

Installation Guide

Novell Storage Manager 4.1 for Active Directory

September 10, 2015

Novell.



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About This Guide

This installation guide is written to provide network administrators the conceptual and procedural information for installing and configuring Novell Storage Manager 4.1 for Active Directory.

- ◆ Chapter 1, “Prerequisites,” on page 7
- ◆ Chapter 2, “Licensing the Product,” on page 13
- ◆ Chapter 3, “Installing and Configuring SQL Server,” on page 17
- ◆ Chapter 4, “Migrating from Novell Storage Manager 3.x for Active Directory,” on page 35
- ◆ Chapter 5, “Installing Novell Storage Manager 4.1 for Active Directory,” on page 69
- ◆ Appendix A, “Deploying Event Monitors and NSM Agents Remotely by Using the DeployAgents Tool,” on page 99
- ◆ Appendix B, “Deploying Windows Agents Remotely Using Microsoft System Center Configuration Manager,” on page 103
- ◆ Appendix C, “Documentation Updates,” on page 117

Audience

This guide is intended for network administrators who manage user and collaborative network storage resources.

Feedback

We want to hear your comments and suggestions about this guide and the other documentation included with this product. Please use the User Comment feature at the bottom of each page of the online documentation, or go to www.novell.com/documentation/feedback.html and enter your comments there.

Documentation Updates

For the most recent version of the *Novell Storage Manager 4.1 for Active Directory Installation Guide*, visit the [Novell Storage Manager Web site \(http://www.novell.com/documentation/storagemanager4/index.html\)](http://www.novell.com/documentation/storagemanager4/index.html).

Additional Documentation

For additional Novell Storage Manager documentation, see the following guide at the [Novell Storage Manager Documentation Web site \(http://www.novell.com/documentation/storagemanager4/index.html\)](http://www.novell.com/documentation/storagemanager4/index.html):

- ◆ *Novell Storage Manager 4.1 for Active Directory Administration Guide*

1 Prerequisites

This section provides procedures that you must do before installing the Novell Storage Manager 4.1 for Active Directory components.

- ♦ [Section 1.1, “Folder Redirection and DNS Names,” on page 7](#)
- ♦ [Section 1.2, “File Server Resource Manager,” on page 8](#)
- ♦ [Section 1.3, “Active Directory Schema,” on page 9](#)
- ♦ [Section 1.4, “Verifying Proper Configurations and Rights,” on page 11](#)
- ♦ [Section 1.5, “What’s Next,” on page 11](#)

1.1 Folder Redirection and DNS Names

IMPORTANT: If your environment uses folder redirection, we strongly recommend reading the KB articles listed below and applying any relevant hotfixes before managing storage with Novell Storage Manager. In fact, we strongly recommend applying these hotfixes if you use folder redirection in your AD environment with the affected operating systems, even if you are not managing user storage with Novell Storage Manager. Microsoft’s continuing push to move away from NetBIOS and WINS might eventually introduce this issue into your environment with or without Novell Storage Manager installed.

Novell Storage Manager 4.1 exclusively uses DNS Fully Distinguished Names (FDNs) for server names in all UNC paths set in and by Novell Storage Manager. This is a change from Novell Storage Manager 3.x and earlier, where NetBIOS names were used (although a config file-only option to use DNS names existed in Novell Storage Manager 3.1.x). This is per Microsoft’s own recommendations, as Microsoft slowly attempts to phase out NetBIOS and WINS.

However, there are known bugs related to Folder Redirection when the DNS name for a server is used in a user’s home folder path (or any other path specified for folder redirection). These Windows bugs, which can result in loss of data in the redirected folders or the entire redirected folder, are described in the following Microsoft KB articles:

- ♦ “You are unable to update the target location of offline file shares in the Offline File client side cache without administrative permission in Windows Server 2008 R2 or in Windows 7.” <http://support.microsoft.com/kb/977229> (<http://support.microsoft.com/kb/977229>)
- ♦ “After you apply a GPO to redirect a folder to a new network share, the redirected folder is empty on client computers that are running Windows Vista or Windows Server 2008.” (<http://support.microsoft.com/kb/977611>)

These KB articles specifically apply to users logging on through Windows Vista or Windows 7 computers, as well as users logging on interactively on Windows Server 2008 and Windows Server 2008 R2. Users on other operating systems might be affected as well, however.

Both of the KB articles above include links to hotfixes that help resolve these issues.

While this is not a Novell Storage Manager issue *per se*, Novell Storage Manager 4.1’s exclusive use of DNS FDNs in UNC paths can exacerbate this problem, or introduce it into an environment that was previously exclusively using NetBIOS naming for servers and using folder redirection.

1.2 File Server Resource Manager

Microsoft File Server Resource Manager (FSRM) is a suite of tools from Microsoft that allows administrators to better understand, control, and manage the quantity and type of data stored on their servers. Novell Storage Manager uses File Server Resource Manager to enable quota management.

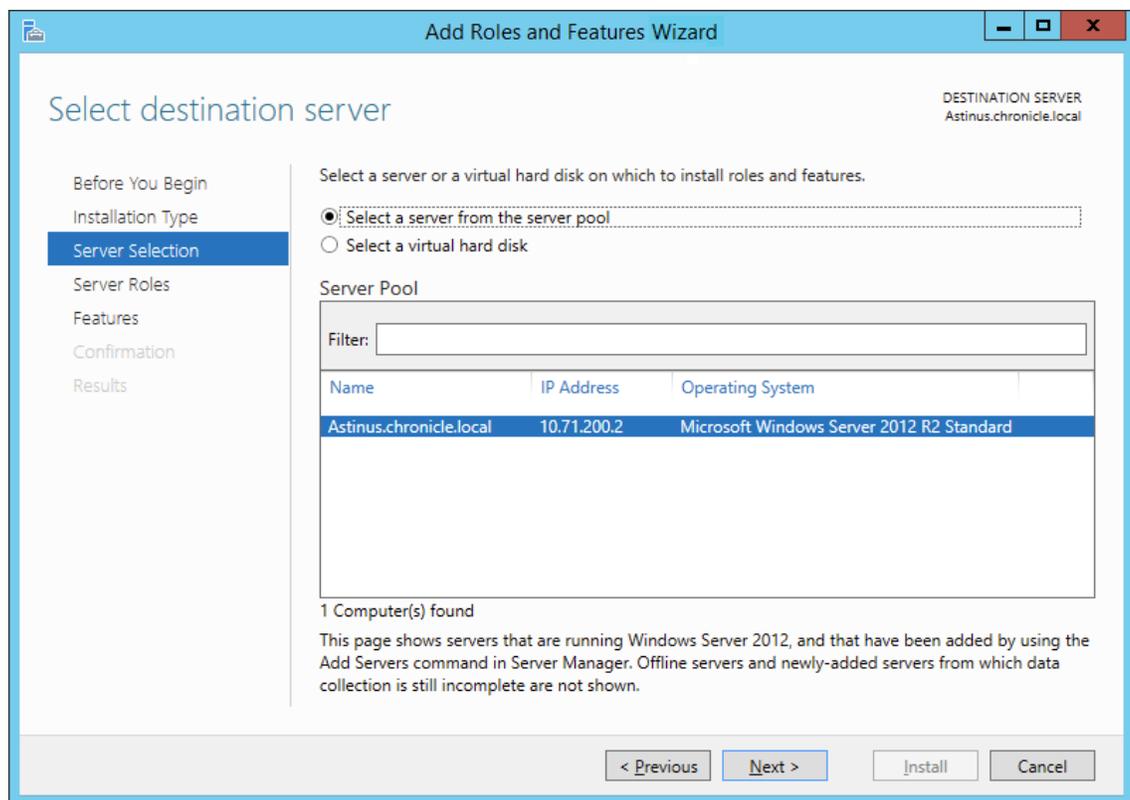
NOTE: You must install File Server Resource Manager on all servers where Novell Storage Manager will be managing quotas for user or collaborative storage. This includes the server that will host the Engine, even if it does not contain shares that will be managed. FSRM is necessary because the FSRM COM interfaces must be present for the Engine to call them remotely on other servers.

1.2.1 Installing File Server Resource Manager

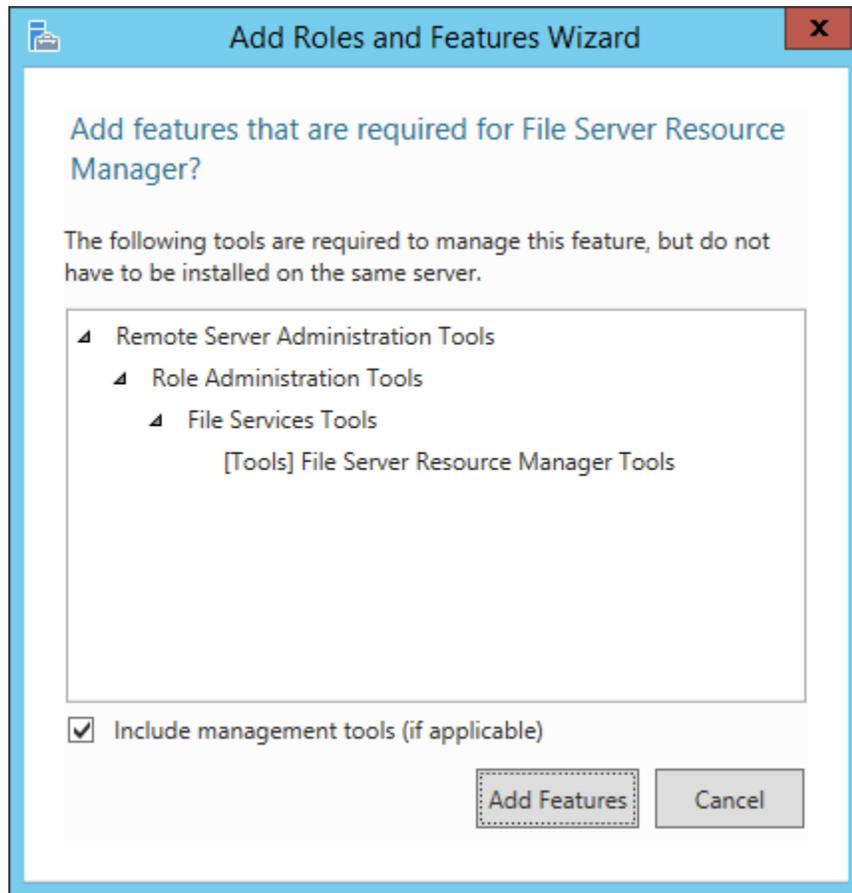
Quotas for user and collaborative storage can be managed through Novell Storage Manager for Active Directory on all versions of Windows Server from 2008 and beyond. You need to install File Server Resource Manager on every server or active node that will be hosting user or collaborative quota-managed storage.

NOTE: These procedures are specific to Windows Server 2012 R2. Procedures vary for each version of Windows Server.

- 1 Launch Server Manager.
- 2 Select *Manage > Add Roles and Features*.
This launches the Add Roles and Features Wizard.
- 3 Click *Next*.



- 4 Select the server where you are going to install the Engine and click *Next*.
- 5 From the list of roles, expand *File and Storage Services*.
- 6 Expand *File and iSCSI Services*.
- 7 Select the *File Server Resource Manager* check box.



- 8 Click *Add Features*.
- 9 Click *Next*.
- 10 Click *Next*.
- 11 Click *Install*.

1.3 Active Directory Schema

The Microsoft Active Directory schema contains formal definitions of every object class that can be created in an Active Directory forest. The schema also contains formal definitions of every attribute that can exist in an Active Directory object.

To enable collaborative storage or auxiliary storage management, Novell Storage Manager extends the Active Directory schema to enable Novell Storage Manager attributes. These attributes are specified in "[Active Directory Schema Extensions](#)" in the *Novell Storage Manager 4.1 for Active Directory Administration Guide*.

NOTE: If your Novell Storage Manager deployment will not include support for collaborative storage or auxiliary storage management, there is no need to extend the Active Directory schema.

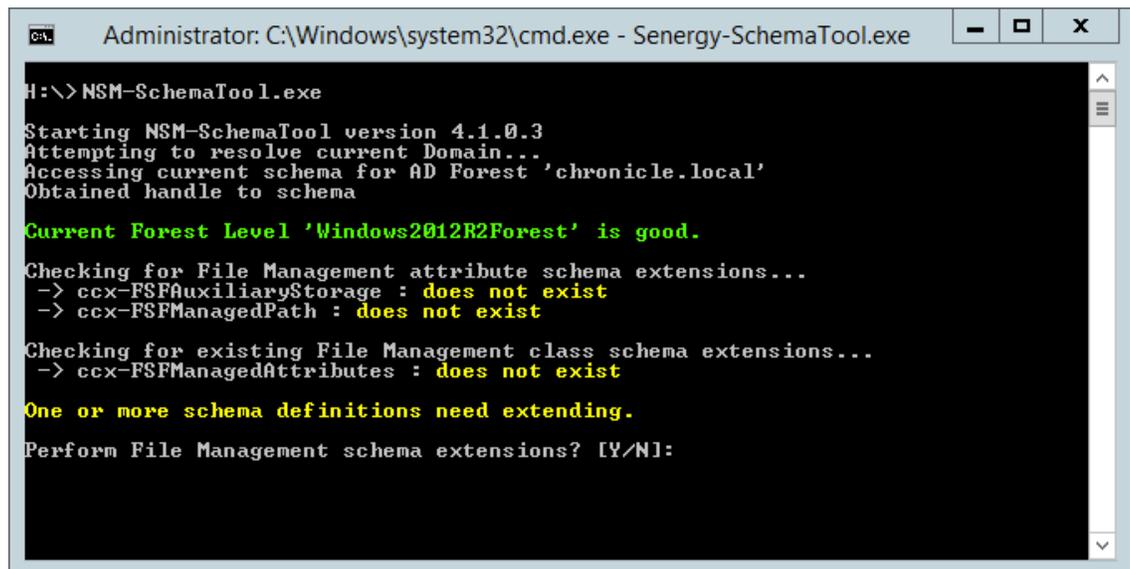
1.3.1 Extending the Active Directory Schema

- 1 Log in to the forest or domain as a user with Schema administration privileges.

You can do this by being a member of the Schema Admins group.

- 2 At the root of the ISO image, open the \\Windows folder, locate the NSM-ad-SchemaTool.exe file, and double-click it.
- 3 When you are asked if you want to run this file, click *Run*.

