or secure web server

Caution:

It is critical that if they are not already open, you open the ports required for the *Dragon Medical Client* to access the master user profiles on a web server or secure web server.

To allow the *Dragon Medical Client* to access master user profiles on a web server (http) that is not SSL, open port 80.

To allow the *Dragon Medical Client* to access master user profiles on a secure (SSL) server (https), open port 443.

Approaches to installing the Dragon Medical Client

You can install the *Dragon Medical Client* in any of these ways:

- *Downloading Dragon Medical Client MSI installer through NMC Console* on page 142
- *Installing Dragon client manually outside of NMC Console* on page 145
- *Pushing Dragon MSI installation to multiple workstations* on page 151
  - *Carrying out administrative installation of Dragon with .bat file* on page 154
  - *Creating custom installer for installing client in Active Directory* on page 161
- *Installing multiple clients with same default options using MSI* on page 168

System Requirements for installing Dragon Medical Clients

Hardware requirements

Processor: Intel Pentium4 or later or AMD Athlon 64 1 GHz or faster/later processor. *Recommended:* 2.4 GHz processor or greater. Faster processors produce faster performance.

RAM: 512 MB of RAM for Windows XP, 1 GB RAM for Windows Vista, 2 GB RAM for Windows 7, 32-bit and 64-bit. *Recommended:* 4 GB RAM for Windows 7, 64-bit.

Cache: 512 KB minimum L2 Cache. Recommended: 1 MB L2 Cache.

Hard disk space: 2 GB. *Recommended:* 2.5 GB.

Sound card: Sound card capable of recording, set to 16 bit 11 KHz for audio recording, if any provider will dictate with a microphone plugged in to the Mic-in jack of the workstation.

USB port: If any provider will dictate with a USB microphone, such as a Nuance PowerMic II.

Speakers: For playback of recorded speech and *Text-to-speech* features.

Network: An Internet connection for working with the *Nuance Management Server*.

Audio dictation source devices

Bluetooth (Optional): For Bluetooth wireless microphone support, visit http://-support.nuance.com/compatibility/.

Microphone: Nuance-approved noise-canceling headset microphone.

For a complete listing of Dragon-compatible audio input devices, visit the Hardware Compatibility List on the Dragon Support Web pages at http://support.nuance.com/compatibility/.

Dragon Medical Enterprise Network Edition has built-in support for the Nuance PowerMics:

- PowerMic (beige)—Only newer beige PowerMics work with Dragon Medical Clients on Windows Vista.
- PowerMic II (black)—PowerMic II packaging should display Vista compliance labeling. If you are unsure about the compatibility, confirm that the firmware version is v2.02 or higher. Refer to https://isupport.nuance.com/OA_HTML/csksxvm.jsp?nSetNumber=13102.

Software requirements

Operating systems:

> **32-bit operating systems:** Windows XP Home or Windows XP Professional with Service Pack 3, Windows Vista Home or Professional Service Pack 2, or Windows 7.

> **64-bit operating systems:** Windows Vista Home or Professional, Windows Vista with Service Pack 2, Windows Server 2008, or Windows 7.

> **Note:** Windows XP 64-bit is not supported.

Citrix software:

> The Citrix Program Neighborhood, Version 10.2 or Version 11, the Citrix Program Neighborhood Agent, Version 10.2 or Version 11, or the Citrix Web Client, version 10.2 or version 11. Applies only if your installation uses vSync.

> **Note:**

> If you have set up your network to work with Citrix, you should also refer to the *Dragon in a Citrix Environment Administrator Guide*, provided in PDF format.

Internet Browser:

> Microsoft® Internet Explorer 6 or higher (free download available at http://www.microsoft.com).

Downloading Dragon Medical Client MSI installer through NMC Console

After you create your own MSI installer for *Dragon Medical Client*, from any workstation on the network where you have installed the appropriate certificates, you can access the *NMC Console*, then download the *Dragon Medical Client* MSI installer through the console for installation on that workstation:

1. Be sure that the computer you are installing the *Dragon* client on meets the system requirements for installing and running *Dragon*. See *System Requirements for installing Dragon Medical Clients* on page 140.

2. Log in to the computer as a Windows administrator.

3. On the workstation where you are installing *Dragon*, be sure that you install the Nuance certificates (see *Installing Nuance certificates* on page 74).

4. On the workstation where you are installing *Dragon*, open Internet Explorer and enter the URL to access the *NMC Console* (see *Logging in to the NMS Server through the NMC Console* on page 77).

5. Once the client GUI displays its login page, log in.

Setting the location of the MSI installer

If this is the first time you have attempted to download the MSI installer from the *NMS Server*, be sure you have entered the location of the MSI file on the server into the system settings on your *NMS Server*:

1. In the *NMC Console*, click the Nuance icon

   and a menu drops down.

2. Select **System settings** from the menu.

3. In the **System Settings** dialog box, click on **Dragon** to expand the *Dragon* settings.
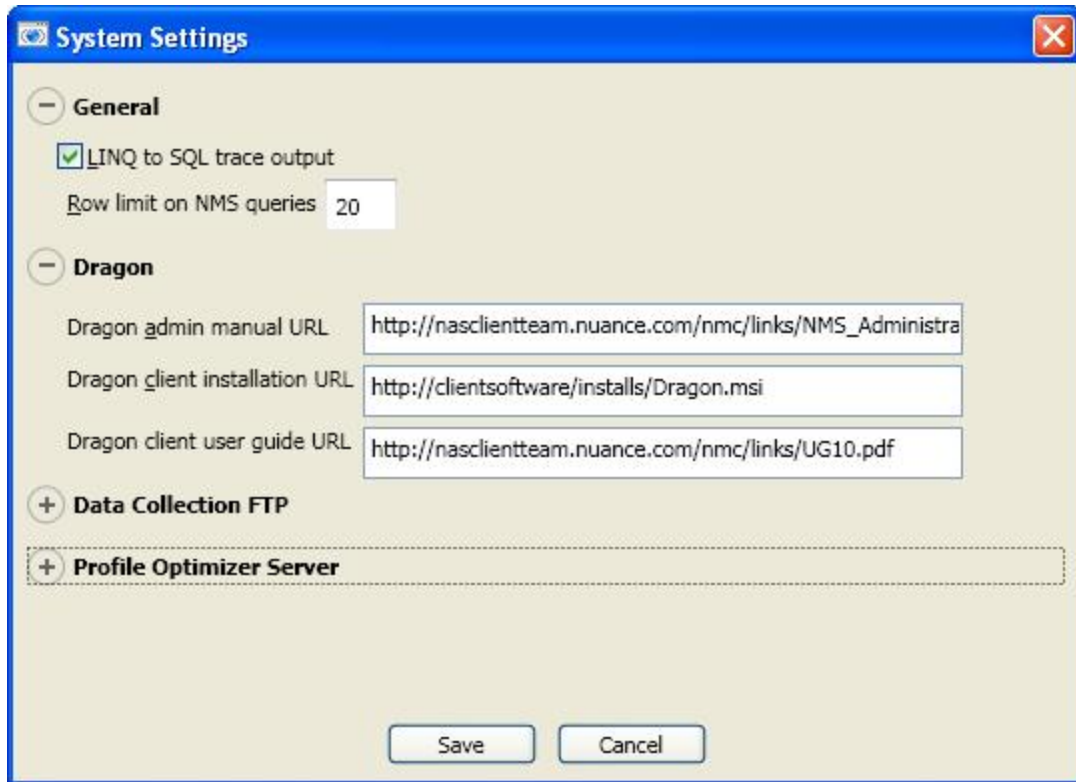
4. Set the **Dragon client installation URL** to the full path to the location where you placed your custom *Dragon*MSI installer, a file with an **.msi** extension, on the *NMS Server* machine. You need only set this path the first time you are downloading the installation files through the *NMC Console*

5. Click the **Save** button at the dialog box to save the change and exit the **System Settings** dialog box.

Downloading the MSI installer to the workstation

After you have entered the location of the MSI installer in the system settings on the *NMS Server*, you are ready to download the MSI installer to the workstation:

1. In the *NMC Console*, click the **Utilities** tab.

2. Click the **Dragon Install** icon

 and a **Dragon Installations** tab opens.
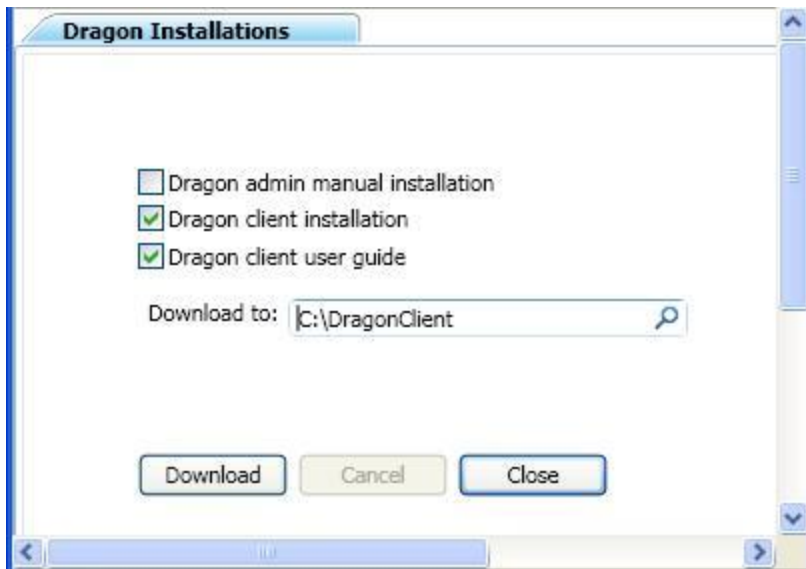
3. Click the checkboxes for the **Dragon client installation** link and for any manuals you'd like to install on the client.

4. Click on the magnifying glass in the **Download to** text box, browse to the path where you want the files downloaded, and click the **Download** button. The server immediately downloads the software to the workstation.

5. Proceed to the directory on the workstation where you downloaded the **.msi** installation file.

6. D*Installing Dragon client manually outside of NMC Console* on page 145.

7. For details on proceeding through the Dragon Medical Client installation wizard, refer to *Installing Dragon client manually outside of NMC Console* on page 145.

Installing Dragon client manually outside of NMC Console

Be sure your computer meets the system requirements for installing and running *Dragon Medical*. For additional steps you might need to take if you are upgrading, see *Preparing to upgrade Dragon Medical Clients to Network Edition* on page 114.

1. Insert the *Dragon Medical Enterprise Network Edition Client Software* installation DVD into the DVD drive of the computer. If the installation does not start on its own, browse on the DVD for the **setup.exe** file and double click it.

2. If you are installing the client on Windows XP and have SP2 but not SP3, you can still install *Dragon Medical* if you execute **setup.exe** from the command line using some options outlined in *Installing Dragon client manually outside of NMC Console* on page 145.

3. The InstallShield window might display and ask you to install software that *Dragon Medical* requires on the computer. The software might include Microsoft .NET Framework 3.5 SP1 and *Visual C++ 9.0 Runtime for Dragon*. Click **Install**.

4. If a message displays asking you to restart your computer, restart the workstation and follow the instructions.

5. On the **Welcome** page, click **Next**.

6. On the **License Agreement** page, read the license agreement information. Select **I accept the terms in the license agreement** and click **Next**.
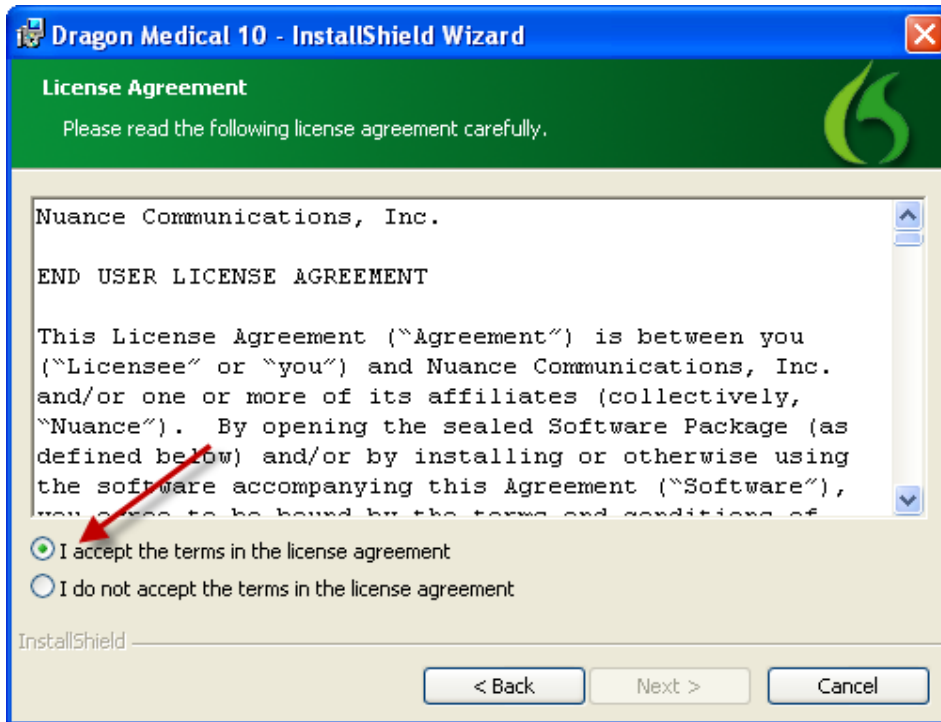
7. On the **Customer Information** page, type your name, the name of your organization and the serial number from Nuance, then click **Next**.