A Windows console application runs.



```
Administrator: C:\Windows\system32\cmd.exe - Senergy-SchemaTool.exe
H:\> NSM-SchemaTool.exe

Starting NSM-SchemaTool version 4.1.0.3
Attempting to resolve current Domain...
Accessing current schema for AD Forest 'chronicle.local'
Obtained handle to schema

Current Forest Level 'Windows2012R2Forest' is good.

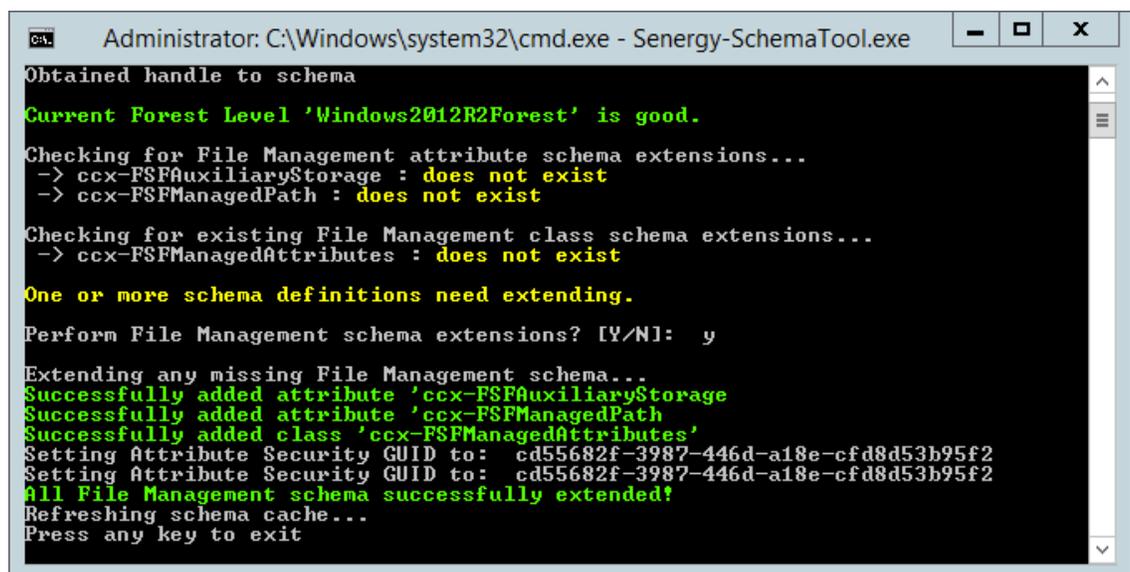
Checking for File Management attribute schema extensions...
-> ccx-FSFAuxiliaryStorage : does not exist
-> ccx-FSFManagedPath : does not exist

Checking for existing File Management class schema extensions...
-> ccx-FSFManagedAttributes : does not exist

One or more schema definitions need extending.

Perform File Management schema extensions? [Y/N]:
```

- 4 Type **Y** to extend the schema.



```
Administrator: C:\Windows\system32\cmd.exe - Senergy-SchemaTool.exe
Obtained handle to schema

Current Forest Level 'Windows2012R2Forest' is good.

Checking for File Management attribute schema extensions...
-> ccx-FSFAuxiliaryStorage : does not exist
-> ccx-FSFManagedPath : does not exist

Checking for existing File Management class schema extensions...
-> ccx-FSFManagedAttributes : does not exist

One or more schema definitions need extending.

Perform File Management schema extensions? [Y/N]: y

Extending any missing File Management schema...
Successfully added attribute 'ccx-FSFAuxiliaryStorage'
Successfully added attribute 'ccx-FSFManagedPath'
Successfully added class 'ccx-FSFManagedAttributes'
Setting Attribute Security GUID to: cd55682f-3987-446d-a18e-cfd8d53b95f2
Setting Attribute Security GUID to: cd55682f-3987-446d-a18e-cfd8d53b95f2
All File Management schema successfully extended!
Refreshing schema cache...
Press any key to exit
```

1.4 Verifying Proper Configurations and Rights

In some cases, you might find that you are unable to install a Novell Storage Manager component because of an improper configuration or rights setting. Novell recommends that you review the following sections in the *Novell Storage Manager for Active Directory Administration Guide* and make any needed adjustments before proceeding:

- ♦ [“Windows Firewall Requirements”](#)
- ♦ [“LSA Rights and Privileges”](#)
- ♦ [“ProxyRights Group”](#)

1.5 What’s Next

If you are upgrading your Novell Storage Manager 3.x for Active Directory environment to Novell Storage Manager 4.1 for Active Directory:

1. Proceed with [Chapter 2, “Licensing the Product,” on page 13.](#)
2. Install an SQL Server instance by following the procedures in [Chapter 3, “Installing and Configuring SQL Server,” on page 17.](#)
3. Complete the upgrade by following the procedures in [Chapter 4, “Migrating from Novell Storage Manager 3.x for Active Directory,” on page 35.](#)

If you are performing a new installation of Novell Storage Manager 4.1 for Active Directory:

1. Proceed with [Chapter 2, “Licensing the Product,” on page 13.](#)
2. Install an SQL Server instance by following the procedures in [Chapter 3, “Installing and Configuring SQL Server,” on page 17.](#)
3. Complete the installation by following the procedures in [Chapter 5, “Installing Novell Storage Manager 4.1 for Active Directory,” on page 69.](#)

2 Licensing the Product

- ♦ [Section 2.1, “Licensing Overview,” on page 13](#)
- ♦ [Section 2.2, “Obtaining a License File,” on page 14](#)
- ♦ [Section 2.3, “Updating a License File,” on page 15](#)

2.1 Licensing Overview

Novell Storage Manager has three license types:

Table 2-1 Novell Storage Manager License Types

License Type	Target Consumer	Intended Use
Evaluation	Customers	Allows customers to develop and understanding of the power of the product.
Assessment	Partners	Produces reports that allow customers to see the scope of file system management problems in their environment. Shows examples of how a policy-based infrastructure can benefit the customer’s environment.
Production	Customers	Allows customers to create and run a policy-based infrastructure in production in their environment.

The following table includes a summary of the features enabled in each license type:

Table 2-2 Enabled Features

Feature	Evaluation License	Assessment License	Production License
Consistency Check Reports	Limited to 100 objects in a report	Yes	Yes
Anomaly Reports	Limited to 100 rows in a report	Yes	Yes
Trustee Reports	No	Yes	Yes
Policy Path Reporter (integrated with Novell File Reporter)	Limited to 100 rows in a report	Yes	Yes
Data Migration	No	No	Yes
Redistribution	No	No	Yes
Managed Objects	Limited to 100 concurrent objects	Limited to 100 concurrent objects	Yes

Feature	Evaluation License	Assessment License	Production License
Manage Operations	Check mode can be run for multiple objects simultaneously, but management action can be taken for only one object at a time.	Check mode can be run for multiple objects simultaneously, but management action can be taken for only one object at a time.	Yes
Action Object Support	No	No	Yes

2.2 Obtaining a License File

Novell Storage Manager requires a production license file, evaluation license file, or assessment license file that you obtain from Novell.

- 1 In a Web browser, go to www.storagemanagersupport.com.
- 2 On the left side of the Web page, click *Licensing*.

A new Web page appears with options for obtaining the license in either eDirectory or Active Directory managed network environments.

The screenshot shows the Novell Storage Manager Support Site. The header includes the Novell Storage Manager logo and 'Support Site'. A 'printer friendly' icon is visible. The main content area is titled 'Product License - 4.x' and contains a welcome message. Below the message, there are two sections: 'Evaluation License' and 'Production License Activation'. Each section has a table with two columns: 'Option' and two server options (eDirectory and Active Directory). The 'Evaluation License' section offers a free 30-day unlimited use evaluation license, with links to 'Server1' and 'Server2' for both eDirectory and Active Directory. The 'Production License Activation' section offers links to 'Server1' and 'Server2' for both eDirectory and Active Directory. The footer contains the copyright notice 'Copyright © 2006–2015 Condrey Corporation' and the Novell Condrey Corporation logo.

3 Do one of the following:

- ◆ Request a trial license by clicking one of the server links in the *Trial License* region.
- ◆ After you purchase Novell Storage Manager, activate your production license by clicking one of the server links.

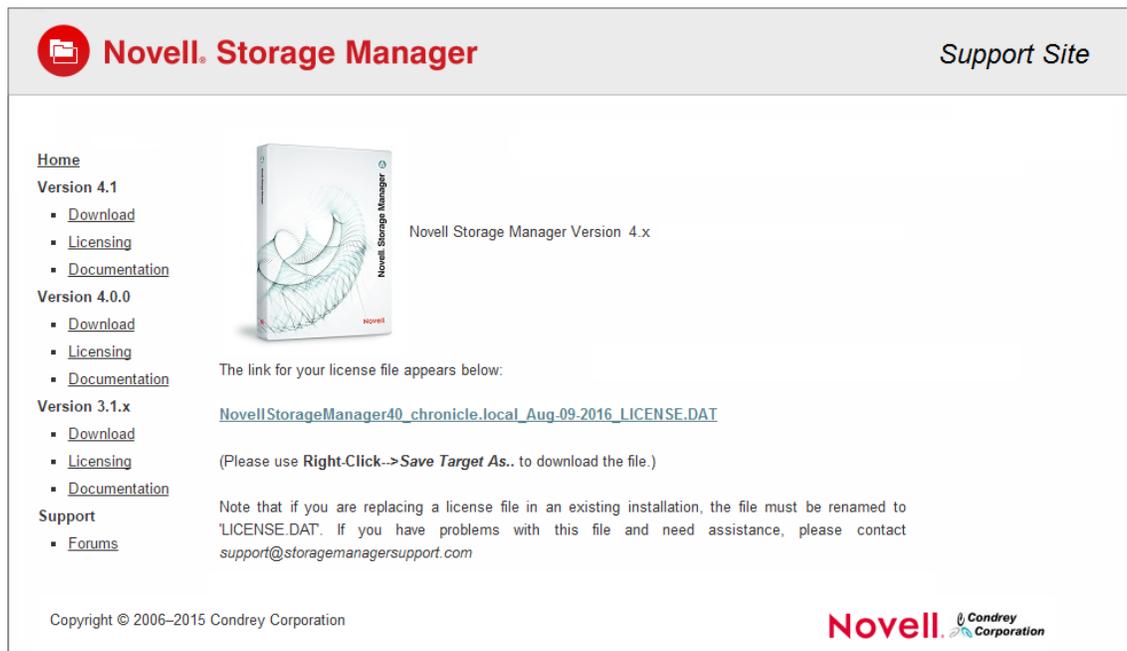
4 Complete the fields.

If you purchased a production license of Novell Storage Manager, your activation key is available through the Novell Customer Center. Copy and paste that activation key in the *Activation Code* field of the license submission form.

5 Click *Submit*.

An e-mail from the License Generator is automatically sent to you with an embedded link for accessing the license.

6 Click the link to access a new Web page with an embedded license file.



The screenshot shows the Novell Storage Manager Support Site. The header includes the Novell Storage Manager logo and the text "Support Site". The main content area features a navigation menu on the left with links for Home, Version 4.1 (Download, Licensing, Documentation), Version 4.0.0 (Download, Licensing, Documentation), Version 3.1.x (Download, Licensing, Documentation), and Support (Forums). The central content area displays a box for "Novell Storage Manager Version 4.x" and a link for the license file: [NovellStorageManager40_chronicle.local_Aug-09-2016_LICENSE.DAT](#). Below the link, it instructs users to use "Right-Click-->Save Target As.." to download the file. A note states that if replacing a license file in an existing installation, the file must be renamed to 'LICENSE.DAT'. The footer contains the copyright notice "Copyright © 2006–2015 Condrey Corporation" and the Novell Condrey Corporation logo.

7 Right-click the license file, select *Save Target As*, then save the license file to a directory of your choice.

8 Note where the license file is saved.

You need the license file to complete NSM Engine setup wizard.

2.3 Updating a License File

After you have installed Novell Storage Manager 4.1 for Active Directory, you can update your evaluation license or production license by simply replacing the old license file with the new one. For more information, see [Section 5.4, "Installing the License," on page 71](#).

3 Installing and Configuring SQL Server

This section provides procedures for installing a Microsoft SQL Server instance with the settings needed to support Novell Storage Manager 4.1 for Active Directory.

Novell Storage Manager 4.1 for Active Directory requires a Microsoft SQL Server as the database and no longer supports the SQLite database that was utilized in previous versions of the product. If you are migrating from Novell Storage Manager 3.x for Active Directory to Version 4.1, in Chapter 4 the Database Configuration Wizard will guide you through the migration of your database content from SQLite to SQL Server.

IMPORTANT: Novell Storage Manager 4.1 for Active Directory supports all versions of SQL Server 2012 and 2014, including the Express version.

- ♦ [Section 3.1, “Determine Which Version of SQL Server to Use,” on page 17](#)
- ♦ [Section 3.2, “Install SQL Server Express,” on page 17](#)
- ♦ [Section 3.3, “Install a New Instance of SQL Server,” on page 25](#)
- ♦ [Section 3.4, “Post Configuration Considerations,” on page 32](#)

3.1 Determine Which Version of SQL Server to Use

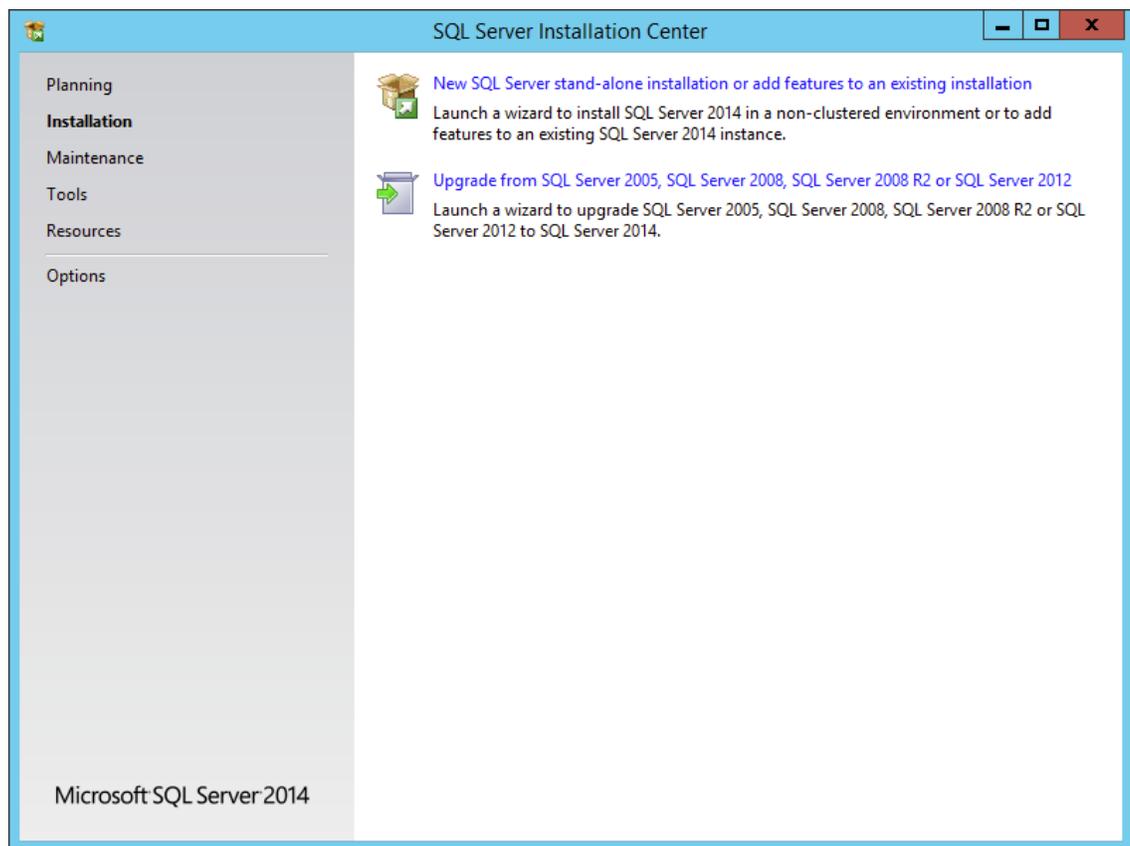
- ♦ If you do not already own SQL Server, you can use SQL Server Express. You can download SQL Server 2014 Express at: (<http://www.microsoft.com/en-us/download/details.aspx?id=35579>). After downloading the software, proceed with “Install SQL Server Express.”

IMPORTANT: We do not recommend that you install the NSM Engine on the same server running SQL Server. If you will be using SQL Server Express, you can run it on the same server host, but you will most likely experience better performance if they are running on separate servers. You can download Express from Microsoft (SQL Express 2012), (SQL Express 2014). (We recommend SQLEXPRT_x64_ENU.exe as that package includes management tools.)

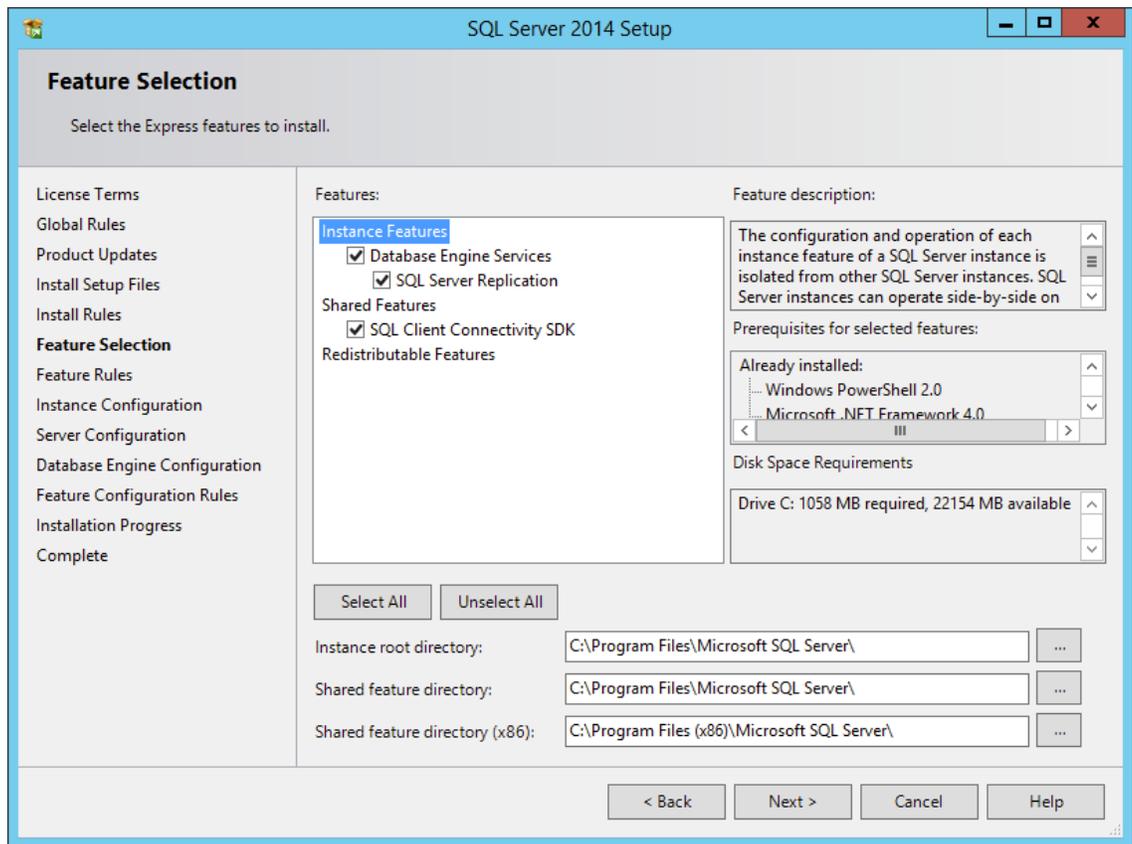
- ♦ If you already own a version of SQL Server, proceed with [Section 3.3, “Install a New Instance of SQL Server,” on page 25](#).

3.2 Install SQL Server Express

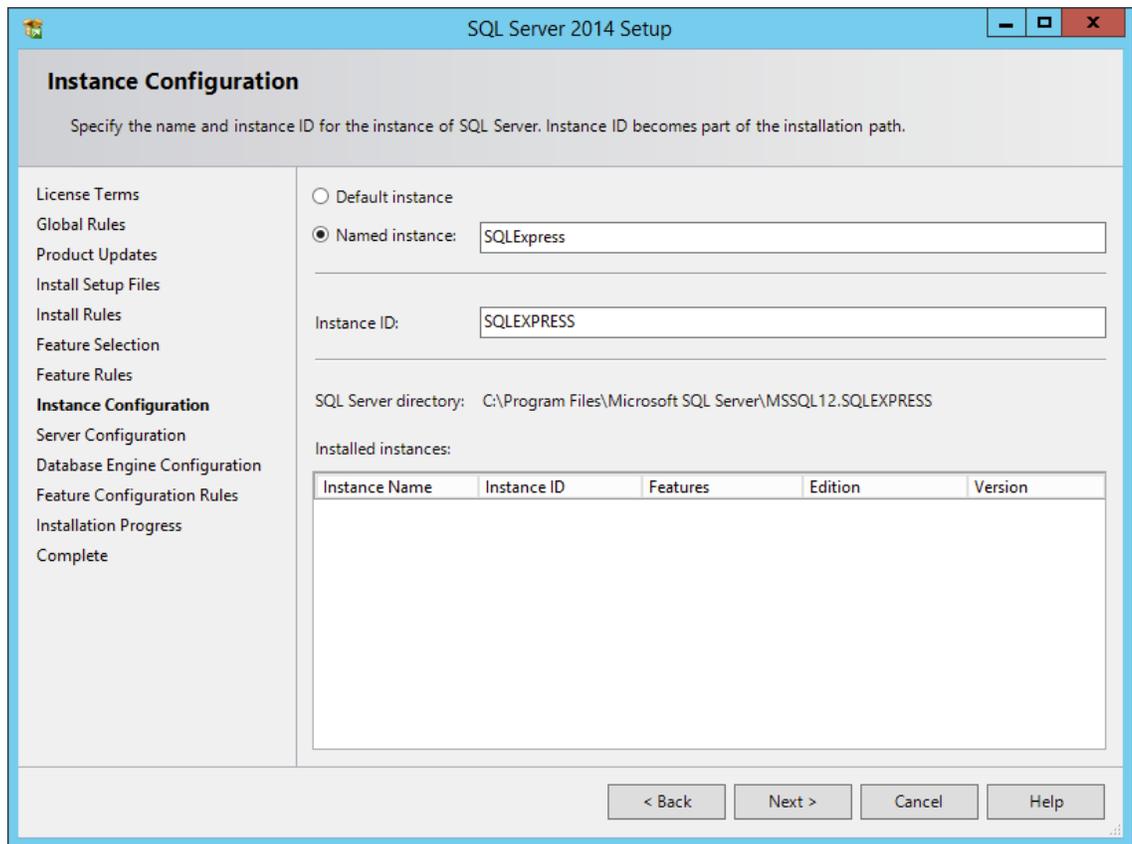
- 1 Launch the SQL Server Express installation file.
- 2 On the SQL Server Installation Center page, click *Installation*.
- 3 Select *New SQL Server stand-alone installation or add features to an existing installation*.



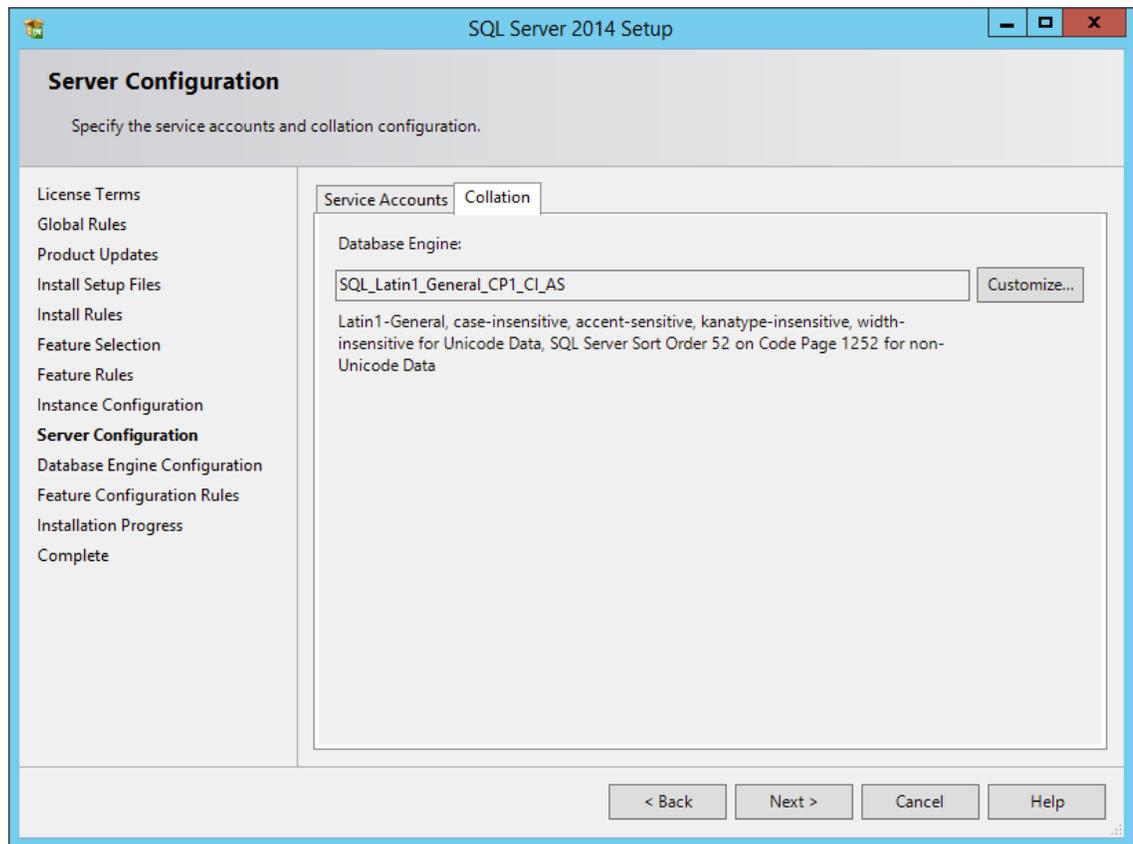
- 4 In the License Terms page, accept the license terms and click *Next*.
- 5 In the Product Updates page, click *Next*.
- 6 On the Feature Selection page, select the appropriate instance features and the location for the instance data, then click *Next*.



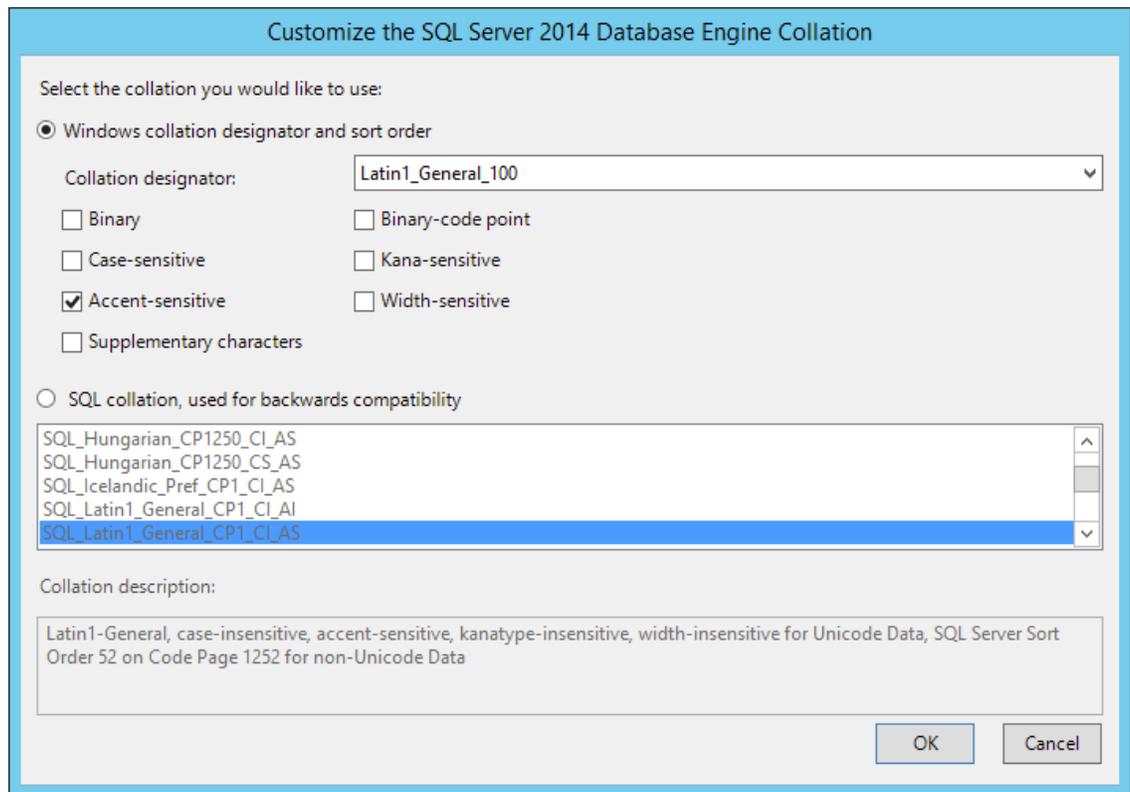
7 In the Instance Configuration page, specify a named instance and click *Next*.



8 In the Server Configuration page, click the *Collation* tab.



- 9 Click *Customize*.
- 10 Click the *Windows collation designator and sort order* option.



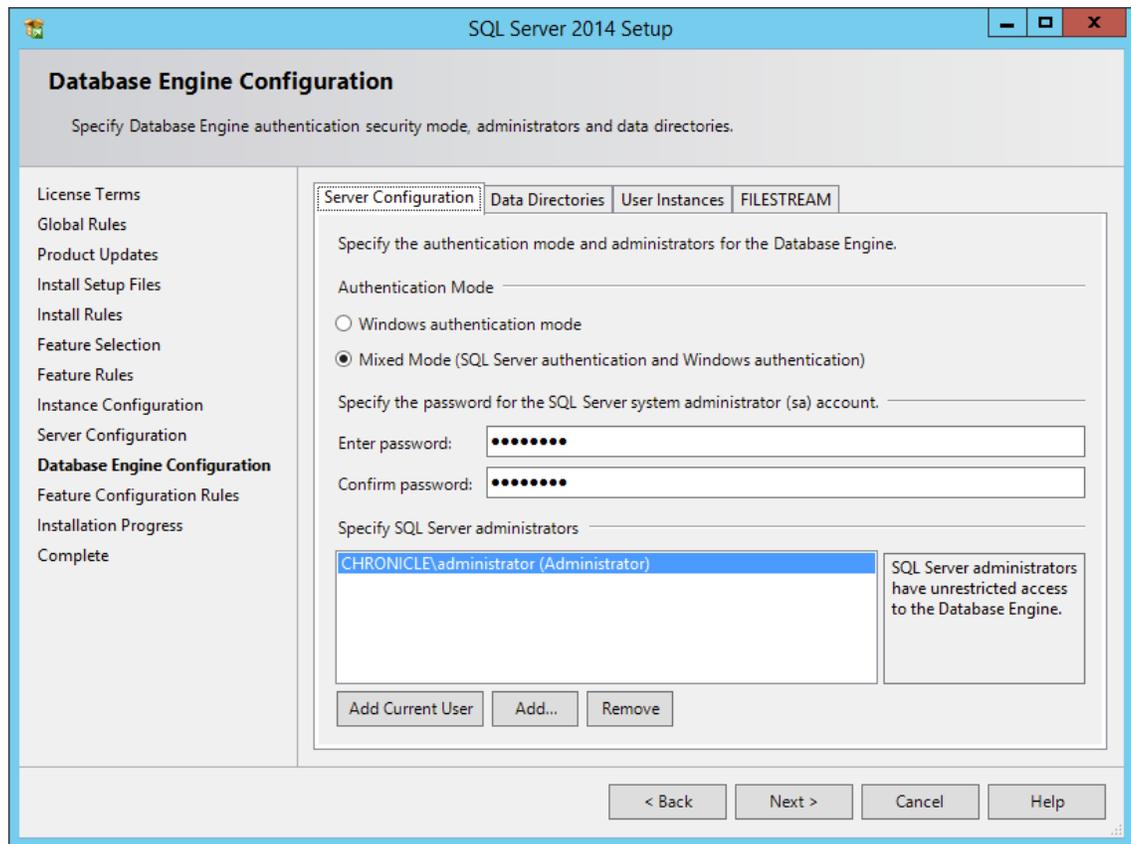
- 11 From the *Collation designator* drop-down menu, select an acceptable collation and settings for your locale.