8. On the **Setup Type** page, select **Typical/Complete**. Click **Next**.
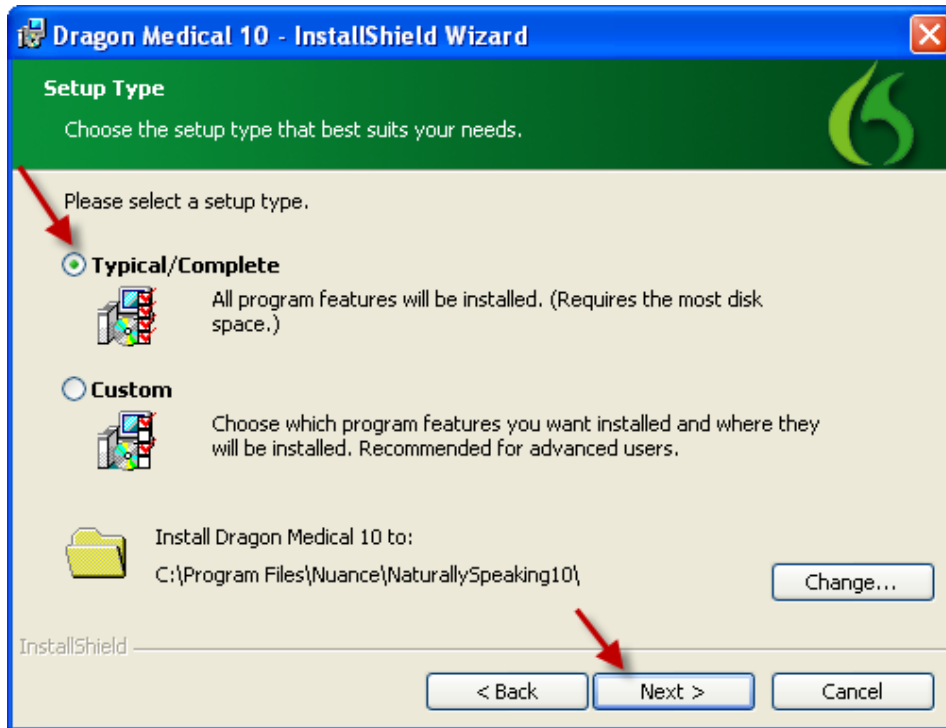
9. On the **Ready to Install the Program** page, click **Install**. The installation process begins to copy files to your computer.
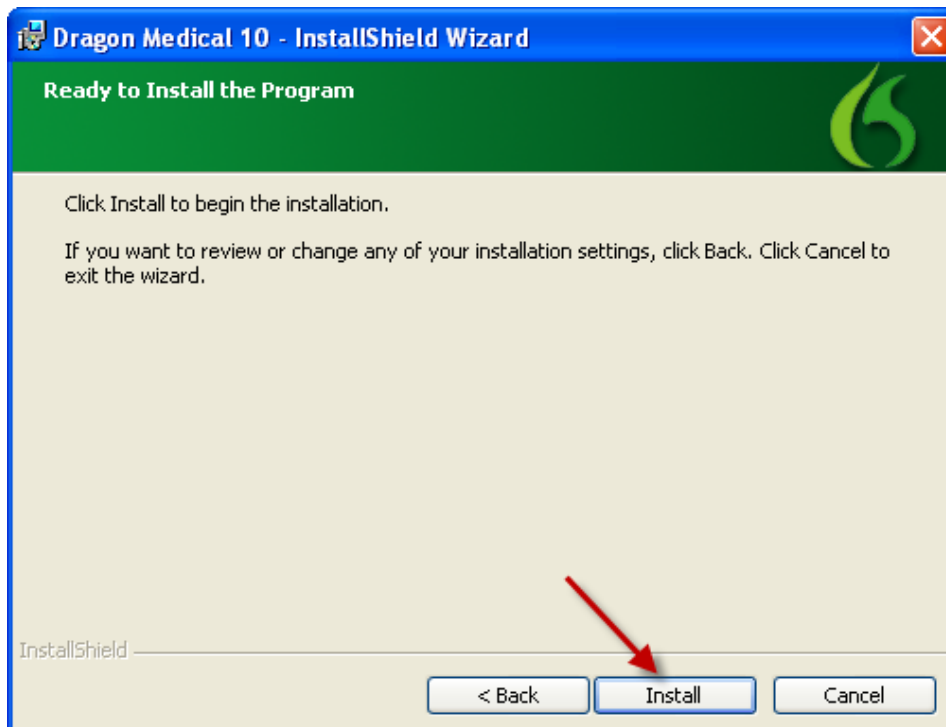
10. When the wizard displays **InstallShield Wizard Completed**, click **Finish**.

Now, proceed to the next section to ensure that the client can find its *NMS Server*.

Ensuring Dragon Medical Clients can find Nuance Management Server

After you have completed installation of the *Dragon Medical Client* on multiple workstations, when a healthcare provider logs in to the client, that provider indicates the particular machine where the server is running:

1. When the healthcare provider logs in to the *Dragon Medical Client*, first the splash screen displays (shown below):
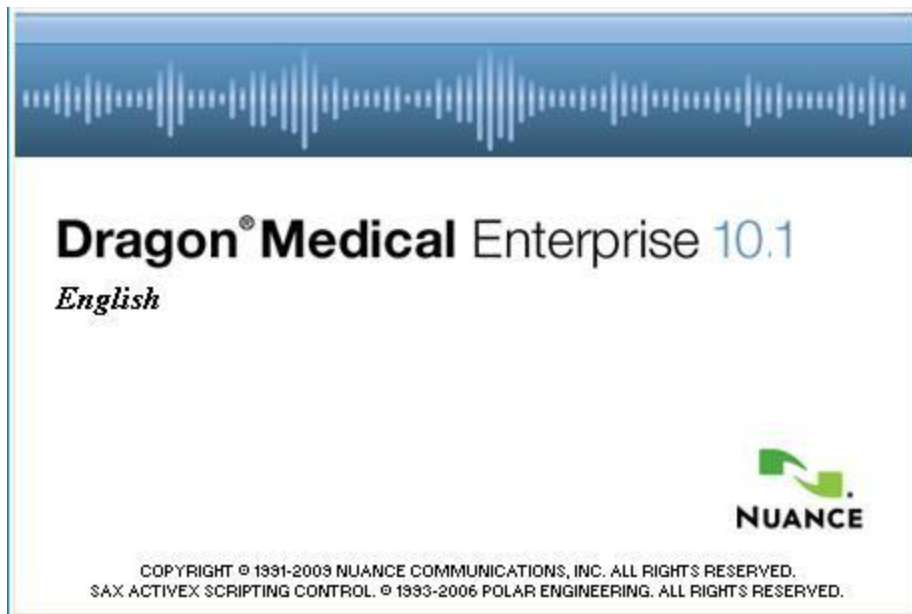
2. When the **Dragon Login** dialog box appears, the provider should click the **Advanced** button:
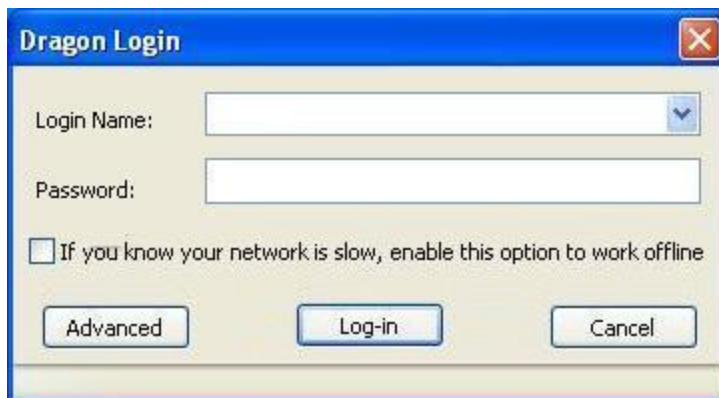
3. When the **Server Location** dialog box appears, the provider must then enter the name of the machine that houses the *Nuance Management Server*.

For information on using the check boxes in this dialog box, refer to the *Dragon Medical Client* Help.

4. The provider then logs in using the user account that an **NMS Administrator** has created in the *Nuance Management Server*:
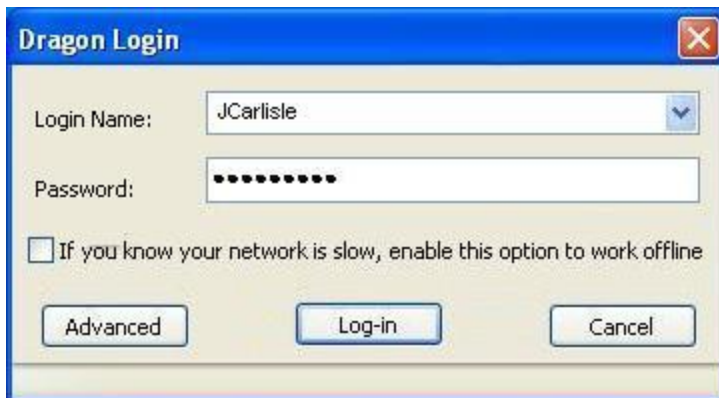
5. If this is the very first time the provider has ever logged in to the *Dragon Medical Client* (the user has no previously existing profile of his or her voice), the **New User Wizard** appears.The **New User Wizard** does not appear if the provider has a user profile you upgraded from an earlier version of *Dragon Medical*.

6. The provider should click the check box indicating **I have read and agree to the License Agreement** and proceed through the **New User Wizard** as instructed.

7. When the provider finishes completing every page of the wizard, the **DragonBar** then becomes available, and the provider can begin dictating.

For more information on using the *Dragon Medical Client*, refer to the *Dragon* Help.

Pushing Dragon MSI installation to multiple workstations

The *Dragon Medical Enterprise Network Edition Client Software* DVD includes a Microsoft Windows Installer (MSI) file. You can use this MSI file to install *Dragon* from a server to client workstations across a network or to install several client workstations at once using either an SMS or SCCM installation or an Active Directory Services installation.

An overview of the options for installing multiple *Dragon Medical Client* workstations at once is provided below.

Caution:

Whenever you carry out an MSI installation of *Dragon Medical Client* for *Dragon Medical Enterprise Network Edition*, Nuance recommends that you include the **/x** option in the command line that executes **msiexec.exe** or *Dragon*'s **setup.exe** file. The **/x** option tells the installer to uninstall any *Dragon Medical* software already on the machine before it proceeds to install the new client software. For more information on command line options you can use to install *Dragon*, refer to *Understanding Dragon MSI command line options* on page 157.

Note:

When you create an MSI installer for the *Dragon Medical Client* included with the *NMS Server*, you are not required to have the installer set any user or administrative options that you would prefer to set in the *Nuance Management Server* later. However, if you would like to set the same *Dragon* options on all workstations, you can pre-set them as outlined in *Installing multiple clients with same default options using MSI* on page 168.

The *Dragon Medical Client* installation DVD contains a *Dragon* **.MSI** file named *Dragon NaturallySpeaking 10.msi* for installing the client.

On the *Nuance Management Server Software and Documentation* DVD, you find an **.MSI** file for the *Dragon SDK Client Edition* of the product that you install for all *Profile Optimizer Speech Nodes*. Look in the **Dragon Medical SDK Client** subdirectory of the DVD for the installer.

A list of all **.MSI** files you need to know about follows:

DVD name	MSI file name
Dragon Medical Enterprise Network Edition Client Software DVD	Dragon NaturallySpeaking 10.msi
Nuance Management Server Software and Documentation DVD	Dragon SDK Client Edition 10.msi

The command line you use to install *Dragon* using the **.MSI** file is:

```
msiexec.exe /i "Dragon NaturallySpeaking 10.msi"
```

For information on installing *Dragon Medical Client* using this **.MSI** file, please refer to the following tables of options under *Carrying out administrative installation of Dragon with .bat file* on page 154:

- General options for installing *Dragon*
- MSI options for installing *Dragon* features/advanced options
- Feature variables to set through the ADDLOCAL or ADVERTISE properties

Options for pushing MSI installation of Dragon to one or more workstations on a network

You can use a server application to push an MSI installation of *Dragon* to client workstations without having to install *Dragon* separately on each computer. The server administrator creates an image of the *Dragon* installation program. The administrator then places the image on a server and configures the server to automatically push the application to client workstations.

There are several server applications that you can use to push a *Dragon* installation:

- Windows Server 2008
- Windows Server 2003
- System Center Configuration Manager (SCCM)
- Active Directory Services

Support for the Windows System Center Configuration Manager

You can use the System Center Configuration Manager (SCCM) to push an MSI installation of *Dragon Medical Client* across a network to multiple client workstations at once. SCCM provides a mechahism for pushing the *Dragon Medical Client* installation from a server to several client workstations, using a Windows Installer (MSI) file to push the installation to workstations that run a compatible Windows operating system, including Windows XP, Vista, and Windows 7.

For information about Windows Installer technology, you can download the article *Software Distribution in Configuration Manager*, available at this link: http://technet.microsoft.com/en-us/library/bb632640.aspx

Support for the Windows System Management Server

You can use the System Management Server (SMS) to push an MSI installation of *Dragon Medical Client* across a network to multiple client workstations at once. SMS provides a mechahism for

pushing the *Dragon Medical Client* installation from a server to several client workstations, using a Windows Installer (MSI) file to push the installation to workstations that run a compatible Windows operating system, including Windows XP, Vista, and Windows 7.