For example, in North America, an acceptable collation would be *Latin1_General_100* with the *Accent-sensitive* check box selected.

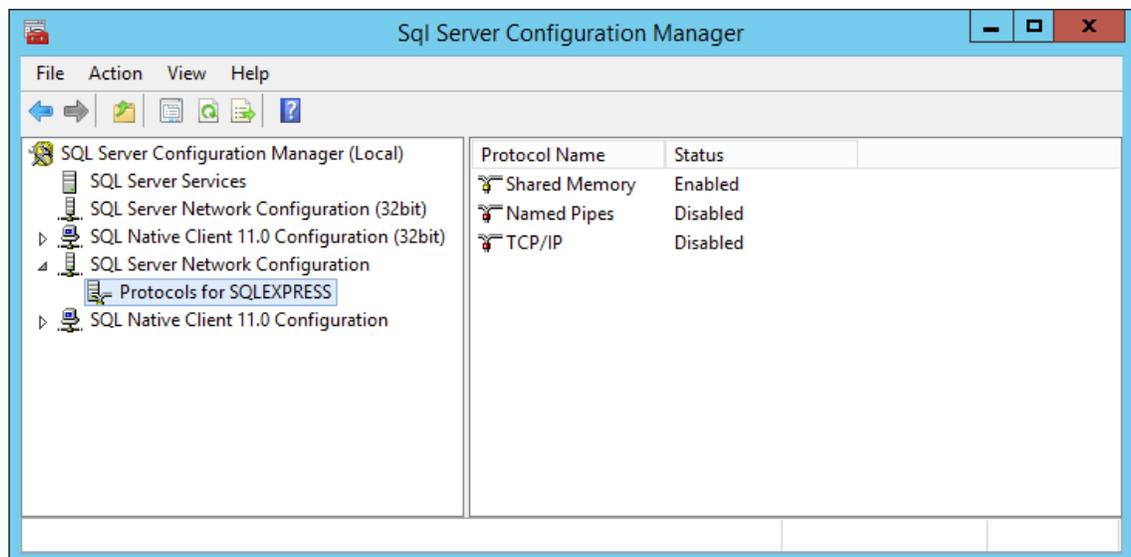
We recommend that you select a collation that aligns with the Windows locale of the server where the NSM Engine is installed.

For more information on collation and locales, refer to this Microsoft document: (<http://technet.microsoft.com/en-us/library/ms175194%28v=sql.105%29.aspx>).

- 12 Click *OK*.
- 13 Click *Next*.
- 14 Select the *Mixed Mode (SQL Server authentication and Windows authentication)* option, enter and confirm a SQL Server administrator password, then click *Next*.

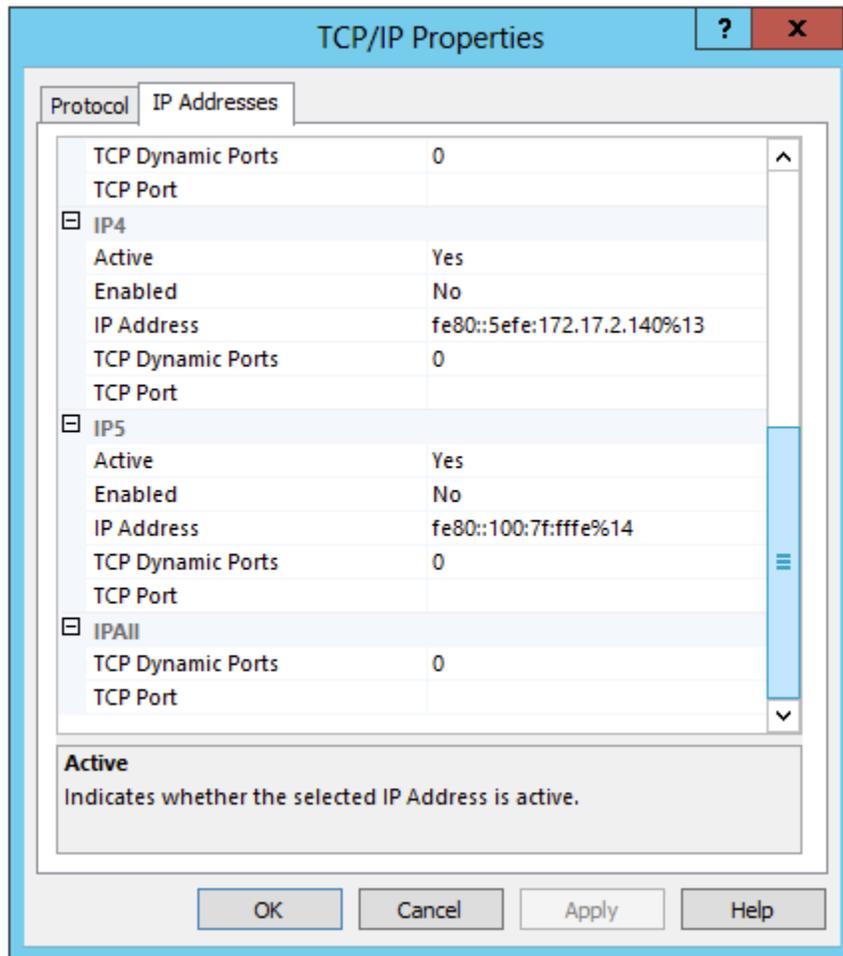


- 15 In the Error Reporting page, click *Next*.
- 16 In the Complete page, click *Close*.
- 17 Launch SQL Server Configuration Manager.
- 18 In the left pane, expand *SQL Server Network Configuration*.
- 19 Click *Protocols for SQLEXPRESS*.



- 20 In the right pane, right-click *TCP/IP* and select *Enable*.

- 21 In the warning dialog box, click *OK*.
- 22 Right-click *TCP/IP* again and select *Properties*.
- 23 In the TCP/IP Properties dialog box, click the *IP Addresses* tab.

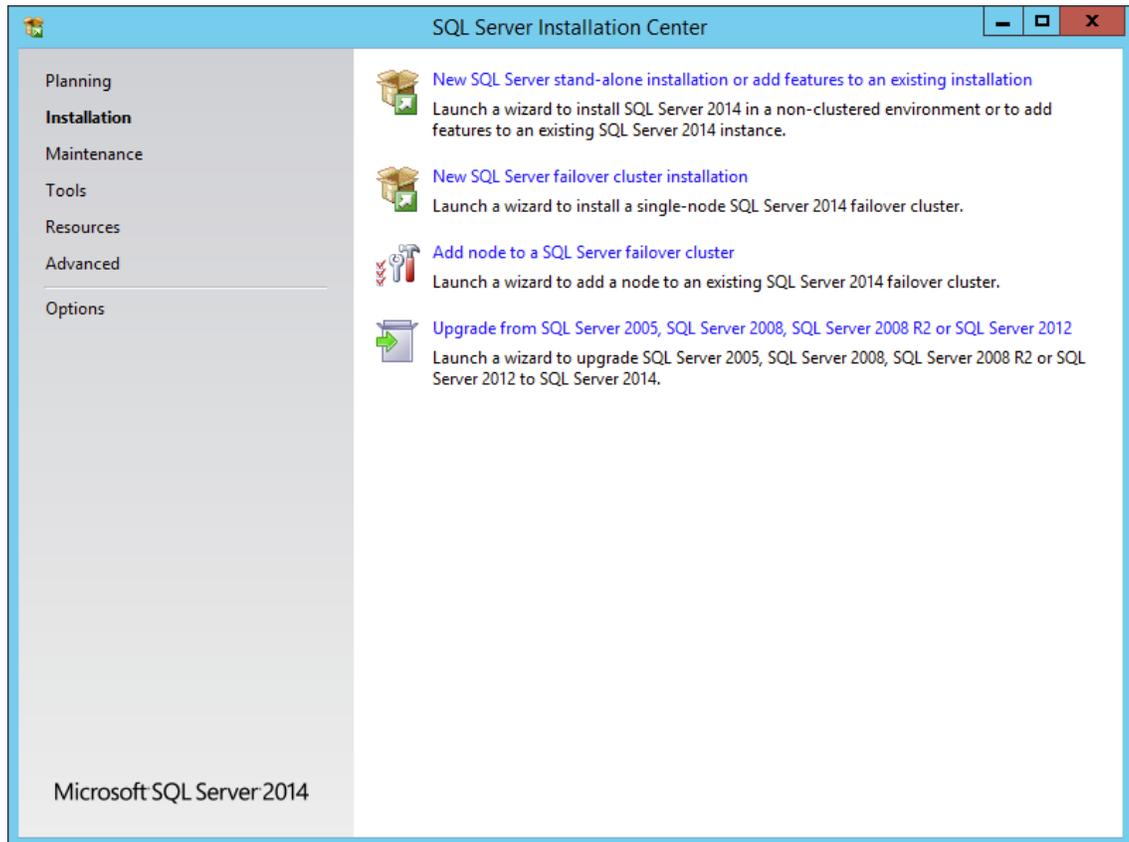


- 24 Select *TCP Dynamic Ports* and clear the field so there is no number associated to it.
- 25 Select *TCP Port* and enter 1433.
- 26 Click *Apply*.
- 27 When the warning dialog box appears, click *OK*.
- 28 Click *OK* to close the TCP/IP Properties page.
- 29 In the SQL Server Configuration Manager, click *SQL Server Services*.
- 30 Right-click *SQL Server (SQLEXPRESS)* and select *Restart*.

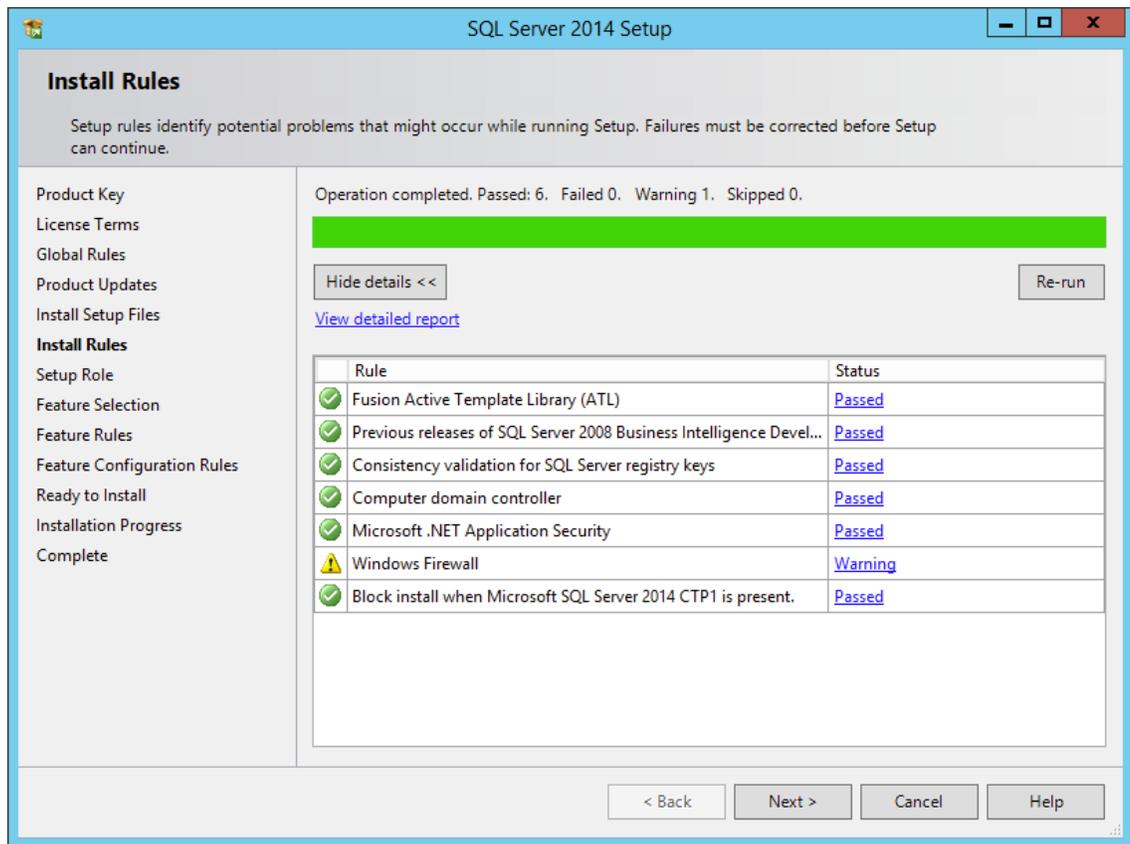
3.3 Install a New Instance of SQL Server

NOTE: These procedures and displayed interface are specific to SQL Server 2014. Procedures and interface will vary based on the version of SQL Server you are using.

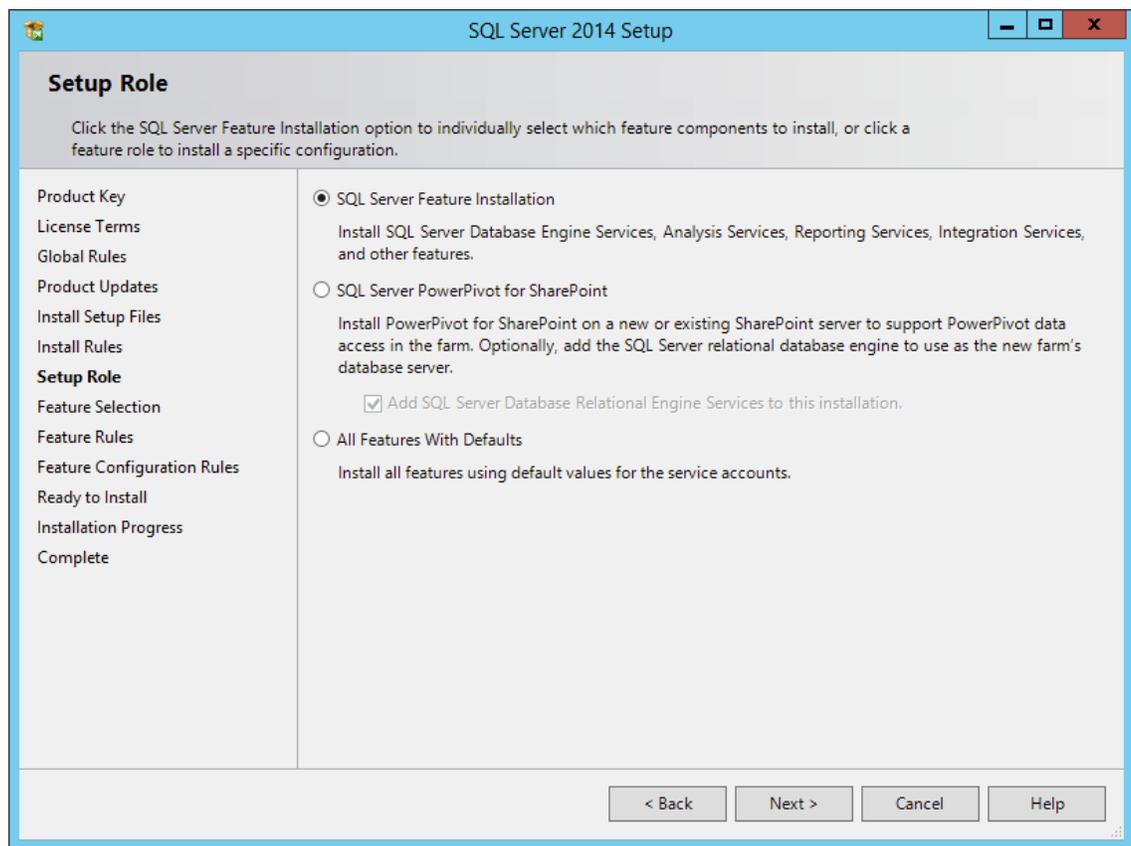
- 1 From the Microsoft SQL Server ISO, double-click `setup.exe`.
- 2 In the SQL Server Installation page, click *Installation*.
- 3 Select *New SQL Server stand-alone installation or add features to an existing installation*.



- 4 In the Product Key page, enter your product key, then click *Next*.
- 5 In the License Terms page, accept the license terms, then click *Next*.
- 6 In the Product Updates Page, include all Microsoft SQL Server product updates, then click *Next*.
The Install Rules operation is run.
If there are any errors, address them accordingly.
- 7 Click *Next*.

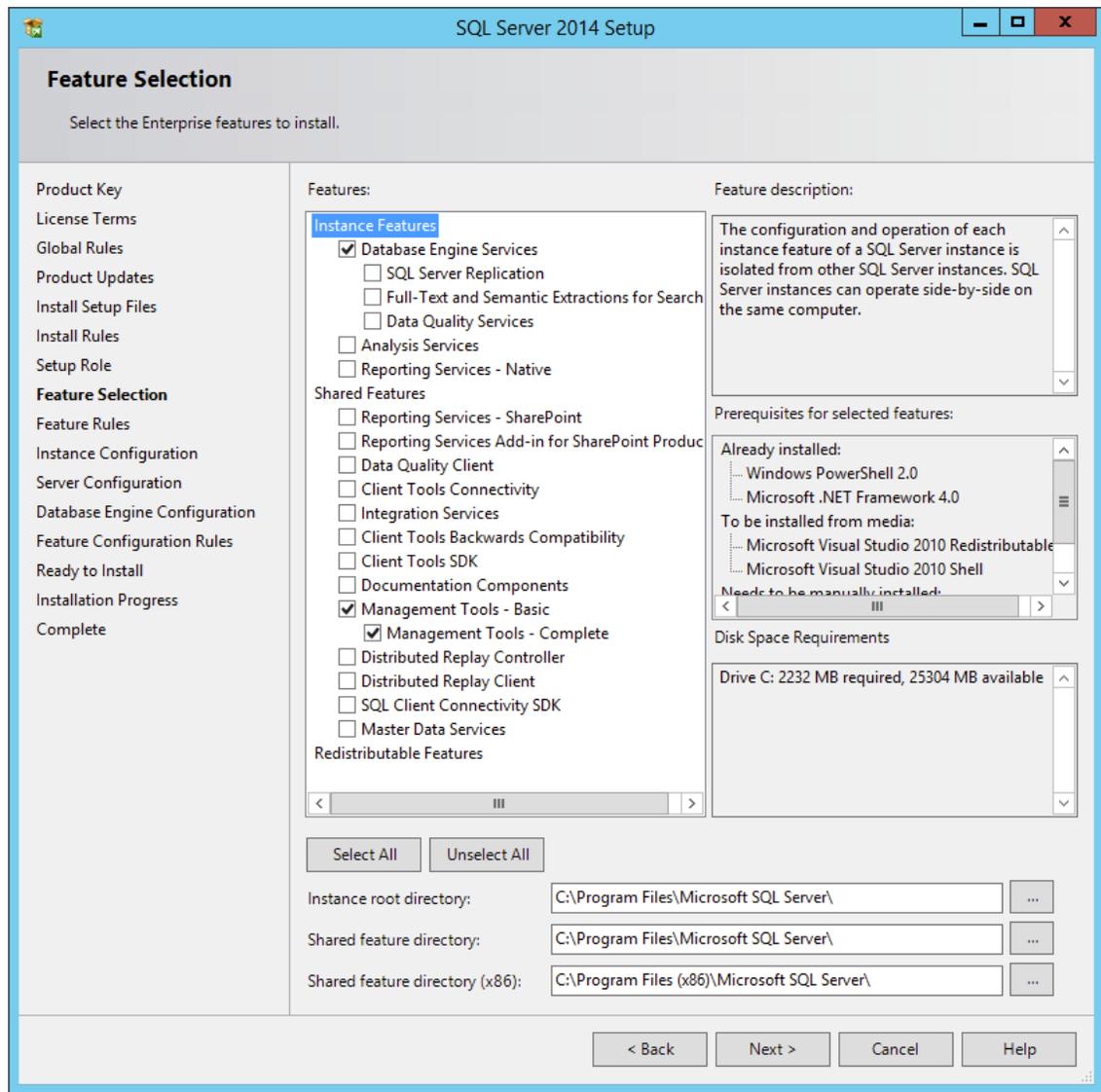


8 In the Setup Role page, select *SQL Server Feature Installation* and click *Next*.



9 In the Feature Selection page, select the following check boxes:

- ◆ *Database Engine Services*
- ◆ *Management Tools – Basic*
- ◆ *Management Tools – Complete*

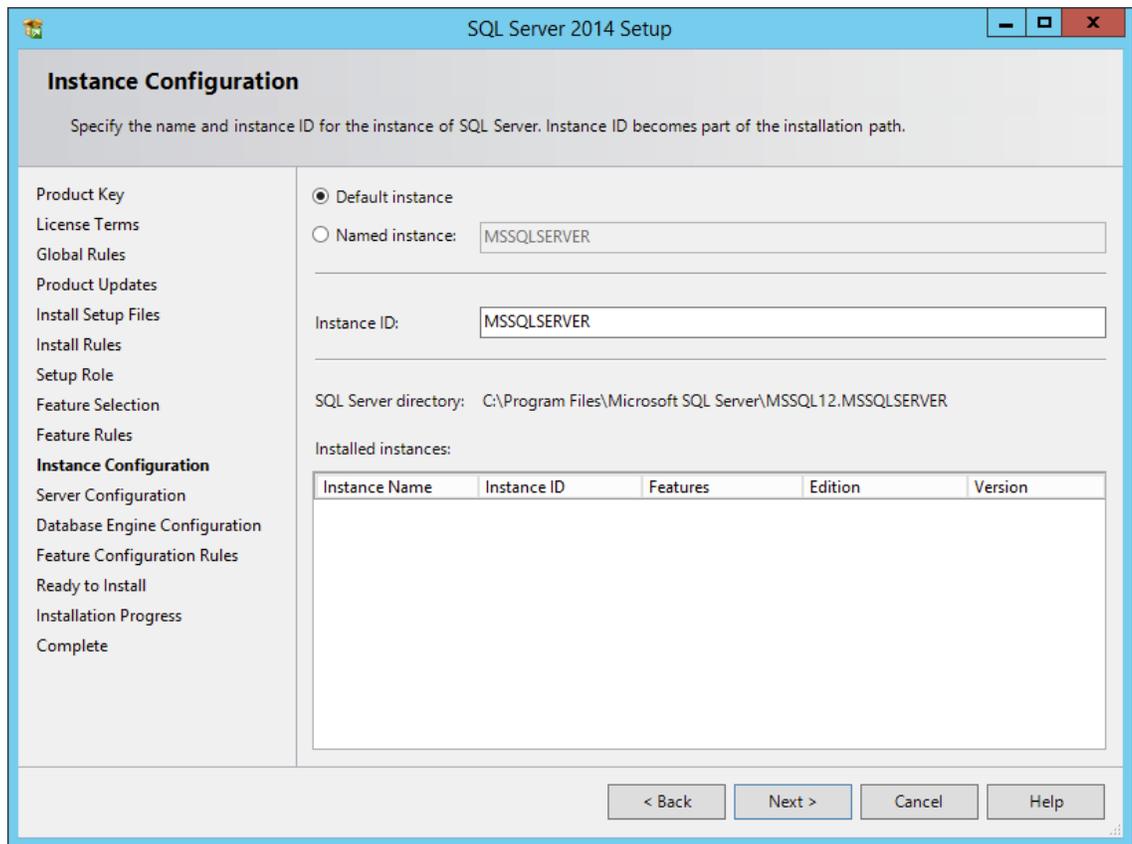


10 Click *Next*.

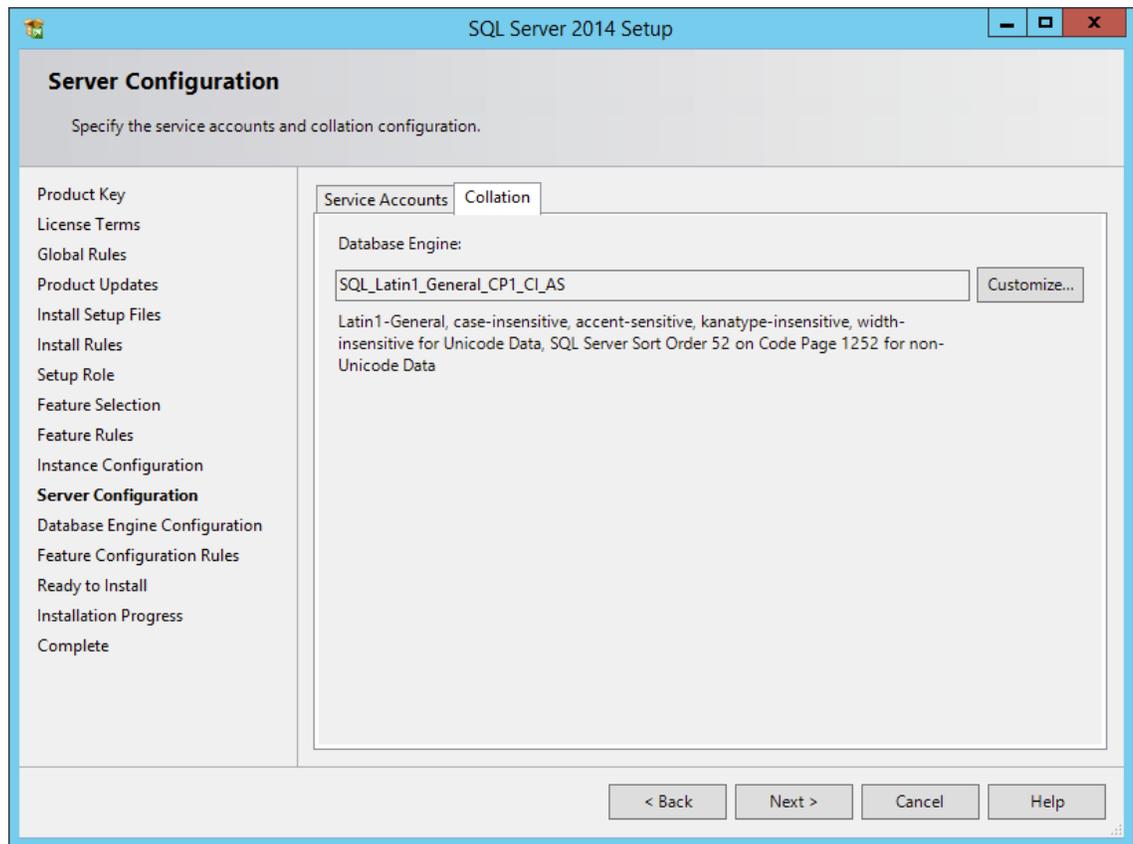
The Feature Rules operation is run.

11 When the operation has completed, click *Next*.

12 In the Instance Configuration page, specify a named instance, then click *Next*.

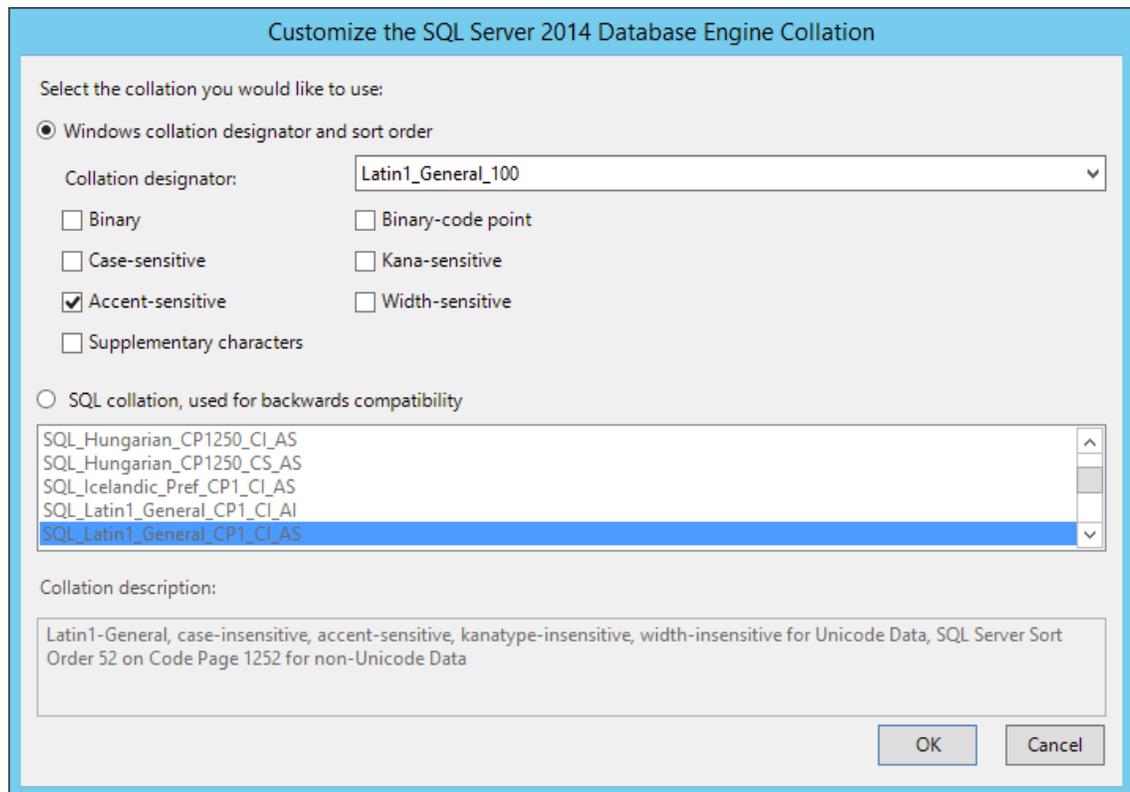


- 13 In the Server Configuration page, click the *Collation* tab.
- 14 On the *Service Accounts* tab of the Server Configuration page, accept the service account configurations, then click the *Collation* tab.