For information about Windows Installer technology, you can download the article *Scenarios and Procedures for Systems Management Server 2003: Planning and Deployment* available at this link: http://www.microsoft.com/downloads/details.aspx?FamilyId=E0644BB4-2336-4254-8A18-9BC180713F7E&displaylang=en.

Support for Windows Server with Active Directory Services

You can use Windows Active Directory Service to push an MSI installation of *Dragon* across a network to multiple client workstations at once.

Active Directory Services is a feature of Windows Server 2008 or 2003. The Group Policy component of Active Directory Services includes a Software Installation snap-in that lets an administrator create a network installation. Administrators can use this feature to install *Dragon Medical Client* to workstation computers that run Windows XP or Windows Vista.

Dragon supports the **Active Directory Services Assign to Computers installation** option. This option requires that you reboot the computer to complete a *Dragon Medical Client* installation.

You can delay the installation of *Dragon Medical Client* on a workstation that runs Windows XP or Vista by enabling logon optimization for group policy. You can view a log entry for this type of installation in the event log after the client computer reboots for the first time. The *Dragon* installation application then installs *Dragon* and reboots the computer for a second time. The installation is a silent installation and does not display a GUI.

1. If necessary, create a custom MSI installation of *Dragon Medical Client* to push to several client workstations.
2. Verify that each computer meets the system requirements for *Dragon Medical Client* installation. See *System Requirements for installing Dragon Medical Clients* on page 140 for more information.
3. Push the custom MSI installation of *Dragon* to the client workstations.

Carrying out administrative installation of Dragon with .bat file

A straightforward way to install *Dragon Medical Client* from the command line to a server is to carry out an administrative installation using a **.bat** file.

Caution:

Only advanced users should attempt any type of administrative installation.

Note:

A script for carrying out a full administrative installation, including installation of Visual C++ Runtime for Dragon, is provided in the **admininstall.bat** file under the top of the directory structure on the *Dragon Medical Enterprise Network Edition Client Software* DVD. The script provided includes a bare minimum of the options available, so you might want to read through the sections on *Dragon Medical Client* command line installations to learn about other options you might use.

Running the batch file

The **admininstall.bat** file is a batch file that uncompresses setup files into a network location for installation using SMS or another service. Since the workstation you are installing *Dragon Medical Client* on could be a 32-bit or a 64-bit machine, the batch file chooses the appropriate **vcruntime** executable to run based on the type of system it finds.

To run the batch file, you enter **admininstall.bat** and follow it with three arguments, in the order listed below:

- Full path to the **vcruntime** source file for 32-bit systems.
- Full path to the **vcruntime** source file for 64-bit systems.
- Full path to the **Dragon NaturallySpeaking10.msi** file.

The script needs both 32-bit and 64-bit vcruntime files available to run.

You can run this **admininstall.bat** file as is or modify it using alternative MSI options available for *Dragon*.

Understanding the script in admininstall.bat

Below are some of the lines from the script in the **admininstall.bat** file provided with the *Dragon Medical Client*.

Near the top of the batch file, you see lines that first check the parameters entered and, if the parameters passed are not acceptable, execute a routine that handles that situation:

```
:rem //Check and analyze input parameters if .%1.==.. goto bad_arg if
.%2.==.. goto bad_args if .%3.==.. goto bad_args
```

If the arguments you pass when you enter the command are acceptable, the batch file sets the **NETWORK_VCRUNTIME_DIR** variable to the first argument, the **NETWORK_VCRUN-TIME_X64_DIR** variable to the second, and the **NETWORK_DNS_DIR** variable to the third:

```
set NETWORK_VCRUNTIME_DIR=%1%
set NETWORK_VCRUNTIME_X64_DIR=%2%
set NETWORK_DNS_DIR=%3%
```

Of the two **VCRUNTIME** variables, the first is for the executable for 32-bit systems and the second for 64-bit systems.

In the next section of the batch file you see the lines that install Visual C++ Runtime for Dragon, which it must install before it can install *Dragon*. The batch file first installs 32-bit machine vcruntime and displays messages as it progresses:

```
echo Installing Visual C++ Runtime for Dragon NaturallySpeaking...
```

To install Visual C++ Runtime for Dragon, the script uses the full path to **vcruntime.exe** and passes it several options:

/a to indicate it is an administrative installation (to a server)

/L option followed by the language ID (1033 for English)

/v option followed by a series of MSI installation options all enclosed in quotation marks, including:

- **TARGETDIR** to indicate where to put the image resulting from an administrative installation
- **/qb** to display only a basic GUI
- **/L** to indicate the types of messages to log and the file to log them to

Here are the lines in the script:

```
ISSetupPrerequisites\VCRuntime\vcruntime.exe /a /l1033
 /v"TARGETDIR=%NETWORK_VCRUNTIME_DIR% /qb /Liwmo!e+
%TEMP%\admininstall.log"
```

Note:

An administrative installation should always use the **TARGETDIR** option instead of the **INSTALLDIR** option.

The batch file then installs 64-bit vcruntime using the full path to **vcruntime_x64.exe** and passes it the same options:

```
echo Installing Visual C++ Runtime for Dragon NaturallySpeaking 64bit
(x64)...
ISSetupPrerequisites\VCRuntime\vcruntime_x64.exe /a /l1033
 /v"TARGETDIR=%NETWORK_VCRUNTIME_X64_DIR% /qb /Liwmo!e+
%TEMP%\admininstall.log"
```

If you have only the 32-bit version of *Dragon Medical Client*, you need to use a different file:

```
ISSetupPrerequisites\VCRuntime\vcruntime.exe /a /l1033
 /v"TARGETDIR=%NETWORK_VCRUNTIME_DIR% /qb /Liwmo!e+
%TEMP%\admininstall.log"
```

If the installation of Visual C++ Runtime succeeds or fails, the batch file displays the appropriate message.

Finally, the log file installs *Dragon Medical Client*, using a single line of code that calls the **setup.exe** command and passes it:

- **/a** option for administrative install
- **/s** option for a silent no-GUI installation
- **/v** option to indicate **msiexec** options follow, enclosed in quotation marks

The **msiexec** options with **/v** include **/qb** for display of a basic GUI during the process, the **TARGETDIR** setting, and a **/L** with a series of log file options, including the name and location for the log file:

```
echo Installing Dragon NaturallySpeaking...
setup.exe /a /s /v"/qb TARGETDIR=%NETWORK_DNS_DIR% /Liwmo!e+ %TEMP%-
\admininstall.log"
```

Whether the installation of *Dragon* succeeds or fails, the batch file displays an appropriate message. The remainder of the file processes errors and handles any bad arguments passed on the command line.

You can modify this file using any of the options and feature variables presented in the three tables in the section that follows:

- General options for installing *Dragon*
- MSI options for Installing *Dragon* features/advanced options
- Feature variables to set through the ADDLOCAL or ADVERTISE properties

For more information on these options, proceeed to *Understanding Dragon MSI command line options* on page 157.

Understanding Dragon MSI command line options

Modifying the admininstall.bat file

To make changes to the **admininstall.bat** file, you can use any of the options below:

General options for installing Dragon

Options	Description
SERIALNUMBER=abcde-fgh-ijkl-mnop-qr	The serial number for the *Dragon* product. All *Dragon* installations require that you provide a serial (license) number for the product. The *Dragon* installation process checks for a serial number even if you run the process from a command line.
NAS_ADDRESS="DNS|<IP_address>"	Indicates the IP address of the *NMS Server* that the *Dragon Medical Client* connects to when the healthcare provider logs on. If you set this option during the installation, then the user does not need to enter the server machine name when logging in to *Dragon Medical Client* for the first time. If you do not set this option during the installation, each provider should click the **Advanced** button when logging in to the client for the first time and enter either the IP address or the machine name (with no prefix for instance, no **www** or **http://**) in the **Server Location** text box.
QUICKSTART=0 (or 1)	Set the default state of **Enable QuickStart Mode** to enable **QuickStart** and to create a shortcut for *Dragon* in the Windows **Startup** folder. Set the option to **0** so Dragon does not start when Windows starts. Set the option to **1** to set Dragon to start when Windows starts.

MSI options for installing Dragon features/advanced options

Options	Description
ADDLOCAL=Feature1,Feature2,... or ADD-LOCAL=ALL	Set the ADDLOCAL option to a comma delimited list of features to install locally. To install all features locally (including speech files), set the ADDLOCAL option to **ALL**. See General Options for Installing Dragon for a list of the features that you can make available or install locally using the ADDLOCAL option or the ADVERTISE option.
ADVERTISE=Feature1,Feature2,Feature3,...	Set the ADVERTISE option to a comma delimited list of features to make available but not install locally. To install all features as advertised, set the ADVERTISE option to **ALL**. The ADVERTISE option overrides the ADDLOCAL option. The best method for installing a particular set of features is to set the ADDLOCAL option to **ALL** and then set the ADVERTISE option to the features you do not want to install locally. See General Options for Installing Dragon for a list of the features that you can make available or install locally using the ADDLOCAL option or the ADVERTISE option.
REINSTALL=Feature1,Feature2,... (or ALL)	Set the REINSTALL option to a comma delimited list of features to reinstall. To reinstall all features, set the REINSTALL option to **ALL**. If you set the REINSTALL option, you should also set the REINSTALLMODE option to set the type of reinstall to perform. If you do not set the REINSTALLMODE option, the installation process only reinstalls a file if it is an earlier version of the file that is presently installed or if the a file is not present on the system. By default, no registry entries are rewritten. Even if you set the REINSTALL option to **ALL**, the installation process only reinstalls features that are already installed. Thus, if you use the REINSTALL option for a product that is not yet to installed, product installation does not occur. For more information, see: http://msdn.microsoft.com/library/default.asp?url=/library/en-us/msi/setup/reinstall.asp
REINSTALLMODE={type of reinstallation to perform}	Set the REINSTALLMODE option to a string that indicates the type of reinstall to perform. Options are case-insensitive and order-independent.

You should use this option when you use the REINSTALL option. You can also use this option during an installation of *Dragon Medical Client*, not just during a reinstallation.

Opt	Purpose
p	Only reinstall a file if the file is missing.
o	Only reinstall a file if the file is missing or is an older version.
e	Only reinstall a file if the file is missing or is an equal or older version.
d	Only reinstall a file if the file is missing or a different version is present.
c	Only reinstall a file or files whose checksums are missing or corrupt.
a	Force a reinstall of all files, regardless of checksum or version.
u	Rewrite all required registry entries from the Registry Table that go under HKEY_CURRENT_USER or HKEY_USERS.
m	Rewrite all required registry entries from the Registry Table that go under HKEY_LOCAL_MACHINE or HKEY_CLASSES_ROOT. Regardless of machine or user assignment. Rewrite all data from the following tables: Class, Verb, PublishComponent, ProgID, MIME, Icon, Extension, and AppID . Reinstall all qualified components. When reinstalling an application, run the RegisterTypeLibraries and InstallODBC actions.
s	Reinstall all shortcuts and re-cache all icons, overwriting existing shortcuts and icons.
v	Run from the source package, re-cache the local package. Does not apply to a new installation of a product or feature.

REMOVEOLDPROD=1	Set the REMOVEOLDPROD option to remove an older version of Dragon before installing the newer version. You should on only use this option for major upgrades.
/x*<Product.msi|ProductCode>*	Set the installation process to uninstall the current installed version of *Dragon*. You must perform this action during an upgrade. However, you should be familiar with the entire upgrade procedure before you use this option.

Feature variables to set through the ADDLOCAL or ADVERTISE properties

Feature/Sub-feature	Sub-feature	
NatSpeak **Note:** *Required in ADDLOCAL; if not included, installation fails*	None	
Samples *(Sample Commands files)*	None	
TTS *(Text-to-Speech)*	TTSENU *(US English Text-to-Speech)* TTSENG *(British English Text-to-Speech)*	
Tutorial	TutENX *(English Tutorial)*	
Speech ENX *(English)* /ENU *(US English)*	**Dragon NaturallySpeaking and Dragon Medical:Sub-features for ENU (US English):** ENULegal *(US English Legal Large)* ENUGeneral *(US English General Medium, US English Empty Dictation, US English Commands Only)* ENUGenSvc *(US English Large General)*	**Note:** The ENU sub-feature includes support for the following accents: General: Use if your accent is not covered by the another choice or you are not sure which to select. Australian accented English British accented English Indian accented English Inland Northern US (Great Lakes area): Covers Upstate New York through the Chicago area. SEAsian accented English: South East Asian Southern US: Covers most of the Southern United States, including Texas. Spanish Accented English
Speech ENX *(English)* /ENU *(US English)* (continued)	**Dragon Medical Only Sub-features for ENU (US English):** ENUCardiology *(US English Medical Large Cardiology, Pediatric Cardiology)* ENUEmergency *(US English Emergency Medicine Large)* ENUGastroenterology *(US English Medical Large Gastroenterology, Pediatric Gastroenterology)* ENUGeneralPractice *(US English Large Family Medicine, Allergy*	ENUObGyn *(US English Medical Large ENT, Fetal Medicine, Midwifery, Obstetrics and Gynecology, Ophthalmology)* ENUOncology *(US English Medical Large Oncology, Radiation Therapy)*

	and Immunology, Dermatology, Epidemiology, Geriatric, Hematology, Infectious Disease, Internal Medicine, Medical Education and Writing, Nephrology, Nursing, Osteopathy, Pulmonary Disease, Rheumatology, Sleep Lab) **ENUMedical** *(US English General Medical Large No Specialty)* **ENUMentalHealth** *(US English Large Medical Addiction Psychiatry; Endocrinology, Diabetes, and Metabolism; Psychiatry, Psychology)* **ENGNeurology** *(US English Anesthesiology, Neurology, Pain Medicine, Physical Medicine and Rehabilitation, Vascular and Interventional Radiology)*	**ENUOrthopaedic** *(US English Medical Large Dentistry, Large Hand Surgery, Neurosurgery, Orthopaedics, Oral and Facial Surgery, Orthopaedic Surgery, Plastic Surgery, Podiatry)* **ENUPathology** *(US English Medical Large Pathology)* **ENUPediatrics** *(US English Medical Large Pediatrics, Neonatal and Perinatal Medicine, Pediatric Dentistry)* **ENURadiology** *(US English Medical Large Nuclear Medicine or Radiology)* **ENURehabilitation** (*Neurology, Physical Medicine, Rehabilitation and Speech and Language Pathology*) **ENUSurgery** *(US English Medical Large Cardiac Surgery, Colon and Rectal Surgery, Surgery, Thoracic Surgery, Urology, Vascular Surgery)*

Creating custom installer for installing client in Active Directory

If you are installing Dragon on a network using Active Directory Services, you can create a custom installation program using a set of tools available from Microsoft.