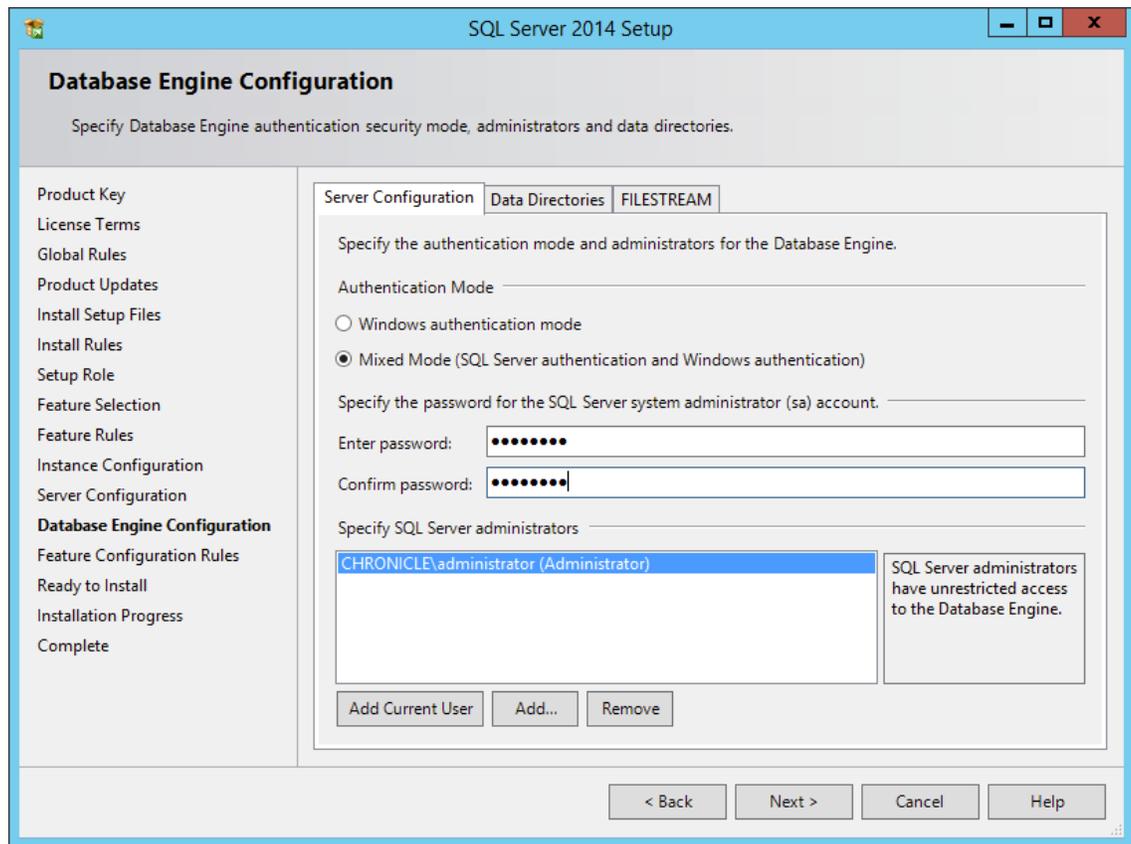


15 Click *Customize*.

16 Click the *Windows collation designator and sort order* option.



- 17 From the drop-down menu, select an acceptable collation and settings for your locale.
For example, in North America, an acceptable collation would be *Latin1_General_100* with the *Accent-sensitive* check box selected.
We recommend that you select a collation that aligns with the Windows locale of the server where the Engine is installed.
For more information on collation and locales, refer to this Microsoft document: (<http://technet.microsoft.com/en-us/library/ms175194%28v=sql.105%29.aspx>.)
- 18 Click *OK*.
- 19 Click *Next*.
- 20 On the Database Engine Configuration page, select the *Mixed Mode (SQL Server authentication and Windows authentication)* option, enter and confirm the SQL Server administrator password, then click *Add Current User*.
Novell Storage Manager does not support Windows authentication mode (also known as Integrated Security).



21 Click *Next*.

22 Review the data directories that are to be created, then click *Next*.

For best performance, the data directories should be located on a dedicated drive or drive array. For other best performance tips, refer to: (<http://condrey.co/support/bp>).

23 Click *Next*.

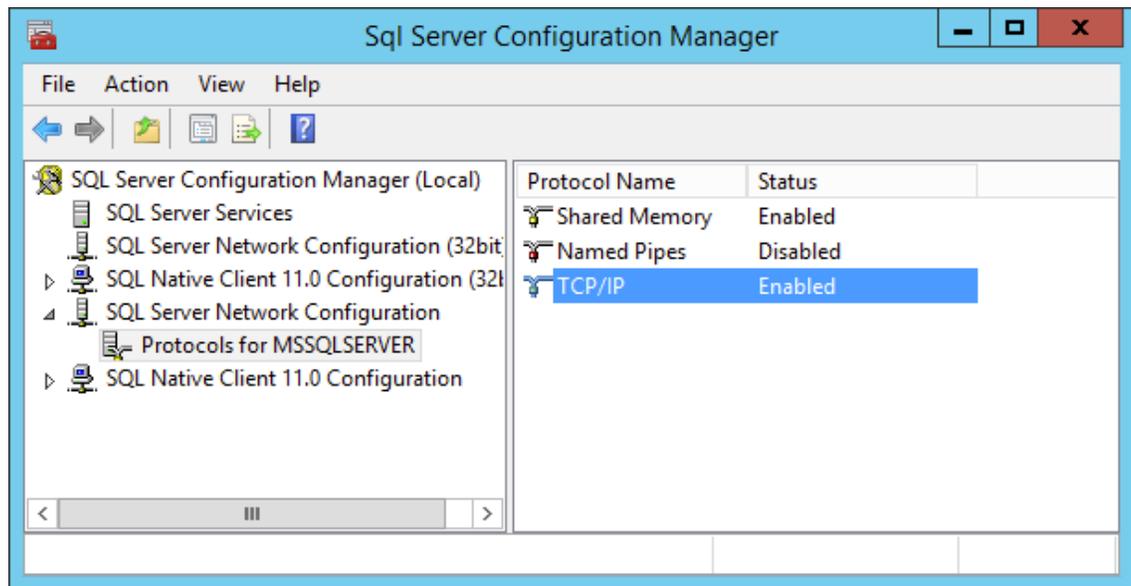
24 Click *Install*.

25 When the installation has completed, click *Close* to close the wizard.

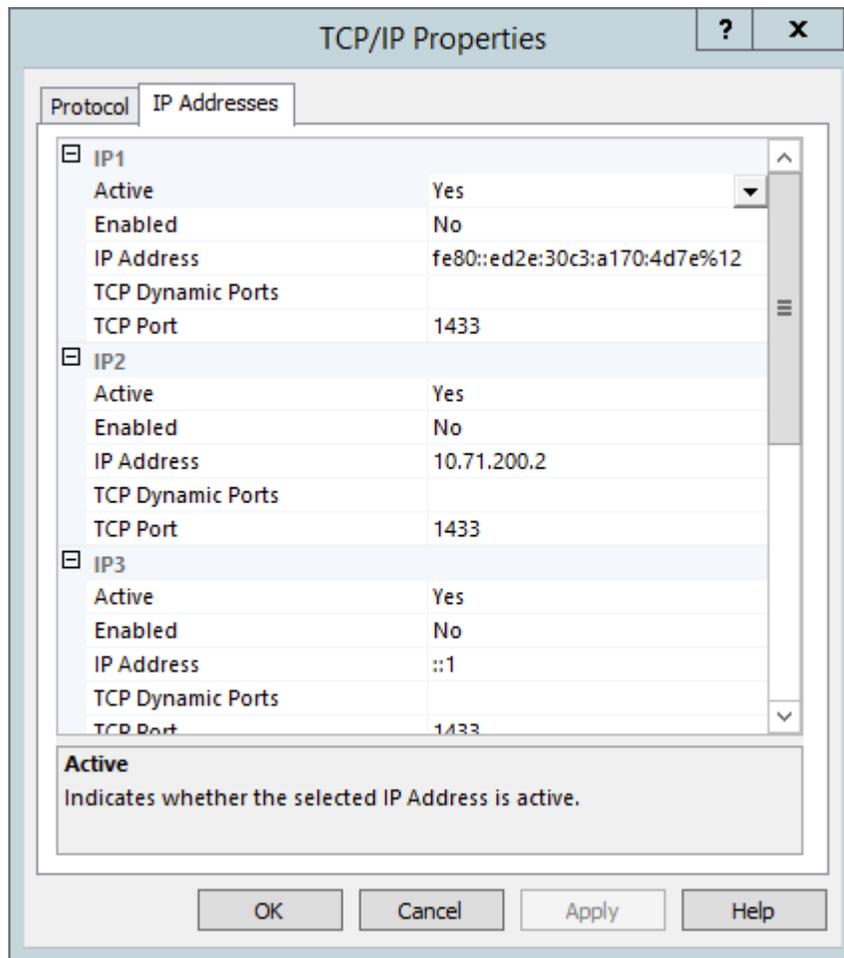
3.4 Post Configuration Considerations

Review these points and make any needed adjustments to your SQL database settings before installing and configuring the NSM Engine:

- ♦ The SQL Server service must be listening via TCP/IP v4, because the Engine requires that for access.



- ◆ Some editions of SQL Server do not have TCP/IP enabled by default. If there are multiple instances, the instance that you just installed and configured might not be listening on the default port of 1433.



- ◆ Firewall rules might need to be modified.

4 Migrating from Novell Storage Manager 3.x for Active Directory

- ◆ [Section 4.1, “Prerequisites,” on page 35](#)
- ◆ [Section 4.2, “Understanding the Migration Process,” on page 36](#)
- ◆ [Section 4.3, “Accessing the Product Contents,” on page 36](#)
- ◆ [Section 4.4, “Stopping and Disabling Components,” on page 36](#)
- ◆ [Section 4.5, “Installing the Engine,” on page 37](#)
- ◆ [Section 4.6, “Installing the License,” on page 38](#)
- ◆ [Section 4.7, “Configuring the Database,” on page 40](#)
- ◆ [Section 4.8, “Migrating the Database,” on page 44](#)
- ◆ [Section 4.9, “Configuring the Engine,” on page 48](#)
- ◆ [Section 4.10, “Migrating the Engine Data,” on page 55](#)
- ◆ [Section 4.11, “Installing and Configuring the Event Monitor,” on page 57](#)
- ◆ [Section 4.12, “Installing and Configuring the Agents,” on page 61](#)
- ◆ [Section 4.13, “Installing NSMAdmin,” on page 65](#)
- ◆ [Section 4.14, “Review Migrated Policies,” on page 67](#)
- ◆ [Section 4.15, “Authorizing the Event Monitor,” on page 67](#)
- ◆ [Section 4.16, “Authorizing the Agents,” on page 67](#)
- ◆ [Section 4.17, “Uninstalling the File System Factory Components,” on page 67](#)
- ◆ [Section 4.18, “Removing Novell Storage Manager 3.1.1 Data Folders,” on page 68](#)
- ◆ [Section 4.19, “Administering Novell Storage Manager 4.1 for Active Directory,” on page 68](#)

Use the procedures in this section to migrate your deployment of Novell Storage Manager 3.x for Active Directory to Version 4.1. You should follow these procedures only after you have performed the prerequisite tasks in Chapter 1: [Chapter 1, “Prerequisites,” on page 7](#), obtained a Novell Storage Manager 4.0 for Active Directory license as indicated in Chapter 2: [Chapter 2, “Licensing the Product,” on page 13](#), and installed an SQL Server instance as specified in Chapter 3: [Chapter 3, “Installing and Configuring SQL Server,” on page 17](#).

IMPORTANT: You must migrate your existing Engine, Event Monitor, and all Agents to Novell Storage Manager 4.1 for Active Directory.

4.1 Prerequisites

If your NSM Engine is not already running Version 3.1.1, update it before proceeding.

4.2 Understanding the Migration Process

The migration process involves the following steps:

- ◆ Accessing the product contents
- ◆ Stopping and disabling components
- ◆ Installing the NSM 4.1 Engine
- ◆ Installing the license
- ◆ Migrating the database
- ◆ Configuring the Engine
- ◆ Migrating the Engine Data
- ◆ Installing the Event Monitor
- ◆ Installing the Agents
- ◆ Installing NSMAdmin
- ◆ Reviewing the migrated policies
- ◆ Uninstalling Novell Storage Manager components
- ◆ Removing the Novell Storage Manager data folders

Your options for migration can be either installing the components on the same server where the Novell Storage Manager components are located, or on a different server. The only real migration that takes place is the database, which can be done in-place or across the wire.

4.3 Accessing the Product Contents

- 1 On the Windows server that will host the NSM Engine, copy to a directory the `NSM-AD_4_1.iso` file that was made available to you following your purchase of Novell Storage Manager 4.1 for Active Directory.
- 2 Mount the `NSM-AD_4_1.iso` file.
- 3 Note the location of the mounted ISO.

This is the installation source you will use to install Novell Storage Manager 4.1 for Active Directory components.

4.4 Stopping and Disabling Components

Since Novell Storage Manager 4.1 components use the same port settings as the Novell Storage Manager 3.1.1 components, you must stop and disable those components to avoid conflicts during the migration.

4.4.1 Stopping and Disabling the Engine

Follow procedures below.

- 1 On the server hosting the Engine, load `Services.msc`.
- 2 Right-click *Novell Storage Manager 3 Engine* and select *Stop*.
- 3 Right-click *Novell Storage Manager 3 Engine* and select *Properties*.

- 4 From the *Startup type* drop-down menu, select *Disabled*.
- 5 Click *OK*.

4.4.2 Stopping and Disabling the Event Monitor

- 1 On the server hosting the Event Monitor, load `Services.msc`.
- 2 Right-click *Novell Storage Manager Event Monitor* and select *Stop*.
- 3 Right-click *Novell Storage Manager Event Monitor* and select *Properties*.
- 4 From the *Startup type* drop-down menu, select *Disabled*.
- 5 Click *OK*.

4.4.3 Stopping and Disabling the Agents

- 1 On the server hosting the Agent, load `Services.msc`.
- 2 Right-click *Novell Storage Manager Agent* and select *Stop*.
- 3 Right-click *Novell Storage Manager Agent* and select *Properties*.
- 4 From the *Startup type* drop-down menu, select *Disabled*.
- 5 Click *OK*.

4.5 Installing the Engine

Novell Storage Manager 4.1 for Active Directory uses only one Engine per forest. The Engine can be installed on a host server that meets the following minimum requirements:

- ♦ Microsoft Windows Server 2012 R2 (Member Server)
- ♦ Microsoft Windows Server 2012 (Member Server)
- ♦ Microsoft Server 2008 R2 (Member Server)
- ♦ At least 4 GB RAM
- ♦ For quota management, Microsoft File System Resource Manager (FSRM) must be installed; see [Section 1.2, "File Server Resource Manager," on page 8](#).
- ♦ Forest functional level of Windows Server 2003 or later

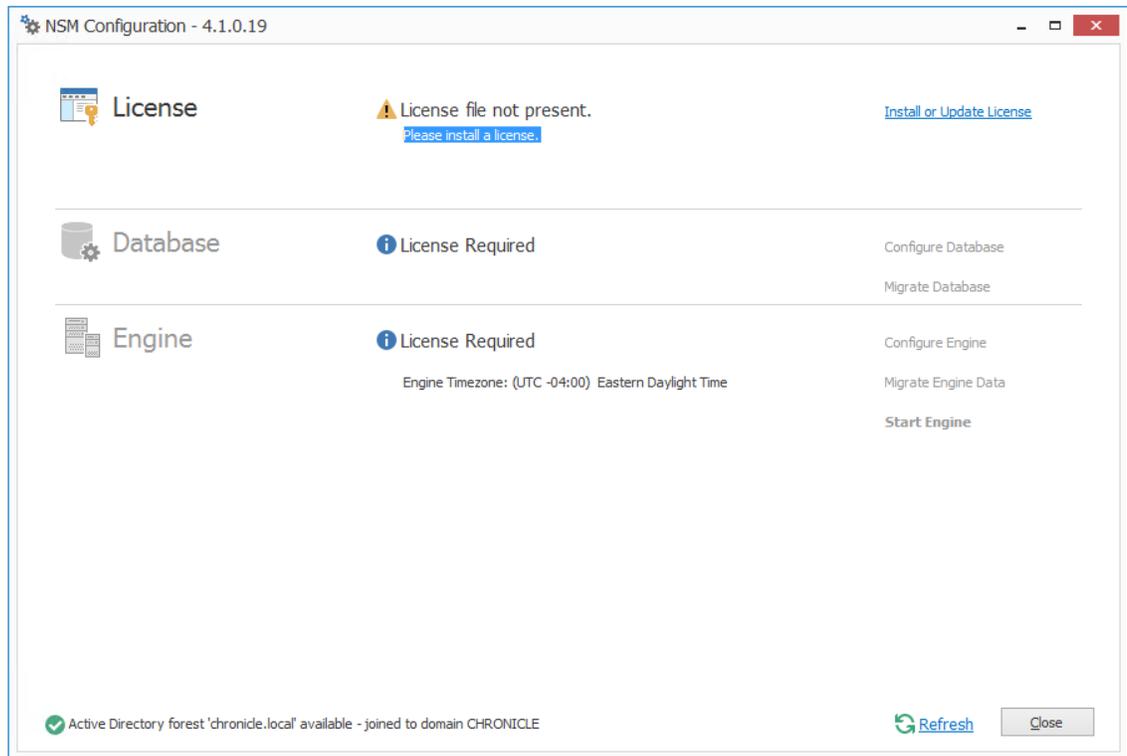
IMPORTANT: Once the Engine has been migrated, the existing Event Monitor and Agents become legacy components because they cannot perform their duties until they are also migrated. These legacy components are not deauthorized, nor are they removed, until you remove them yourself.