- Download and install the tools
- Run the wizard

You are then ready to use the custom installer to install the *Dragon Medical Client* from Active Directory Services.

Installing the Microsoft Custom Installation Wizard

The Microsoft Custom Installation Wizard is part of the Microsoft Office Resource Kit Tools. To install the Custom Installation Wizard:

1. Download the Office Resource Kit Tools (**OrkTools.exe**) from: http://www.microsoft.com/office/orkarchive/xpddl.htm. The **OrkTools.exe** self-extracting executable (EXE) file installs the core Office XP Resource Kit tools on your computer through a single Setup program.

2. After downloading **OrkTools.exe**, to install the tools, you either double-click the executable or select **Start > Programs > Microsoft Office Tools > Microsoft Office XP Resource Kit Tools**.

After you install the tool, you use its **Custom Installation Wizard** to create your custom installation. For details on using the wizard, continue with the next subsection.

Modifying setup Properties for Custom Installation

The following explains how to modify setup properties for a custom installation of *Dragon Medical Client*. This example shows how to add to the installer configuration one of the many MSI options you can set for installing *Dragon Medical Client*, the SERIALNUMBER property. (You can add any options available to MSI on the command line.)

1. Start the Microsoft Custom Installation Wizard by choosing **Start > Programs > Microsoft Office Tools > Microsoft Office XP Resource Kit Tools**, and then click **Custom Installation Wizard**. The **Custom Installation Wizard** screen displays:

2. Click **Next**.
3. On the Open the MSI File page of the wizard, shown below, select the .MSI file you want to use to create a custom installation. The compiled .MSI file is located on your installation CD. The file you should select is named *Dragon Medical*: **Dragon NaturallySpeaking 10.msi**.
4. Click **Next**.

5. Click **Yes** when you see the following message:
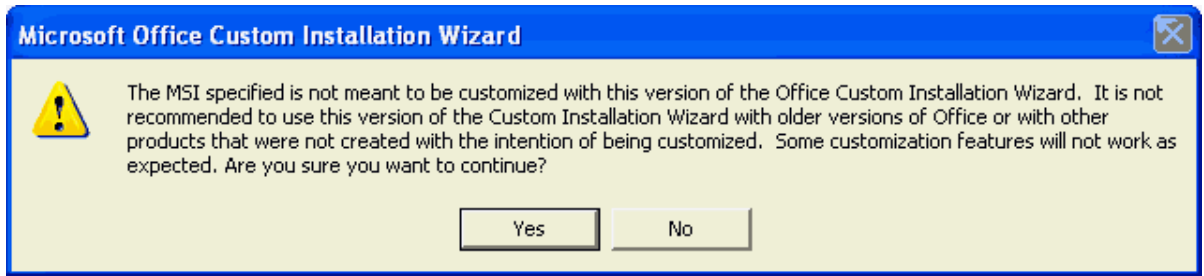
6. On the **Open the MST File** page of the wizard, select **Create a new MST file**.
7. Click **Next** to continue.
8. On the **Select MST File to Save** page of the wizard, select a file name and path for the MST file you are creating:
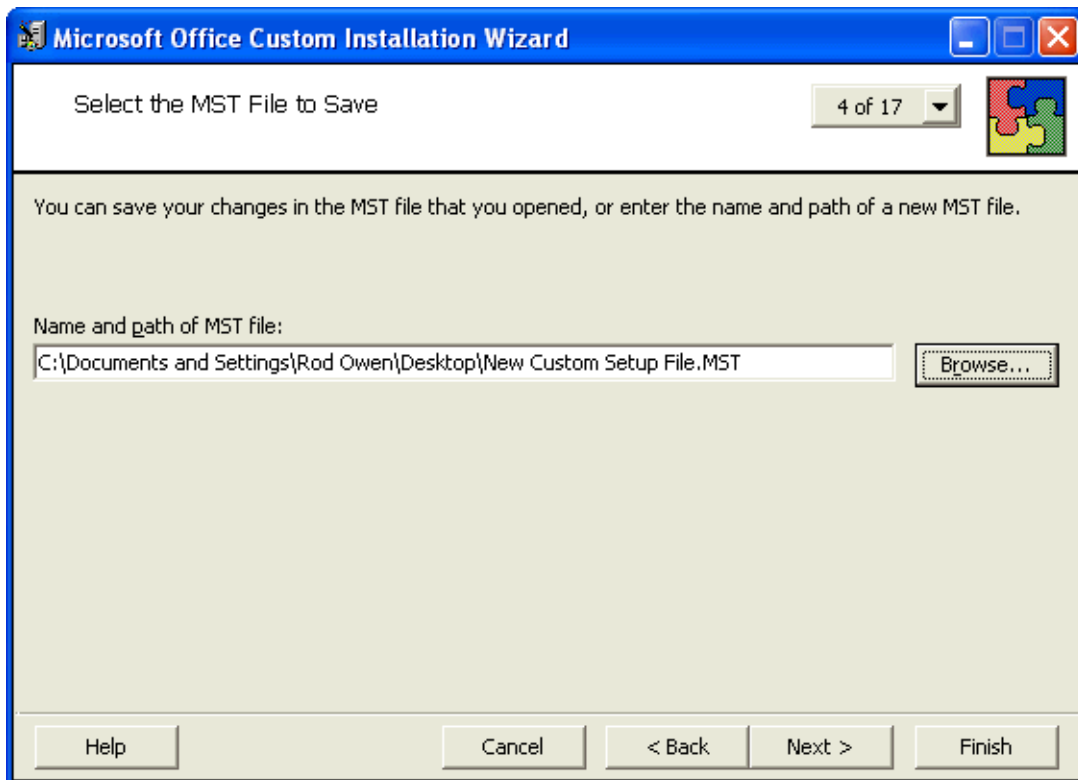
9. Click **Next**.

10. On the **Specify a Default Path and Organization** page, select the default path for the instal-
lation. By default, *Dragon Medical Client* installs in `\Program Files\`
`Nuance\NaturallySpeaking10.`
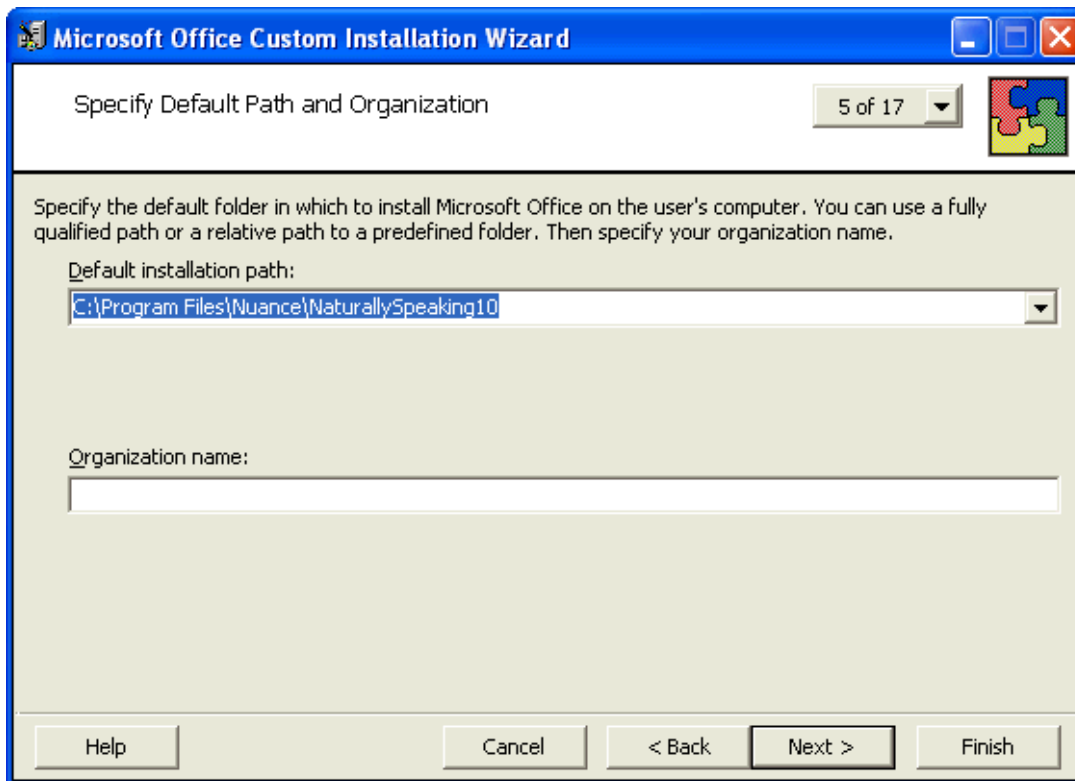
11. Click **Next**.
12. On the **Remove Previous Versions** page, keep the default selections and click **Next**. This
page applies only to Microsoft Office and does not affect the *Dragon Medical Client* installation.
13. Click **Next** to keep all the defaults when you come to **the Set Features Installation States**
page, where you select particular components to install. The illustration here shows some of the
Medical vocabularies you might choose:
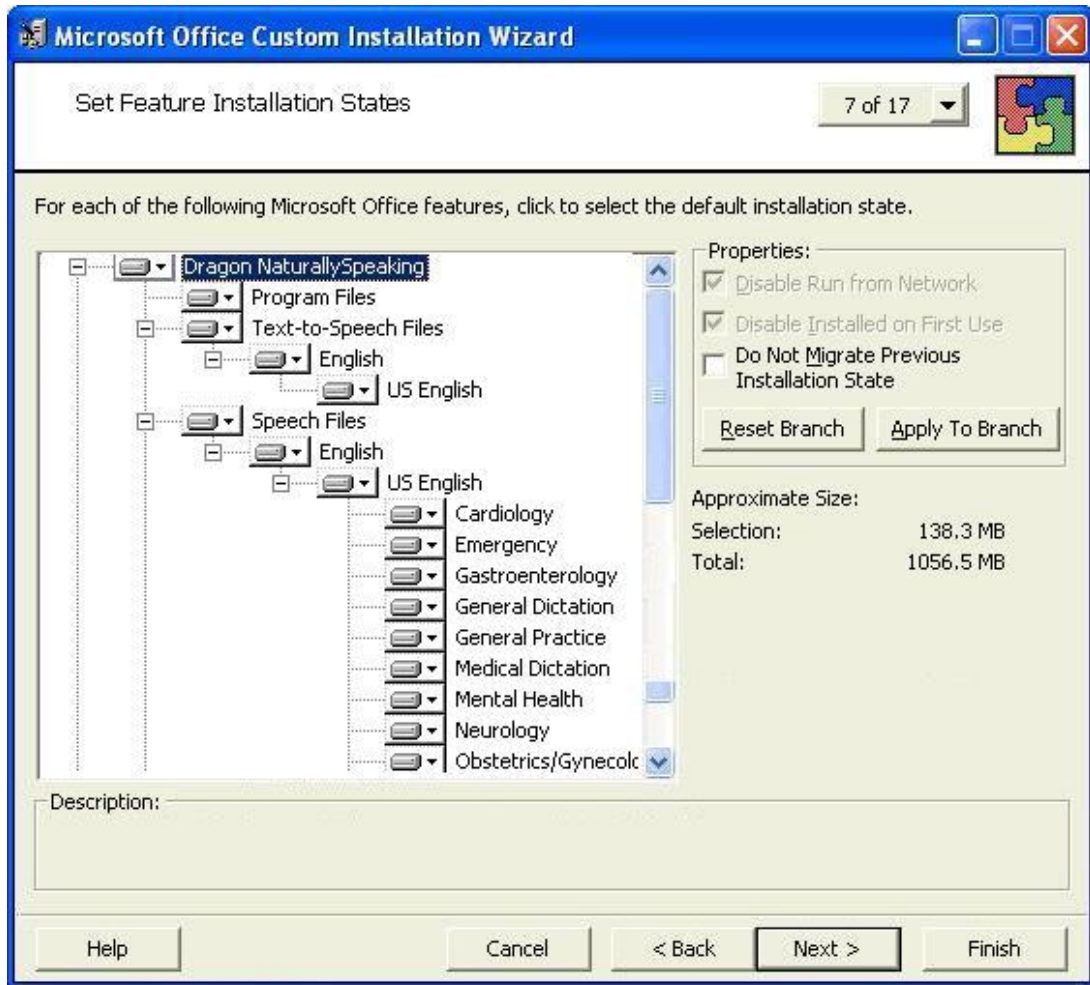
14. On the next several pages of the wizard, click **Next** on each, and proceed until you reach the **Modify Setup Properties** page. All the pages in between apply only to Microsoft Office or do not affect the *Dragon Medical Client* installation.