Having legacy components allows you to view the configuration settings and proxy assignments so you can reestablish them when you install the new Event Monitor and Agents.

Other notable information about the Engine:

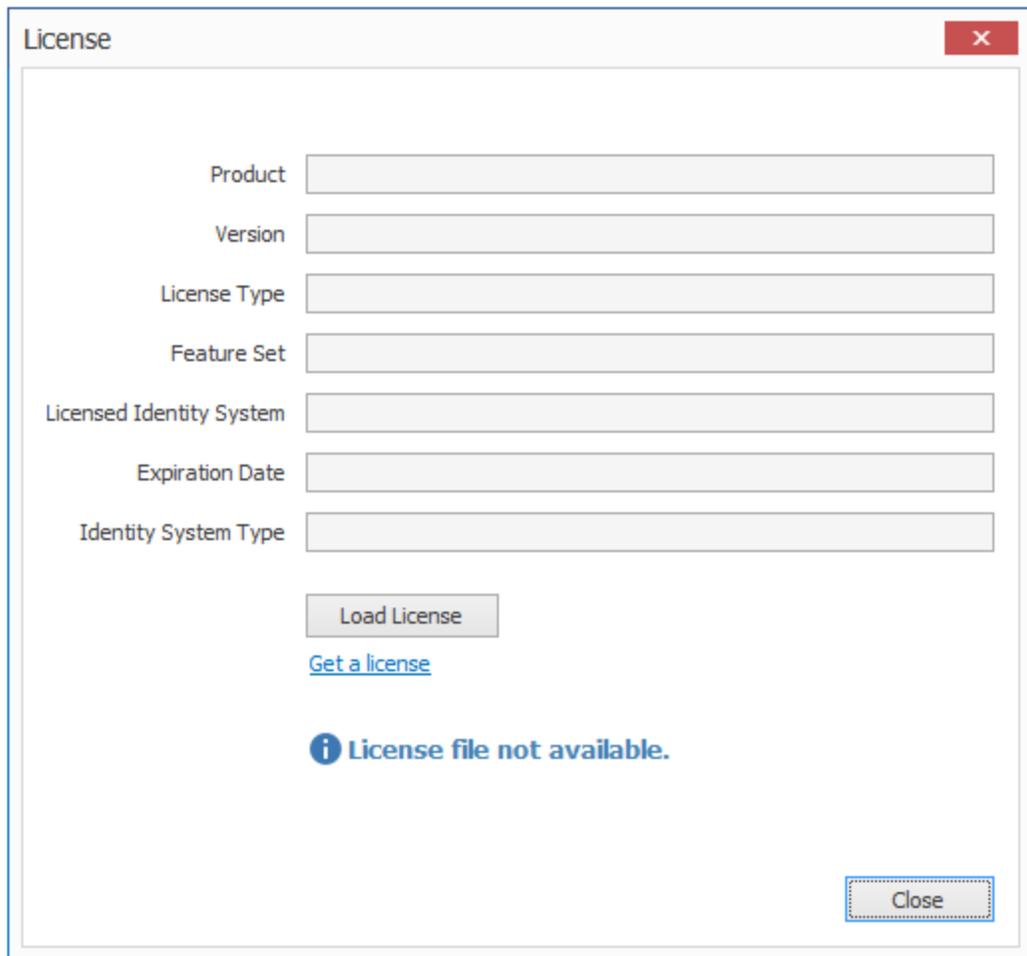
- ♦ The Engine runs as a native NT service that is configured to start by using the Local System account

- ♦ The default Engine port is 3009
 - ♦ A firewall inbound rule is added during the Engine installation
- 1 At the root of the NSM-AD_4_1.iso image, double-click the Windows folder.
 - 2 Double-click the x86_64 folder.
 - 3 Double-click NSMEngine-Installer-4.1-x64-xxxx.exe.
 - 4 When you are asked if you want to run this file, click *Run*.
 - 5 Agree to the licensing terms and conditions and click *Install*.
 - 6 When notified that the setup was successful, click *Run Setup Utility*.
- The Configuration Dashboard appears.



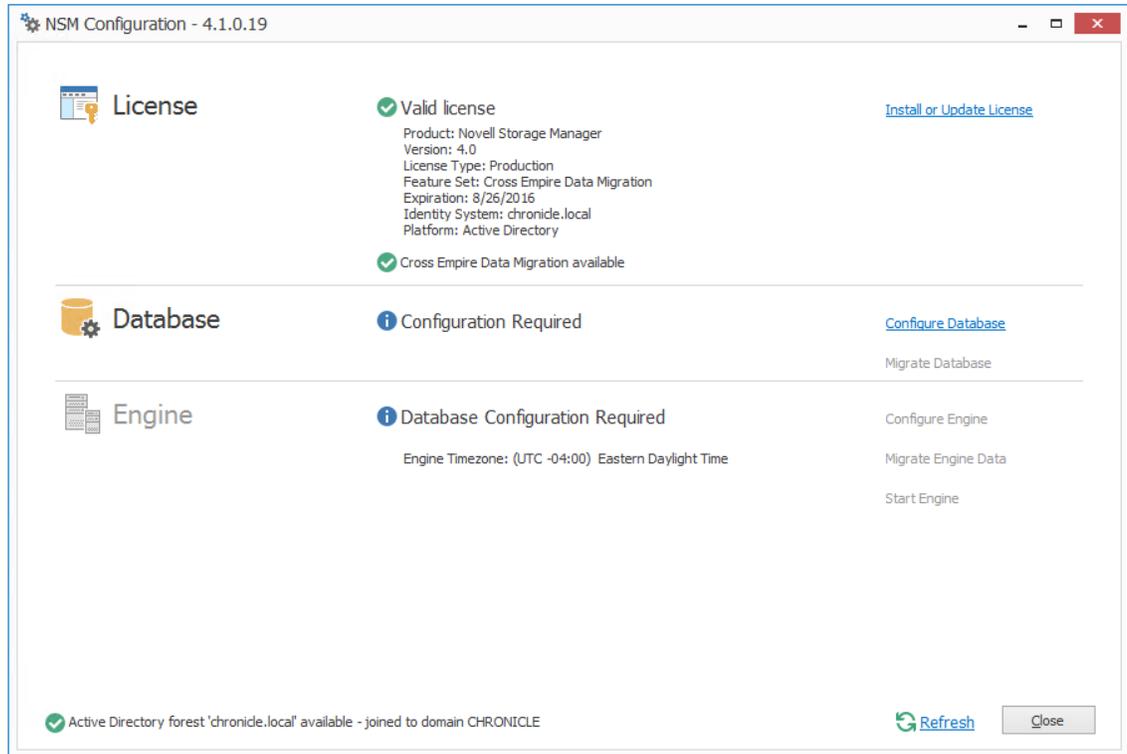
4.6 Installing the License

- 1 Click *Install or Update License*.



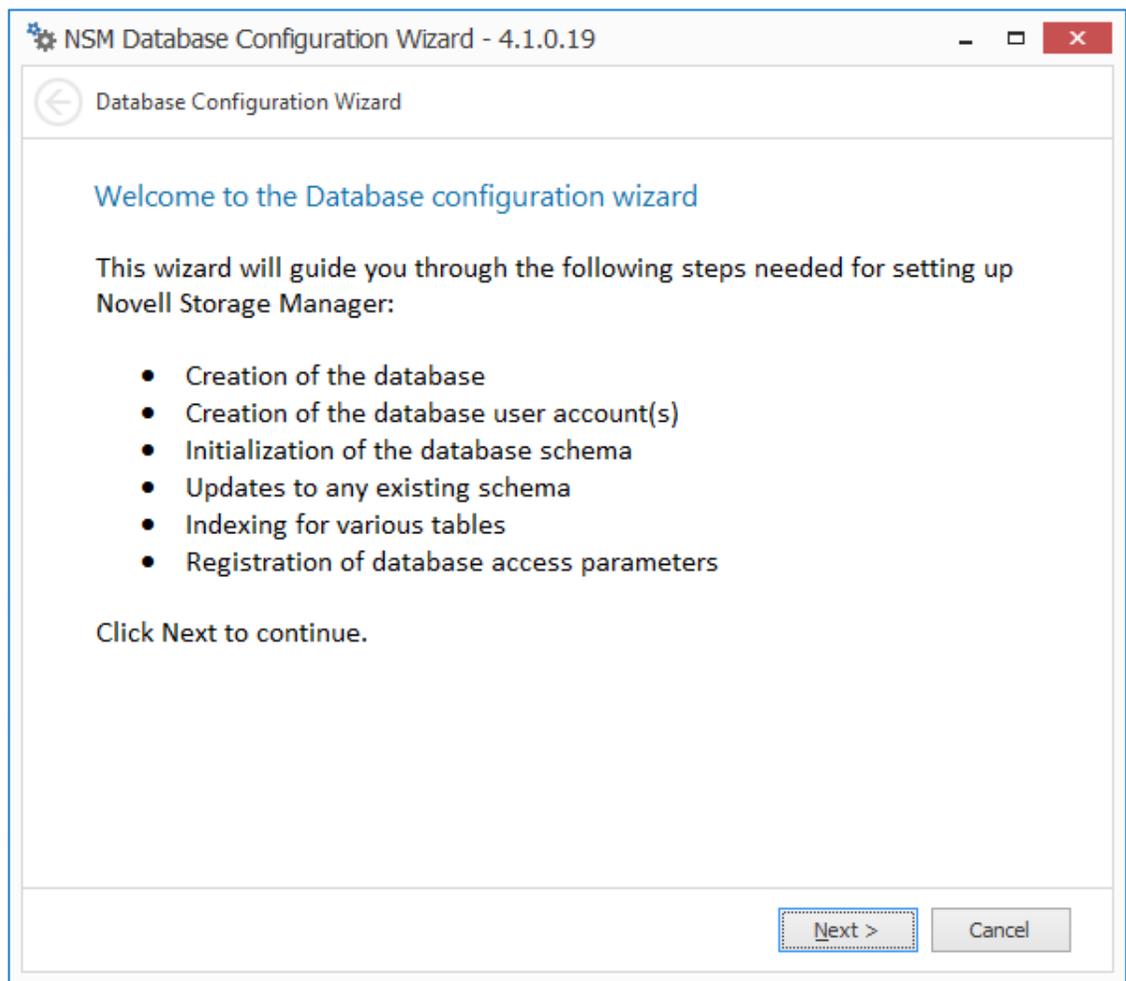
- 2 Click *Load License*, then browse to and select the license file.
- 3 When the confirmation prompt appears, click *Yes*.

4 Click *Close*.



4.7 Configuring the Database

1 Click *Configure Database*.



The page indicates what database configuration tasks are to be completed in this wizard.

- 2 From the wizard page, read the overview of what will be configured and click *Next*.

Database Configuration Wizard

Database Connection

Database Properties
 Type: SQL Server 2012

Communication
 Database Host Address: Astinus.chronide.local Port: 1433
 Initial Database: fsfdb

Database Service Account - Enter the name of a database account for this application.
 Database Account Name: fsfadmin
 Password:
 Verify Password:

Database Admin Credentials - Enter the credentials needed for provisioning the database.
 Database Administrator: sa
 Password:

Next > Cancel

This page lets you establish the settings needed for the Engine to communicate with the database.

Database Properties: Displays information on the database.

Type: Displays the minimum supported version of the database, which is SQL Server 2012.

Communication: Specifies address, port number, and name of the database.

Database Host Address: Specify the host address of the server where the database is installed.

Port: The default SQL Server port setting is 1433. If there is a port conflict, you can change it.

Initial Database: The default name of the Novell Storage Manager database.

Database Service Account: Use this region to set authentication information for the database service account, which is the database account that the Engine uses to sign in to the database.

Database Account Name: By default, the database account is fsfadmin, which you can change in this field.

Password: Specify a password for the service account to connect to the database.

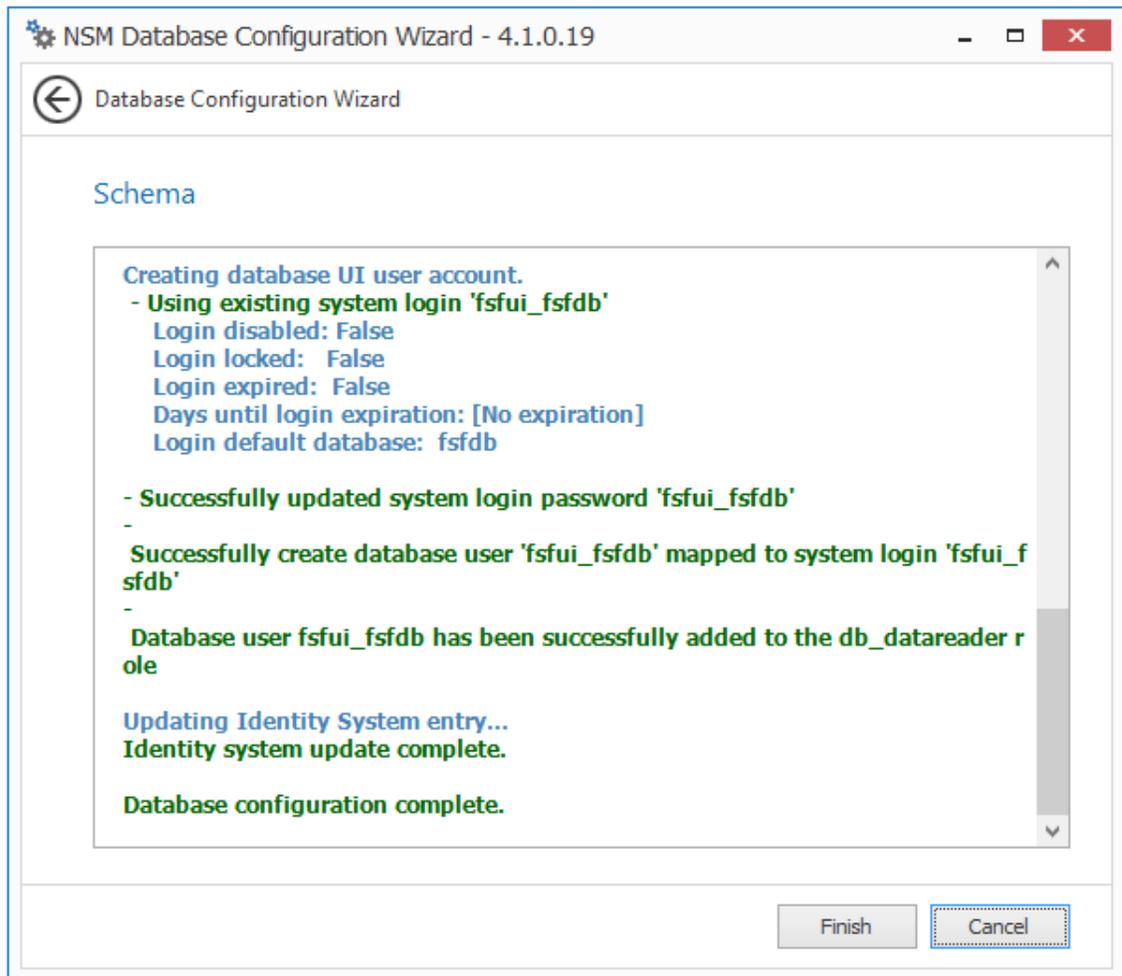
Verify Password: Specify the password again in this field.