    Customize Default Application Settings page

    Change Office User Settings page

    Add/Remove Files page

    Add/Remove Registry Entries page

    Add, Modify, or Remove Shortcuts page

    Identify Additional Servers page

    Specify Office Security Settings page

    Add Installations and Run Programs page

15. Use the **Modify Setup Properties** page, shown below, to add, modify, and set the MSI options of your custom installation.
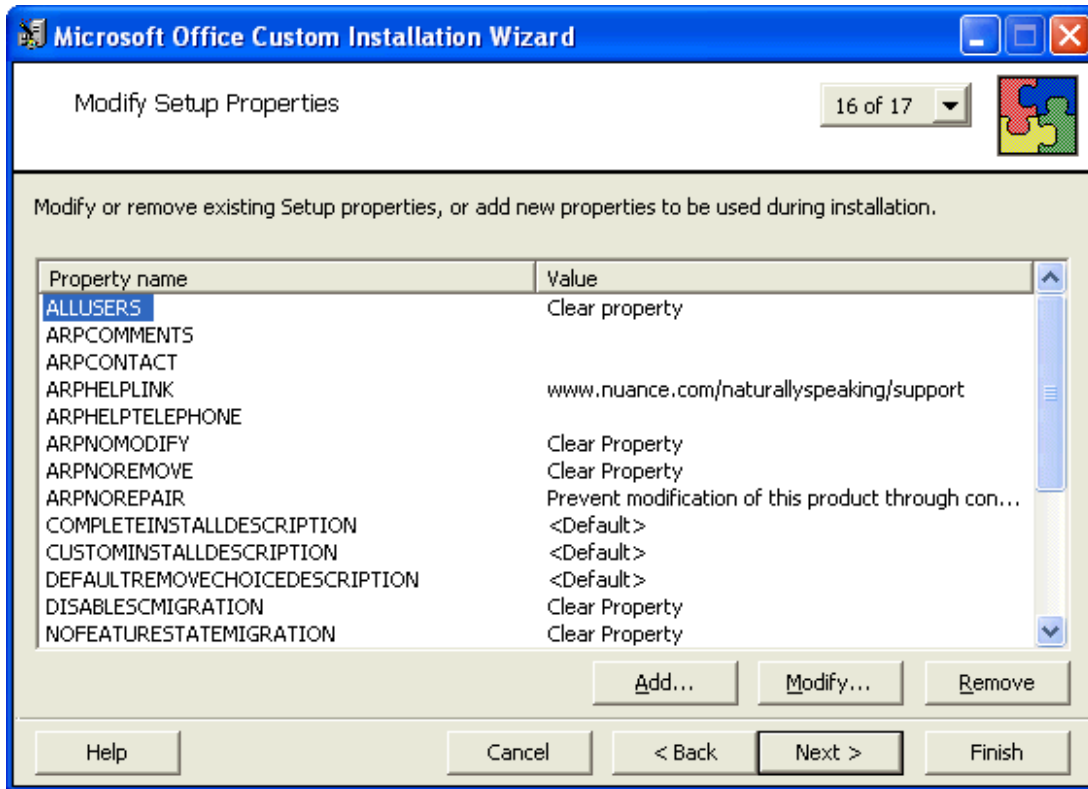
16. Click the **Add...** button to display the **Add/Modify Property Value** dialog box, where you modify the MSI installation options. In this example, we add and set the SERIALNUMBER option.

17. In the following **Add/Modify Property Value** page, enter the new property name SERI-ALNUMBER and a valid serial number, then click **OK**:
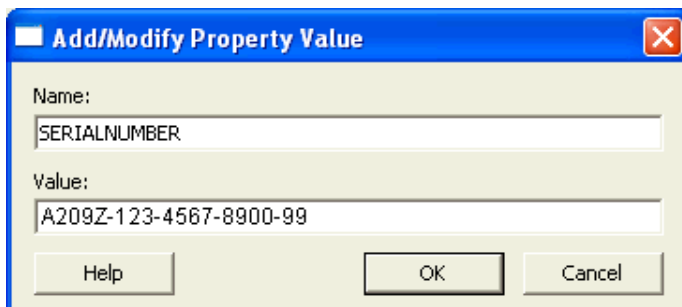
18. Note that the **Modify Setup Properties** page re-displays with the updated information. For example:

Modify or remove existing Setup properties, or add new properties to be used during installation.

Property name	Value
SERIALNUMBER	A209Z-123-4567-8900-99

19. Continue adding or modifying other MSI options that apply for your environment. Once you are done, click **Next**.

20. On the **Save Changes** page, click **Finish**.

21. When the **Custom Installation Wizard** page appears, click **Exit**. This screen displays the location of *Windows Installer transform* (.MST file) that you created.
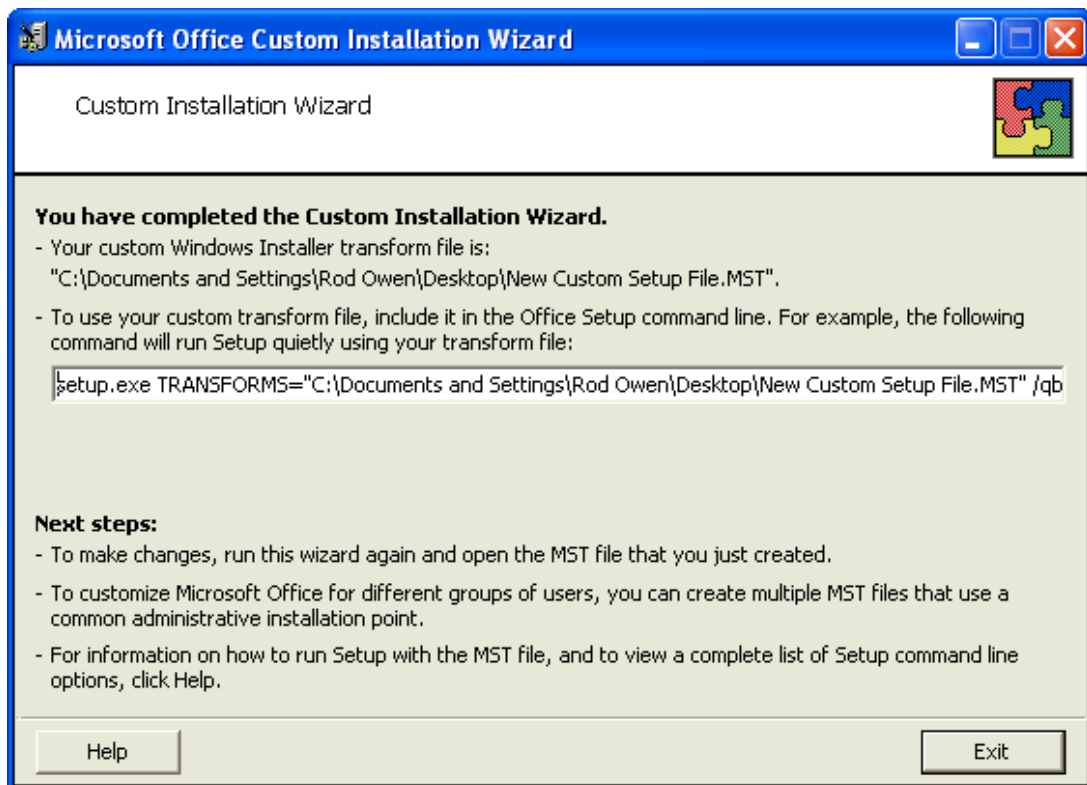
After you save changes, you can use the resulting .MST file to manage an installation through a Group Policy in Active Directory Services.

You are now ready to use the custom installer you created to install the product.

Installing multiple clients with same default options using MSI

If would like to set the same default options for a several *Dragon Medical Client* workstations, you can preconfigure them using a **natspeak** option of the *Dragon Medical SDK Client* on the command line and then apply those settings by passing the **.ini** file the SDK creates to the MSI installer on the command line.

You must take the actions outlined in the subsections that follow on a machine where you have installed the *Dragon Medical SDK Client*. (It is required on every *Profile Optimizer Speech Node*.) If you have not yet installed the SDK, refer to *Installing prerequisite software for Profile Optimizer Server* on page 53

Setting default Client options on command line before installing

After you install the *Dragon Medical SDK Client* on any *Profile Optimizer Speech Node* machine, you can take advantage of a **natspeak** command line option available only in the SDK.

You use the *Dragon Medical SDK Client* **natspeak** command to pre-configure default settings for one workstations, then later have those defaults automatically apply to multiple *Dragon Medical Clients* you install using an MSI installation. When you use the **natspeak** command, you no longer have to set these options on each individual *Dragon Medical Client* workstation.

On any *Profile Optimizer speech Node* machine, take the following steps to set the options you want to pre-set on multiple *Dragon Medical Clients* through an MSI installation:

1. Open a command prompt and switch directories to the following path:

```
<drive>:\Program Files\Nuance\Dragon SDK Client Edition10\Program
```

2. Enter the command line shown below, passing **/SetDefaultOptions**:

```
natspeak.exe /SetDefaultOptions
```

3. In a moment, the **Options** dialog box appears.

   Here you set the options you'd like each client workstation to use.

   You set the options under the several tabs you see. For instance, the next illustration shows the **View** tab with display **Mode** for *Dragon* set to **Floating** and the **Results Box** set to anchor itself to the application and hide after 5 seconds.
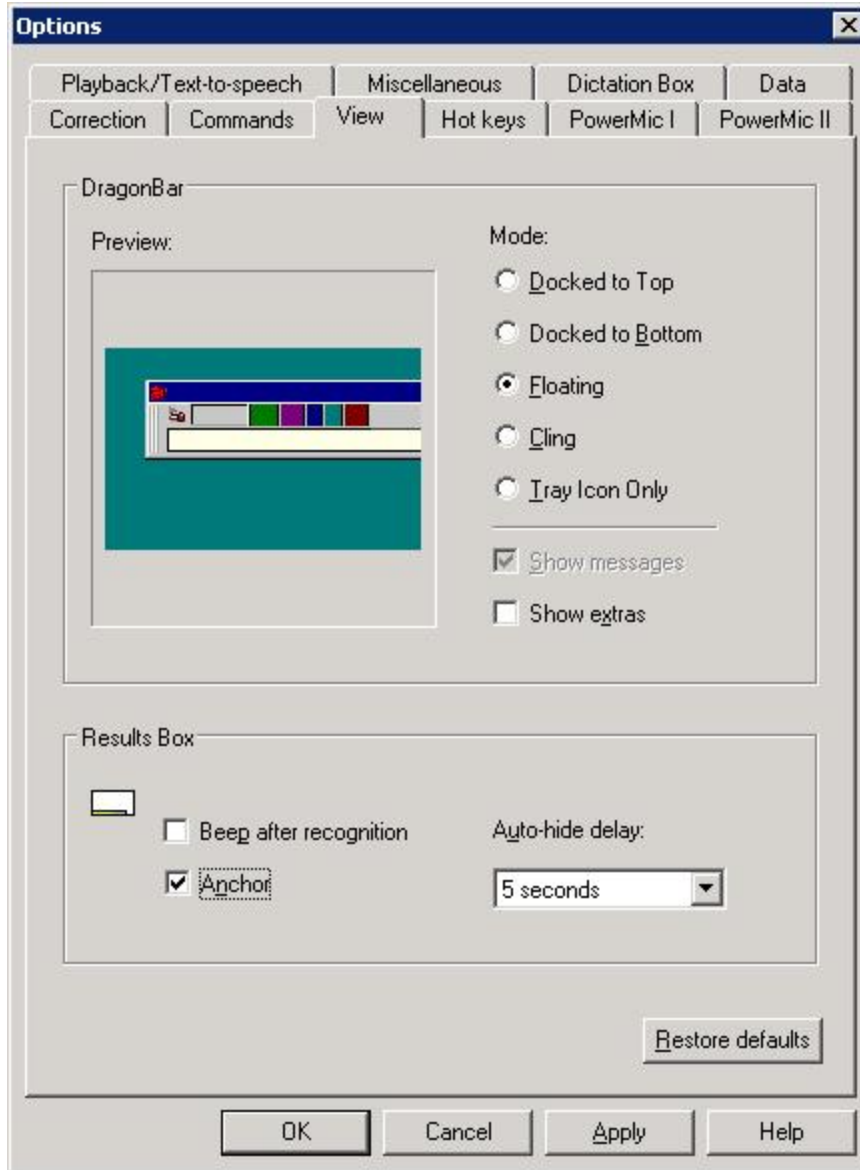
4. For more information on setting the options in the tabs of the **Options** dialog box, refer to the *Dragon Medical Client* Help.

5. When you have finished setting all of the options the way you want them, click **OK** to close the dialog box. *Dragon* has saved the configuration you created with the **natspeak.exe** command in the **nsdefaults.ini**file. You can find this **.ini** file under
   C:\Program Data\All Users\Application Data\Nuance\Dragon SDK Client Edition10 on a Windows Server 2008 machine and under
   C:\Documents and Settings\All Users\Application Data\Nuance\Dragon SDK Client Edition10 on all other Windows operating systems.

6. Retrieve the **nsdefaults.ini** file and copy it to a directory where all workstations you plan to install the *Dragon Medical Client* on can access it.

Installing Visual C++ Runtime on the client

Before you use the **nsdefaults.ini** file you just created in an MSI installation of *Dragon Medical Client*, you need to install Visual C++ Runtime:

1. Go to the machine you plan to carry out the MSI installation from and copy the files from the *Dragon Medical Enterprise Network Edition Client Software* DVD to a location on your network that you can access all client workstations from.

2. Open a command prompt and switch to the **\ISSetupPrerequisites\VCRuntime** directory inside the directory where you copied the *Dragon Medical Client* files.

3. Install Visual C++ on the command line by entering one of the commands below; use the first on a 32-bit machine and the second on a 64-bit machine:

```
vcruntime.exe /S /v"/qn /l*v vcruntime.log"
```

```
vcruntime_x64.exe /S /v"/qn /l*v vcruntime_x64.log"
```

The **/S** is the silent option for **vcruntime**, to turn off its GUI during the installation. The **/v** option introduces a series of any **msiexec.exe** options, all enclosed in quotation marks after the **/v**, with no space allowed between the **/v** and the opening quotation mark. You should include the **/l** option for **/v** followed by the full path to an error log file, so that if something goes wrong during the installation, you receive messages about it. Options for **/l** are listed in the table below.

Suboptions for the /L MSI installation option

Suboption	Type of Message to Log		Suboption	Type of Message to Log
i	Status messages		o	Out-of-disk-space messages
w	Nonfatal warnings		p	Terminal properties
e	All error messages		v	Verbose output
a	Start up actions		x	Extra debugging info (Windows Server 2000 only)
r	Action-specific records		+	Append to existing log file
u	User requests		!	Add each line to log
c	Initial UI parameters		*	Wildcard. Log all info except v and x options (verbose and extra debugging)
m	Out-of-memory or fatal exit information		*vx	Log all info including v and x options (verbose and extra debugging)

Installing Dragon Medical Client using pre-defined options in nsdefaults.ini

Once you have Visual C++ installed, you can now use the **nsdefaults.ini** file you created earlier in an MSI installation of *Dragon Medical Client*:

1. Go to the machine you plan to carry out the MSI installation from and copy the files from the *Dragon Medical Enterprise Network Edition Client Software* DVD to a location on your network that you can access all client workstations from.

2. Open a command prompt and switch to the directory on your machine where the **setup.exe** file for *Dragon Medical Client* is now located.

3. Enter the MSI installation command, passing it the options shown below:

```
msiexec /i "Dragon NaturallySpeaking10.msi" SERIALNUMBER=#####-###-####-
####-## INSTALLDIR="C:\DragonMed" NAS_ADDRESS=10.45.133.91 DEFAULT-
SINI="C:\<full_path>\nsdefaults.ini" /Lwiemo+ "C:\logfile.log" /qn
```

You must put the name of the **.msi** file in quotation marks.

Set the **INSTALLDIR** to the full path where you want the files installed on the workstation.

Set the **NAS_ADDRESS** to the IP address or machine name of the *NMS Server* for this particular *Dragon Medical Client*.

Set the **DEFAULTSINI** to the full path to the **nsdefaults.ini** file you created earlier.

You should include the **/L** option followed by the full path to an error log file, so that if something goes wrong during the installation, you receive messages about it. When you pass **/L**, you also pass a series of suboptions to have the installation process log both errors and other types of messages related to the process. (You can then send the log file to Nuance Technical Support should any issues arise.)

The first time you carry out this installation, you should not pass the **/qn** option, so that if you have neglected to provide information about a setting that does not have a default, you receive a prompt asking for that information. Later, when you are sure this command line works, you can add the **/qn** option.

When you generate the MSI command line, be sure to group the *Dragon* options together after the **/i** option, then add the other MSI options at the end of the command line.

To run the installation to a server, you must pass the **/a** option to **msiexec** rather than the **/i** option.

Using command lines in an MSI script

You can use the command lines shown in this section in your own MSI installation script. When you use the command lines in a script, if you plan to run the script from the directory where **setup.exe** resides, you should use the full path to the Visual C++ runtime executable:

```
\ISSetupPrerequisites\VCRuntime\vcruntime.exe /S /v"/qn /l*v C:\<full_
path>vcruntime.log"
```

```
\ISSetupPrerequisites\VCRuntime\vcruntime_x64.exe /S /v"/qn /l*v C:\<full_
path>vcruntime_x64.log"
```

Summary: Additional MSI options for use with nsdefaults.ini file

Below is a summary of additional *Dragon* options you can use when you install *Dragon Medical Client* from the command line using **msiexec.exe**.

Additional MSI command line options for using nsdefaults.ini file

Option	Function
DEFAULTSINI	Set to the full path to the **nsdefaults.ini** file.
INSTALLDIR	Set to the full path to where you want the *Dragon Medical Client* to be installed.
NAS_ADDRESS	Set to the IP address or name of the *NMS Server* machine. If you have more than one NMS Server, be sure to give the correct server's address.
/L "<logfilename>.log"	Creates a log file where the **msiexec** installer logs any errors in the installation. The log file's name must be in quotation marks.

Starting Dragon Medical Clients from Command Line

On any workstation where you installed the client, you can start the *Dragon Medical Client* from the command line and login/connect to the *NMS Server*, as long as you know the login name and password of the user account on the server:

1. Select **Start > Run...** and enter **cmd** in the **Run** dialog box that pops up.
2. Switch directories to the following path:

```
<drive>:\Program Files\Nuance\NaturallySpeaking 10\Program
```

3. Enter the command line shown below, passing either the **-user** option or the **/user** option followed by the user name and password, in that order. The user name and password must be from a user account created on the *NMS Server*:

```
natspeak.exe /user <username> <password>
```

4. The password is optional if a provider does not have a password, but Nuance recommends that you assign all providers using *Dragon Medical* a password.
5. To log in using a single sign-on user account (when the *NMS Server* has been set up to run in Active Directory and the user accounts correspond to Windows user accounts), once the provider has logged in to Windows, he or she can use the **/trusted** switch on the command line:

```
natspeak.exe /trusted
```

5. You can also use **natspeak** to install the client from the command line. To receive diagnostic messages about the *Dragon Medical Client* installation process, you can use the diagnostic option shown below:

```
natspeak.exe /diagnose
```

When you use the **/diagnose** option, *Dragon Medical* sends any information about errors that occur during the installation into the **Dragon.log** file.

Summary: natspeak options in Dragon Medical Client

You can run the *Dragon Medical Client* from the command line by running **natspeak** from the following location on the workstation:

C:\Program Files\Nuance\NaturallySpeaking10\Program

natspeak switches

You can use the following options on the command line with **natspeak** to modify the way that *Dragon Medical Client* starts up.

Switch	Function
/diagnose	Runs *Dragon Medical Client* in diagnostic mode. Outputs information into the **Dragon.log** file and exits. The diagnostic information shown in the log includes file version verifications. The diagnostic results end with a line that says **Diagnoses: Passed**.
/trusted	Automatically logs in to *Dragon Medical Client* with the user account of the logged in Windows user. The user account must be set up in Active Directory and have a corresponding user account in the *NMS Server*.
/user <username> <password>	Automatically logs in to to *Dragon Medical Client* with the user account named. The password is optional if the account does not have a password. The user account must be set up in the *NMS Server*. Note that Nuance always recommends each user account have a password.
-user <username> <password>	Same as **/user**.

natspeak command line options

You can use the following option on the command line with **natspeak** to modify the *Dragon Medical Client* options settings in the **nsdefaults.ini** file before installing the client on multiple machines.

Switch	Function
/SetDefaultOptions	Opens the *Dragon Medical Client*'s **Options** dialog box, where you can pre-set the options. When you apply the setting changes and save them, Dragon saves the settings in the **nsdefaults.ini** file.

Assigning access to folders and master user profiles across network

---

Caution:

Windows accounts that all *NMS* and *Profile Optimizer* processes on the network run under, even the *Dragon Medical Client*, must have read permission to the following:

<*Drive Letter*>`:\Program Files\` folder and all subfolders

Assigning permissions to NMS and Profile Optimizer component files

To ensure all *NMS* and *Profile Optimizer* processes can interact with one another, during the installation you set up a single administrator level account (name it something like **NMSapps**) that all the software will be running under and give full access rights across all servers to the directories where you install the software. The software these conditions apply to includes:

- *NMS Server*
- *NMC Console*
- *NMS SQL Database*
- *Profile Optimizer Server*
- *Profile Optimizer Database*
- Each *Profile Optimizer Speech Node*

Caution: Run All Services under the same Windows user account

All services should run under this same Windows administrator level account with full access rights across all servers and the master user profiles directory.

Directories where the components are installed should have full read/write/modify permissions.

Caution: Ensure Full access to the Master user profiles directory

It is especially important that the account that *NMS* and *Profile Optimizer* components run under has complete read/write/modify access to the **master user profiles directory**. If the servers and *Speech Nodes* cannot access the master user profiles, the *DME* product cannot function properly. Each windows user account that logs in to the *Dragon Medical Client* workstation should also have access to the master user profiles that allows reading profiles and writing to/modifying profiles, an action the *Dragon Medical Client* takes frequently to keep profiles current.

Caution: Regarding Privacy of Patient Data

To protect the privacy of patient data and the integrity of the master user profiles, you should **not** give Windows user accounts of *Dragon Medical Clients* rights to log in to the master user profiles machine; the *Dragon* software writes to and modifies the profiles in the background.

Assigning permissions to master user profiles

Caution:

Be sure that when you set up the master user profiles directory, you locate it either on a Windows machine or on a device connected to a Windows machine with .NET Framework 3.5 SP1 installed on it and that the machine is in the same Windows domain as your *DME* servers.

To ensure every dictating healthcare provider has appropriate access to files (such as his or her user profile), you must give full read/write/modify permissions to all files and directories housing the master user profiles for healthcare providers that dictate on that client or allow the same level of access to the master user profiles through an **http** or **https** connection. This level of permission/access ensures that when the provider dictates, the software can interact with the master user profiles effectively.

Assigning folder permissions to Dragon Medical Enterprise server and client files

You must assign particular levels of permissions to certain folders that *Dragon Medical Client* reads from and writes to when processing speech.

NMS Servers/NMS and Profile Optimizer Databases:

<Drive Letter>`:\Users\All Users\Application Data\Nuance` folder and all subfolders:

   All users must have read, write, and modify permissions.

<Drive Letter>`:\Program Data\Application Data\Nuance` folder and all subfolders:

   All users must have read, write, and modify permissions.

<Drive Letter>`:\Program Files\Nuance` folder and all subfolders:

   All users must have read permission.

Dragon Medical Client workstations (Windows 7, XP, and Vista):

<Drive Letter>:`\Program Data\Nuance` folder and all subfolders:

> All users must have read, write, and modify permissions.

<Drive Letter>:`\`*<Windows_user_ID>*`\AppData\` folder and all subfolders:

> All users must have read, write, and modify permissions.

<Drive Letter>:`\Documents and Settings\All Users\Application Data\Nuance` folder and all subfolders:

> All users must have read, write, and modify permissions.

Assigning Dragon Medical Clients access to registry keys

You must assign particular levels of access to certain registry key settings. You assign these rights to all Windows user accounts for all dictating healthcare providers using *Dragon Medical Client* .

Dragon Medical Client workstations:

Workstation Windows user accounts that *Dragon Medical* runs under must have rights to update the registry in order to read/write to particular keys in the registry:

`HKEY_LOCAL_MACHINE\SOFTWARE\Nuance`

`HKEY_CURRENT_USER\SOFTWARE\Nuance`

Turning off Automatic Updates

On each machine you plan to use in the *DME Network*, be sure to turn off Windows Automatic Updates. You should, instead, qualify each update Windows sends by installing it first on a single test machine of the network and then updating other machines on the network only after you determine that it clearly will not disrupt the network.

Once you are sure an update does not negatively affect *DME*, you should install the update during off-hours and, if required, reboot each machine during those hours to ensure that requests to reboot do not disrupt the *DME* servers or workstations during peak hours of dictation.

Ensuring Dragon Medical Client anti-virus recommendations are met

Nuance recommends anti-virus software on all *Dragon Medical Enterprise Network Edition* servers and clients to protect the system from potential downtime due to viruses. However, on *Dragon Medical Clients*, be sure to exclude from the anti-virus scan any files found in the folders indicated below or with the extensions listed below (on Windows 7, XP, and Vista workstations):

- C:**ProgramData\Nuance** folder and all subfolders
- C:*<Windows user_ID>***\AppData\Roaming** folder and all subfolders
- C:**Documents and Settings\All Users\Application Data\Nuance** folder and all subfolders
- C:**Documents and Settings***Windows user_ID***\Local Settings\Temp** folder
- Files with these extensions: **BD, BIN, DAT, DVC, ENH, GSB, GRM, GRX, INI, LCK, NWV, SIG, SVC, USR, VER, VOC, WAV, XML, LOG**

Chapter 8: Uninstalling product servers

Revising or Repairing the Profile Optimizer Installation

If you have installed the *Profile Optimizer Server* and/or its *Profile Optimizer Speech Nodes* and want to modify or repair that installation, you take only a few steps.

1. *Halting Profile Optimizer Speech Nodes* on page 180
2. *Revising or repairing the Profile Optimizer or Speech Node installation* on page 180

Halting Profile Optimizer Speech Nodes

If you have one or more *Profile Optimizer Speech Nodes* running, you need to terminate their processes:

1. To terminate the processes, right click on the **Start** bar in Windows and hold down the mouse button, then select .**Task Manager** from the menu.
2. When the Windows Task Manager dialog box appears, click the **Processes** tab.
3. Find any processes named **Nuance.ConversionServer.ClientApp**. Highlight them and click **End Process**.

Revising or repairing the Profile Optimizer or Speech Node installation

After the *Profile Optimizer* Installer wizard starts up and you click **Next**, if you have already installed any portion of *Profile Optimizer*, the **Modify, Repair or Remove installation** page of the wizard appears and you should select **Modify**, then click **Next** to proceed.

After this wizard page, when you are given the option of choosing the parts you are installing, if you do not select one of the parts (*Profile Optimizer Server* or *Profile Optimizer Speech Node*), the procedure uninstalls the de-selected elements.

Uninstalling NMS Server and NMC Console

To uninstall the *NMS Server* and *NMC Console*:

1. Click **Start > Control Panel** and open **Add/Remove Programs**.
2. Find *NMS Server* in the list and click the **Remove** button.

Uninstalling Profile Optimizer Server

To uninstall the *Profile Optimizer Server* component of *Profile Optimizer*:

1. Halt any *Profile Optimizer Speech Nodes* that are running.
2. Uninstall the *Profile Optimizer Server*.

Halting Speech Nodes

If you have one or more *Profile Optimizer Speech Nodes* running, you need to terminate their processes:

1. Right click on the **Start** bar in Windows and hold down the mouse button, then select **Task Manager** from the menu.
2. When the Windows Task Manager dialog box appears, click the **Processes** tab.
3. Find any processes named **Nuance.ConversionServer.ClientApp.exe**. Highlight them and click **End Process**.

Removing the Profile Optimizer database

To remove the *Profile Optimizer Database*, take these steps:

1. Close all network connections.
2. Click **Start** > **Programs** and look for **SQL Server Management Studio**.
3. When the Microsoft SQL Server Management Studio dialog box appears, expand **Databases** in the Object Explorer (to the left) and find the database named **NuancePODB**. That is your *Profile Optimizer* database.
4. Right click on **NuancePODB** and select **Delete** from the drop-down menu (see illustration below).
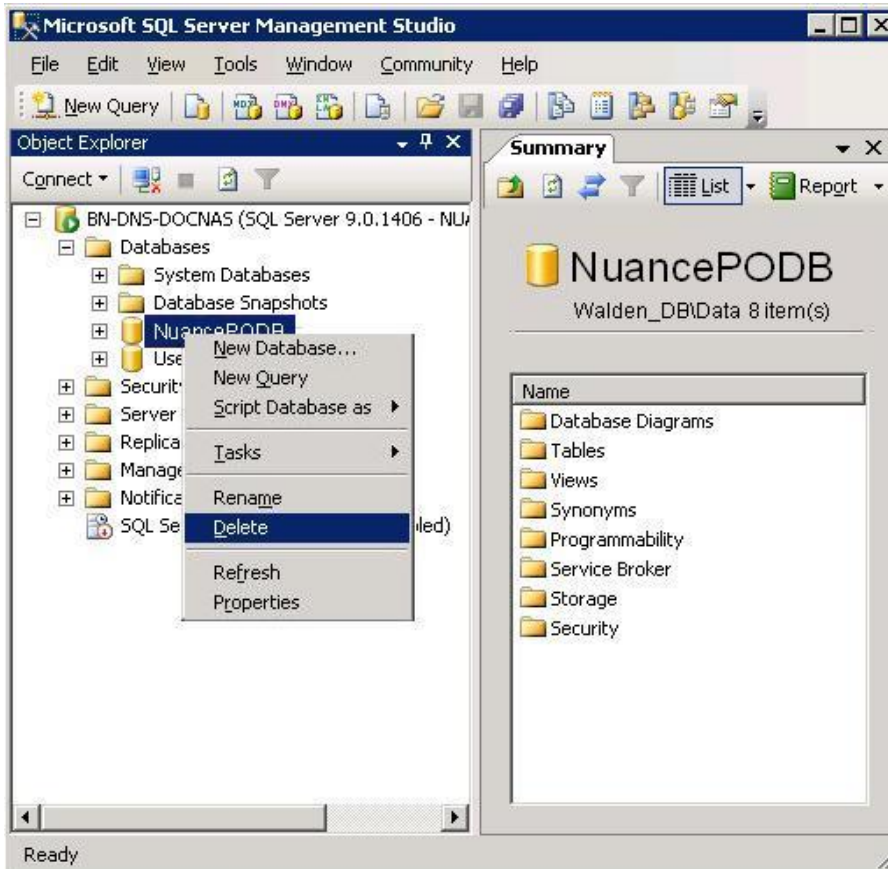
Uninstalling Profile Optimizer Server and Speech Nodes

To uninstall *Profile Optimizer Server* and/or any *Speech Nodes*:

1. Click **Start > Control Panel** and open **Add/Remove Programs**.

2. Find *Profile Optimizer Server* in the list and click the **Remove** button.
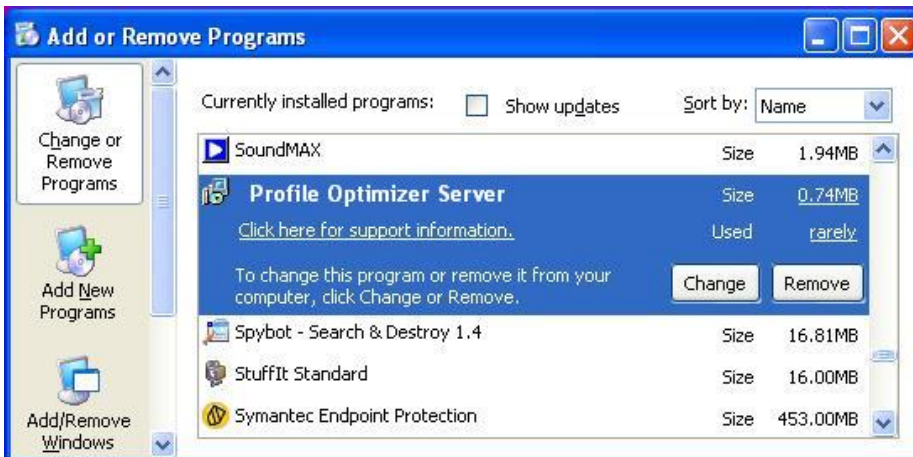
Chapter 9: Understanding server backup systems

NMS SQL Server backup system

When you look in the SQL Server explorer, to find the *NMS SQL Database* database, look for a database named **NuanceMC** by default. If you name the database differently during the installation process, *NMS Server* retrieves the database name from SQL Server and uses its name as the root for the backup files.

During the installation process, the *NMS Server* creates the backup folder in the location you indicate or, by default, in the **C:\NMSDBBACKUP** folder.

The *NMS Server* automatically backs up the data you have entered into it on sites, users, groups, and other objects into the backup folder. It also backs up all Windows communication foundation service logs that it creates.

(For more information on logs that *DME Network* clients and servers create, refer to *About logs that DME servers and clients generate* on page 188.)

Scheduled NMS transaction log and database backups

The *NMS Server* schedules these backups:

- Transaction log backups—Scheduled hourly
- Differential database backups—Scheduled daily
- Full database backups—Scheduled weekly

The *NMS Server* stores up to one month of backups on its hard disk.

To retain more than one month of backups, you must copy the data before the month is over.

File names of database backups

Each time it carries out a full database backup, the *NMS Server* takes the following steps:

1. Deletes database files older than 1 month.
2. Renames the **NuanceMCDump.BAK** file currently in the folder to **NuanceMCDump_*YY_MM_DD_hh_mm_ss*.BAK**, using the current date- and timestamp.
3. Generates a new database backup and names it **NuanceMCDump.BAK**.

Profile Optimizer SQL Server backup system

When you look in the SQL Server explorer, to find the *Profile Optimizer SQL Database* database, look for a database named **NuancePODB**.

At the beginning of the installation process, you create the *Profile Optimizer Server* database files folder and place it on the hard drive of the SQL Server. This file does not require a particular name, because you tell the server the name of the file later in the installation process. You might name it something that helps identify it, like **ProfOpt_DB**. The *Profile Optimizer Server* automatically backs up the data that it generates into this database files folder.

Note:

The server does not automatically back up *Dragon* log files and *Speech Node* service log files that it creates.

(For more information on logs that *DME Network* clients and servers create, refer to *About logs that DME servers and clients generate* on page 188.)

Automatic Profile Optimizer transaction log and database backups

The *Profile Optimizer Server* generates these backups after its **Profile Optimizer Core Services** start:

- Differential database backups—Created when the services first start up, then generated daily
- Transaction log backups—Generated hourly as long as **Core Services** are running
- Full database backups—Generated after **Core Services** have been running for a full week, then every time the Core Services have been running a full week since the last full backup

The *Profile Optimizer Server* stores up to one month of backups on the database server hard disk.

To retain more than one month of backups, you must copy the data before the month is over.

File names of database backups

Each time it carries out a full database backup, the *Profile Optimizer Server* takes the following steps:

1. Deletes database files older than 1 month.
2. Renames the **NuancePODBDump.BAK** file currently in the database files folder to **NuancePODBDump** *_YY_MM_DD_hh_mm_ss***.BAK**, using the current date- and timestamp.
3. Generates a new database backup and names it **NuancePODBDump.BAK**.

Master user profiles backups

The master user profiles file structure follows a particular pattern. Understand this structure can help you better plan to back up the master user profiles.

Caution:

Nuance recommends that you back up all master user profiles weekly. You should retain these backups for several weeks in case you need them.

Each Version 10.1 SP1 master user profile is stored in its own subdirectory of the *Master User Profiles Server* (or directory on the *NMS Server*, *Profile Optimizer Server*, or database server) as shown below:

```
\\<ServerName>\<ProfilesDir>\<NMS_userLoginName>\last known good\
profile1
```

The first profile for the provider is under **profile1**. If the provider has more than one profile, the next is under **profile2**.

If a profile becomes corrupted, you receive a notification about it in the **Messages** box on the *NMS Server*; the *NMS Server* moves the profile to the following location:

```
\\<ServerName>\<ProfilesDir>\<NMS_userLoginName>\BAD\profile1
```

The next time the provider starts to dictate, the *Dragon Medical Client* automatically creates a new profile for that provider.

The corrupted profile remains on the *Master User Profiles Server* until you remove it. When you have any corrupted profiles, you should contact Nuance, as these profiles are not automatically uploaded to the Nuance data collection site. Avoid removing these profiles until Nuance subsequently notifies you that it has retrieved the profiles for analysis.

Restoring corrupted user profile from backup

If a healthcare provider cannot log in to the *Dragon Medical Client*, it might be because the master user profile has become corrupted.

If the profile is corrupted, to restore the last known good copy of the provider's user profile, you can open the user account for that provider and select the **User Profile** tab, then click this button:

Restore Last Known Good User Profile

This button not only restores the appropriate profile for the provider, it also moves the corrupted profile into a **BAD** directory where Nuance can later retrieve it for examination and analysis.

Removing a master user profile folder for deleted user account

Before you delete a user account, you should be sure to export the user profile for the account first. Exporting the user profile saves the information accrued about that particular provider's voice and speech patterns. Should you ever need that user profile again, you can then import the exported user profile to bring the provider back up to speed more quickly.

For details on how to export a user profile and delete its associated user account, refer to the *Nuance Management Server Administrator Guide*.

After you delete a user profile from the *NMS Server* (through the *NMC Console*), the folder for that provider's user profile remains in the master user profiles directory.

To later reuse the deleted user account's login name for another user account, you must first remove the original user profile folder with that name from the master user profiles directory. You can copy it to a **Deleted** or similar folder, so that you can restore it if the need arises.

About logs that DME servers and clients generate

DME Network servers and *Dragon Medical Clients* generate logs that can help troubleshoot your system.

Note:

The servers regularly purge all of these logs and do not automatically back them up, so you might want to back them up to another location if you want to save them for longer periods.

Dragon and Profile Optimizer Speech Node logs

The *Profile Optimizer Speech Node* generates two log files for each ACO/LMO task it carries out:

- *Dragon* log files—*Dragon Medical SDK Client* creates **dragon.log** and **dgnsetup.log**
- *Speech Node* service log file—*Profile Optimizer* services write these files

The *Profile Optimizer Server* stores these files for 30 days. After 30 days, the *Profile Optimizer* purges old log files. If you would like to preserve them, you can back them up.

You can view the *Dragon* log files and *Speech Node* service log files in the *NMC Console*.

Viewing Speech Node service logs

To view the *Speech Node* service log file by taking these steps:

1. On the Menu bar, click the **Utilities** tab.
2. Click the **Profile Optimizer Tasks** icon in the **Utilities** ribbon.
3. Double click on the task of the *Speech Node* whose log you would like to see.
4. The **Profile Optimizer Task Log** opens and displays a history of the actions the *Speech Node* has taken. For more information, see the *View status of scheduled and automatic optimizations* section of the *Nuance Management Server Network Edition Administrator Guide*.

Viewing Dragon logs

To view the *Dragon* log files, see the *Viewing user account Dragon log files* section of the *Nuance Management Server Network Edition Administrator Guide*.

You can also find the *Dragon* logs in the file system. Note that the location of the files depends on the operating system. Paths on Windows Server 2008 and on Windows XP are shown below:

Location of Dragon logs on Windows Server 2008:

```
C:\Users\Administrator\AppData\Local\Temp\dgnsetup.log
C:\Users\Administrator\AppData\Roaming\Nuance\Dragon SDK Client
   Edition10\dragon.log
```

Location of Dragon logs on Windows XP:

```
C:\Documents and Settings\<user_account_login>\Local Settings\Temp\
dgnsetup.log
C:\Documents and Settings\<user_account_login>\Application Data\Nuance\
   NaturallySpeaking10\Dragon.log
```

NMS Server logs

The *NMS Server* generates Windows communication foundation service log files for each individual user account.

Finding NMS service logs

You can find the Windows communication foundation service logs on the *NMS Server* under a separate path for each user account:

```
C:\ProgramData\NMS\Logs\NMS Server\
```

The service log files are named **NMS Server_0000.svclog** to **NMS Server_9999.svclog**. The *NMS Server* keeps the last 10 MB of files generated, or about 50 files, for the entire system. When it creates new files that exceed those numbers, the server purges the older files.

Viewing NMS service logs

You can view the *NMS Server* service log files in the Microsoft Service Trace Viewer utility by double clicking on the log file. (The utility is available in .NET Framework.) Or you can open the Service Trace Viewer by double clicking its executable, available at:

```
C:\Program Files\Nuance\NMS Server\SvcTraceViewer.exe
```

If you run the Service Trace Viewer from its executable, when first you select **File > Open**, you must browse to the location of the log files. The next time, the viewer remembers the path.
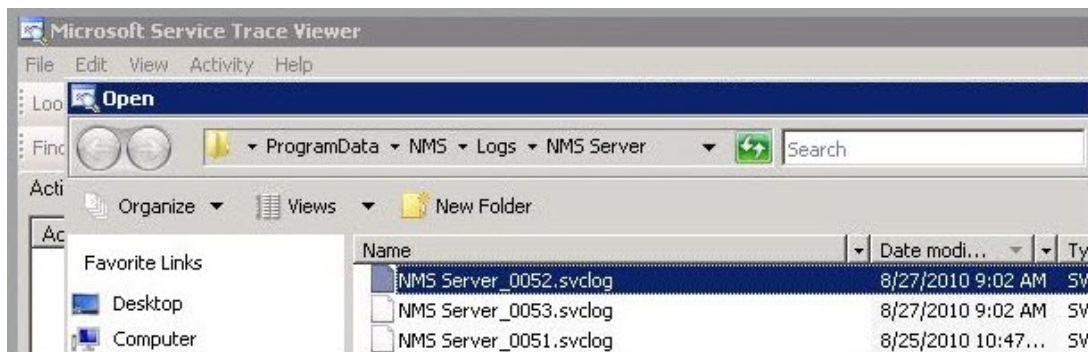
If you call Technical Support, you might be asked to provide one or more of the logs mentioned in this section to help Nuance engineers work on any issues with your *DME Network*.

Chapter 10: Setting up Active Directory Services

Setting up NMS Server to run in Active Directory Services

If you want to use Active Directory to manage your *Dragon Medical Enterprise (DME) Network*, you need to decide up front, before you proceed with this installation, because correctly setting up *NMS Server* to work with Active Directory Services means taking particular steps at different points in the installation process. Those actions and the additional actions at each step are outlined below:

- **Installing SQL Server 2008:**
    - Select **Mixed Mode** authentication for accessing database.
- **Creating NMC Administrator Account in NMS Server for Active Directory Administrator:**

  After you install the *NMS Server*:

    - Install the Nuance Certificates on any workstation where you want to log in through the *NMC Console*. (Refer to the *Dragon Medical Enterprise Network Edition Installation Guide*.)
    - Log in to *NMS Server* using the admin login Nuance provides.
    - Prepare to create user accounts by changing the name of the organization/site Nuance provides to match your organization and site.
    - Create an **NMC Administrator** user account for the Active Directory administrator.
    - If you would like, create all other user accounts now; or you can create user accounts later.
    - **Create Single Sign-On User Accounts:** If you want to set providers up to log in only once, you can set up Single Sign-On user accounts (they are optional). You need to create these accounts before you can associate a user account with an already existing upgraded master user profile.
- **Enable Active Directory and set the connection string:**
    - Log out of the *NMS Server*.
    - Shutdown the Nuance Management Service.
    - Configure your *NMS Server* for Active Directory.
    - Restart the Nuance Management Service.
    - Log back in through the *NMC Console* using the Active Directory administrator user account.
- **Continue to Configure NMS Server as Active Directory Administrator:**
    - Follow instructions in Nuance Management Server Administrator Guide.

Selecting Mixed Mode authentication during SQL Server installation

During the SQL Server installation, on the **Database Engine Configuration** page of the wizard, when you choose the type of authentication required to access the database, select **Mixed Mode**.

Selecting **Mixed Mode** ensures that you can later attach to the database using an Active Directory account.
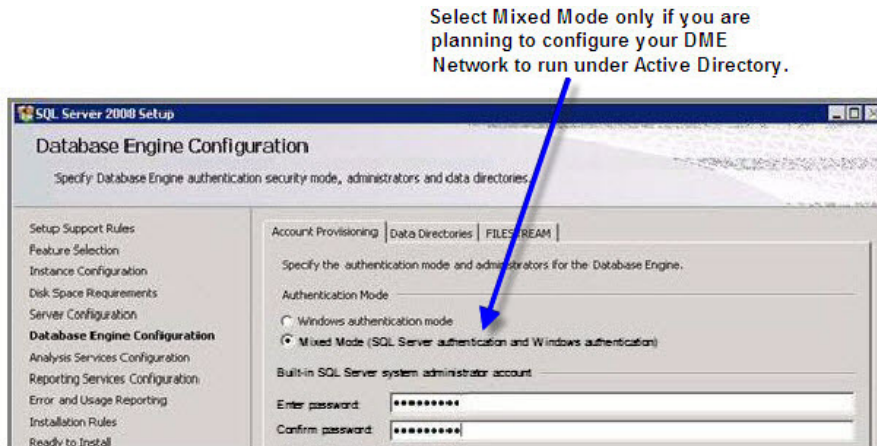
Creating NMC Administrator for Active Directory administrator

To create the **NMC Administrator** account for the Active Directory administrator:

1. Install the *NMS Server* following the instructions in this manual.
2. Log in to the *NMS Server* through the *NMC Console*.
3. To prepare to set up user accounts required for Active Directory in *NMS Server*, you need to first:
   - Change the name of the default organization to your organization's name. See details on modifying the organization information in the *Nuance Management Server Network Edition Administrator Guide* under *Accessing and adding to your organization data.*
   - Change the name of the default site in that organization to your site's name. See details on how to create a site in the *Nuance Management Server Network Edition Administrator Guide* under *Configuring sites in DME*
4. Create an **NMC Administrator** user account for the Active Directory administrator to use when logging in to the *NMS Server*. Be sure the login you assign in *NMS Server* matches an existing login in Active Directory. See *Creating NMS Server user account for Active Directory administrator* on page 197 for details on setting up this particular administrator user account.
5. Assign an **NMC Administrator** license to the new account for the Active Directory administrator.

6. You can create other user accounts at this time, but if you are not ready to create them, you can create them later, as long as every *NMS Server* user account login you assign matches an existing login in Active Directory.

7. Proceed to the next subsection.

Enabling Active Directory and setting the connection string

You enable Active Directory for *NMS Server* and set the Active Directory connection string by editing a file on the *NMS Server* called **Nuance.NAS.Server.exe.config**:

1. Log out through the *NMC Console* and shut down the *NMS Server* by stopping its service:

   In the **Control Panel,**double click **Administrative Tools**. Then double click **Services**. In the **Services** window, find the **Nuance Management Service** and stopthe service.

   Find the **Nuance.NAS.Server.exe.config** file in the directory where you installed your *NMS Server*. The default location for the file is under **C:\Program Files\Nuance\NMS Server**.

2. Edit the file in a text editor and find the section shown below:

   ```
   <appSettings>
     <add key="DumpFileLimitMB" value="50" />
     <add key="MaxMessagesPerDump" value="1000" />
     <add key="ClientSettingsProvider.ServiceUri" value="" />
     <add key="FileStorePath" value=""/>
     <add key="FileStorePurgerAgeCriteriaMinutes" value=""/>
     <add key="FileStorePurgerCompletedFolderAgeCriteriaMinutes"
   value=""/>
     <add key="ActiveDirectoryConnectionString" value=""/>
   </appSettings>
   ```

3. To turn on Active Directory, set the **ActiveDirectoryConnectionString** to the appropriate value for your network. Usually that value is something like **LDAP://**<*servername*> , where the server is the one where Active Directory is installed, as shown below:

   ```
      < add  key = "ActiveDirectoryConnectionString"
   value= "LDAP://ActDirServer"/>
   ```

4. If you leave the **ActiveDirectoryConnectionString** value blank, then Active Directory feature remains off. Once you turn on Active Directory, after you restart the server, the change takes effect.

Once Active Directory is on, the *NMS Server* sends all authentication requests to the server you specified in the connection string value. You can then take actions to set up and manage your *DME* network using Active Directory Services. For information on using Active Directory Services, refer to the documentation Microsoft provides.

For the enabling of Active Directory to take effect, you need to restart the *NMS Server*.

Restarting the Nuance Management Service

1. Restart the *NMS Server* by restarting the service: In the **Control Panel,**double click **Administrative Tools**. Then double click **Services**. In the **Services** window, find the **Nuance Management Service** and restart it.

2. Log in to the *NMS Server* using the new **NMC administrator** user account you created for the Active Directory administrator.

3. Revoke the **NMC administrator** license of the original **admin** user account that Nuance provided, since that account does not work within Active Directory. You might want to grant that license to another user account.

4. If you would like dictating healthcare providers to be able to log in to Windows and then automatically be logged in to the *Dragon Medical Client* on the same workstation without having to enter separate login credentials for *Dragon*, follow the instructions in the next section, *Implementing Single Sign-On*.

Setting up providers to log in only once by creating Single Sign-On user accounts

If you would like dictating healthcare providers to be able to log in to Windows and then automatically be logged in to the *Dragon Medical Client* on the same workstation without having to enter separate login credentials for *Dragon*, you can implement a feature of *DME* called Single Sign-On. This feature helps administrators and providers avoid having to enter their login and password multiple times.

Before creating Single Sign-On user accounts

Before you create Single Sign-On user accounts, you must:

- Configure your *NMS Server* to use Windows Active Directory Services as explained earlier.
- Be sure you have a parallel Active Directory accounts for every administrator or dictating provider before you set up that individual's *NMS Server* account.

Creating Single Sign-On user accounts

To create Single Sign-On user accounts for all dictating healthcare providers:

Note:

A quick overview of creating user accounts for providers is available in *Creating user accounts for healthcare providers* on page 117. For more on setting up user accounts, refer to *Nuance Management Server Administrator Guide* under *Configuring groups and user accounts*.

1. During the process of creating provider user accounts in the *NMS Server*, be sure to assign a login name that matches the provider's Windows Domain user name (see the next illustration).

2. In your script (or shortcut), include this line: **natspeak.exe /trusted**

Once you have set up the user accounts this way, and the *DME* servers and workstations are running, providers do not have to enter their login credentials to run *Dragon Medical Client*. After the provider logs in to the Windows desktop, the *Dragon Medical Client* opens and establishes contact with the *NMS Server*, then the server makes the appropriate information available.

Note:

If Single Sign-On is not successful, the *Dragon Medical Client* prompts the provider to enter an Active Directory login and password.

Continuing to Configure NMS Server as Active Directory administrator

To continue to configure the *NMS Server* as Active Directory administrator, follow the instructions in the *Nuance Management Server Adminstrator Guide*.

Creating NMS Server user account for Active Directory administrator

When you are planning to work in Active Directory, one of the steps you take is to create an **NMS Administrator** account for the Active Directory administrator.

Note:

More details about creating user accounts are available in the *Nuance Management Server Administrator Guide*.

To create an **NMC Administrator** account for the Active Directory administrator:

1. Log in to the server through the *NMC Console*. For details, see *Logging in to the NMS Server through the NMC Console* on page 77.

2. On the Menu bar, click on the **User Accounts** ribbon.

3. When the **User Accounts** ribbon appears, click the **Add User Account** icon.
   The **User Account Details** window opens.

4. Configure the options and settings on tabs in the **User Account Details** window:

- **Details**—Enter data in the shaded text boxes, as that data is required. You can fill in the others later. Required information includes the Active Directory administrator's first and last names and the login.

Caution:

The login you enter must match a login that exists in Active Directory.

- **Address**—Physical location information. None of this data is required right now. You can fill it in later.
- **Group Memberships**—If you have created no other groups, two groups exist when you first run the product, **NMC Administration** and **Dragon Medical**. Add the Active Directory administrator to the **NMC Administration** group.
- **Dragon Settings**—To apply default settings for now, click the **Use group rules** button. For more information, refer to *Configuring user account Dragon settings* in the *Nuance Management Server Administrator Guide*.
- **User Profile**—Ignore these settings. The *Dragon Medical Client* provides them.

5. Click **Save** to save the user account settings.

6. When you save the user account, the *NMC Console* pops up a dialog box that asks you if you want to assign a license to the user account now.

You should click **Yes**.

7. When the next message asks you the type of license to assign, you select an **NMC Administrator** license. The number of licenses available shows in parentheses after the license type. If no licenses of a particular type are available, that type of license is grayed out. If no administrator license are available, contact your Nuance representative.

8. Return to the Active Directory configuration instructions under *Setting up NMS Server to run in Active Directory Services* on page 192.

Note:

For now, you can skip setting options and other information for the user accounts that you want to associate with upgraded master user profiles. To later assign all related user accounts the same option settings, you can:

- Create a group and set all options for that group.
- Add the user accounts that should have the same options to the group.

For details on how to carry out these tasks, refer to the *Nuance Management Server Administrator Guide*.

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