Database Admin Credentials: Use this region to establish the database administrator name and credentials.

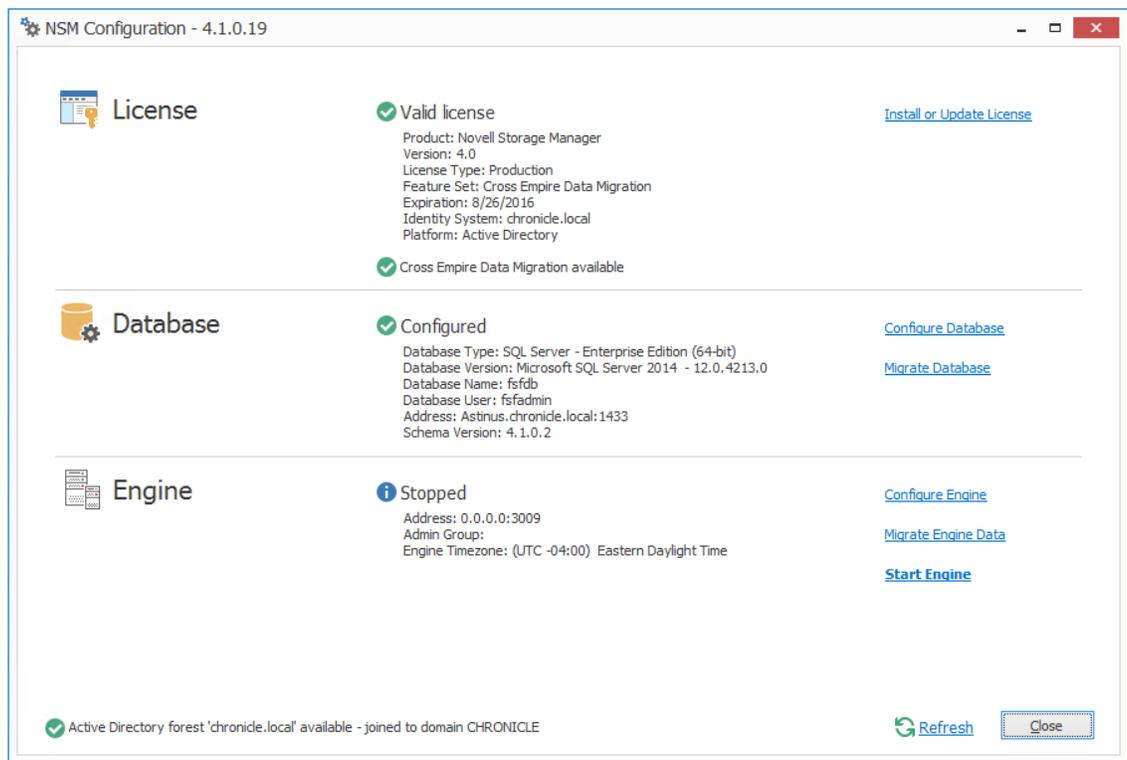
Database Administrator: Specify the SQL Server administrator name.

Password: Specify the SQL Server administrator password.

- 3 Complete the fields and click *Next*.



- 4 Review the configuration log and click *Finish*.

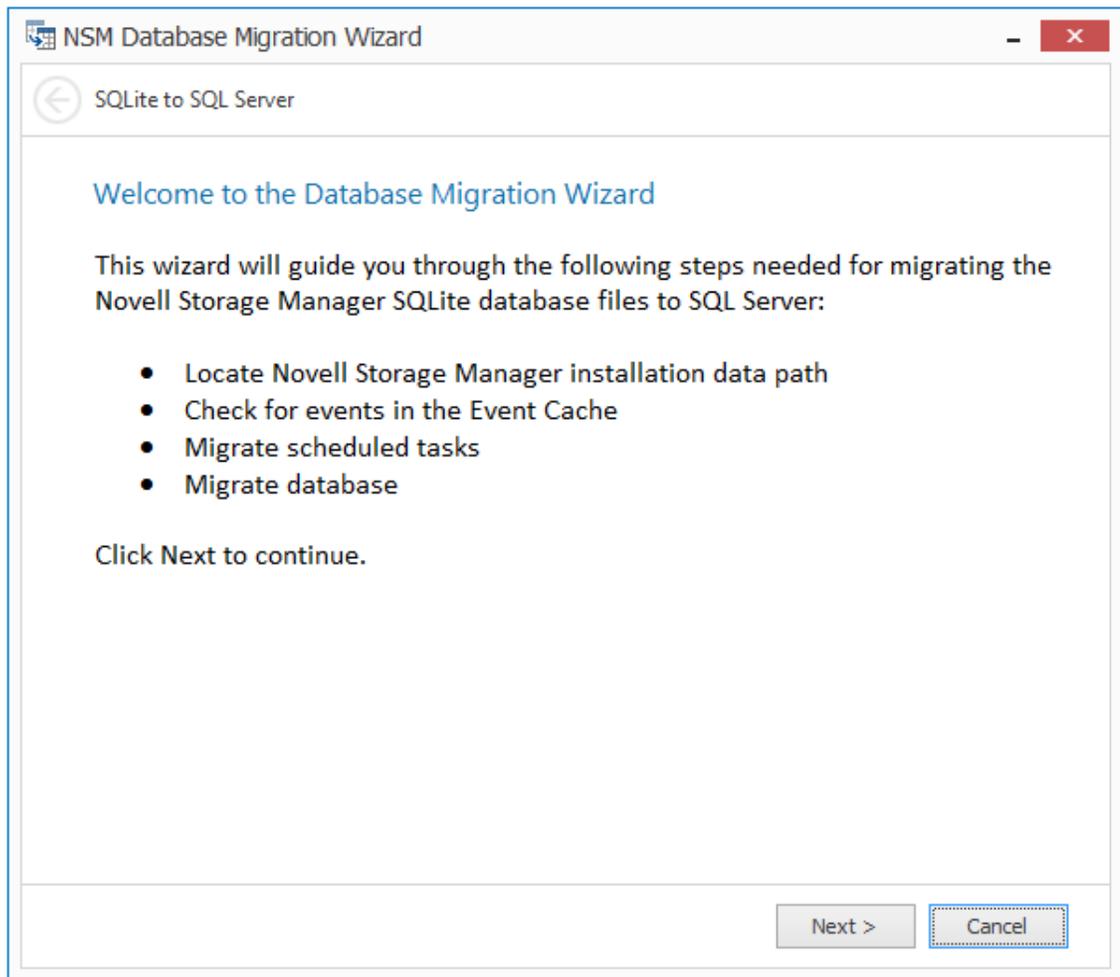


Note that the Configuration Dashboard now has the *Migrate Database* option.

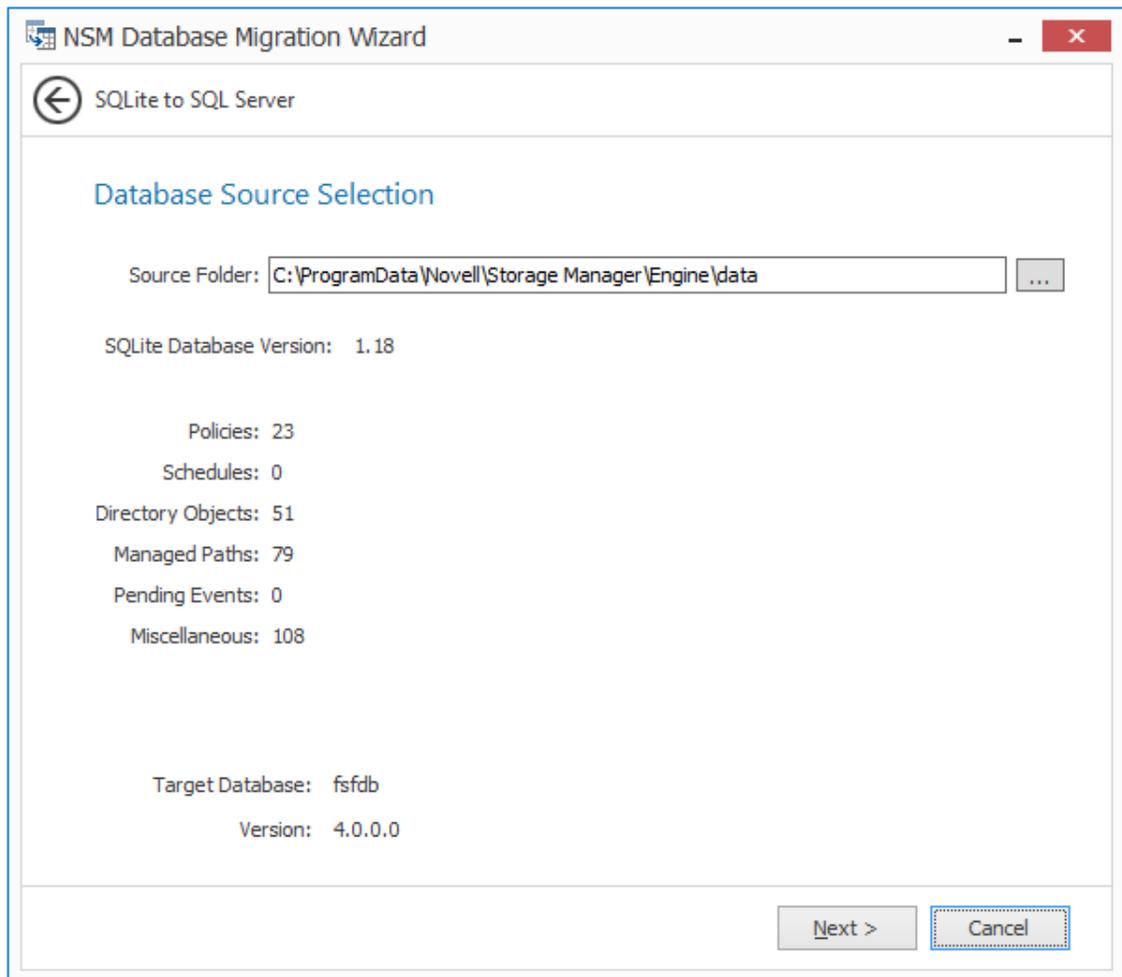
4.8 Migrating the Database

This procedure migrates the contents of the Novell Storage Manager 3.1.1 SQLite database to the Novell Storage Manager 4.1 SQL Server database. These contents include policies, schedules, pending events, etc.

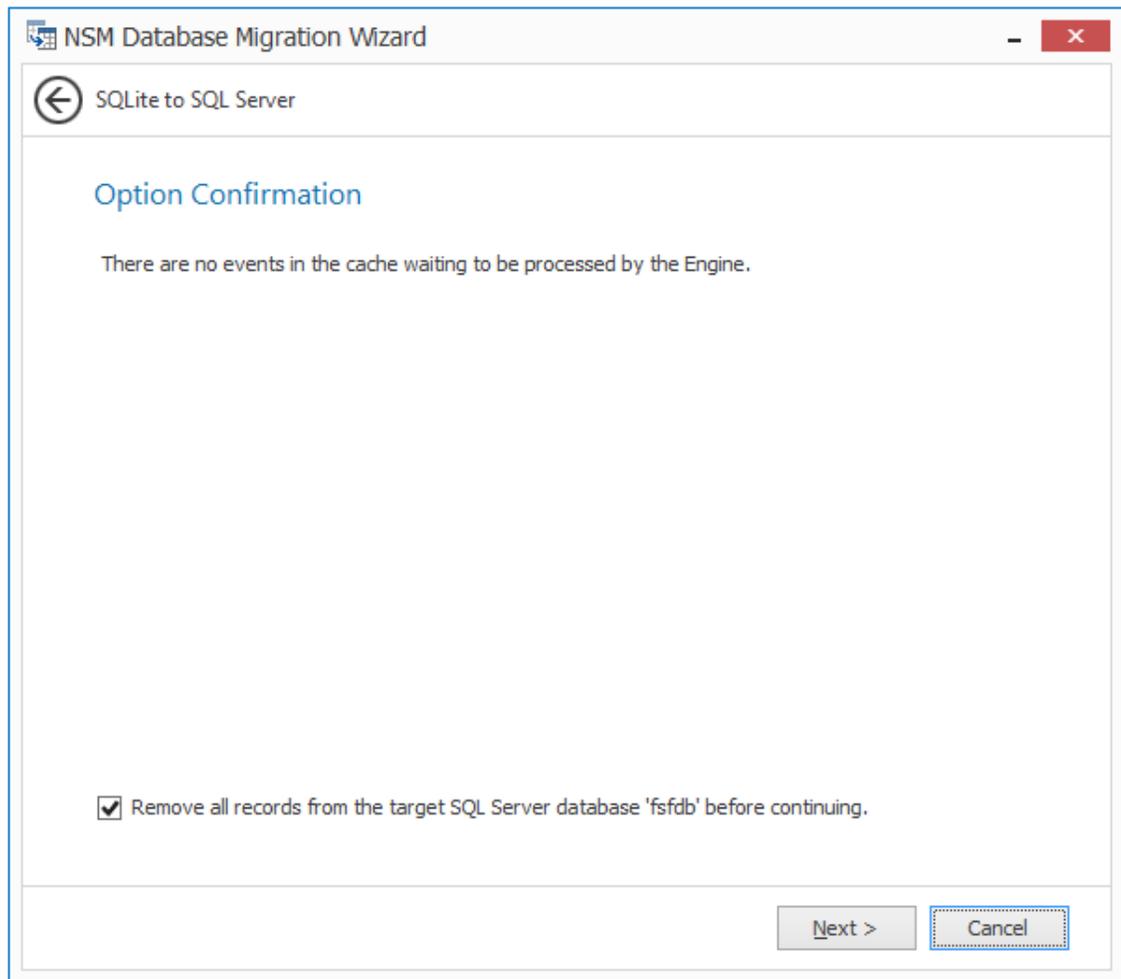
- 1 Click *Migrate Database*.



- 2 From the wizard page, read the overview of the migration process and click *Next*.



- 3 Verify that the Source Folder field displays the following path:
C:\ProgramData\Novell\Storage Manager\Engine\data
If the path is not displayed, click the browse button to specify the path.
- 4 Click *Next*.

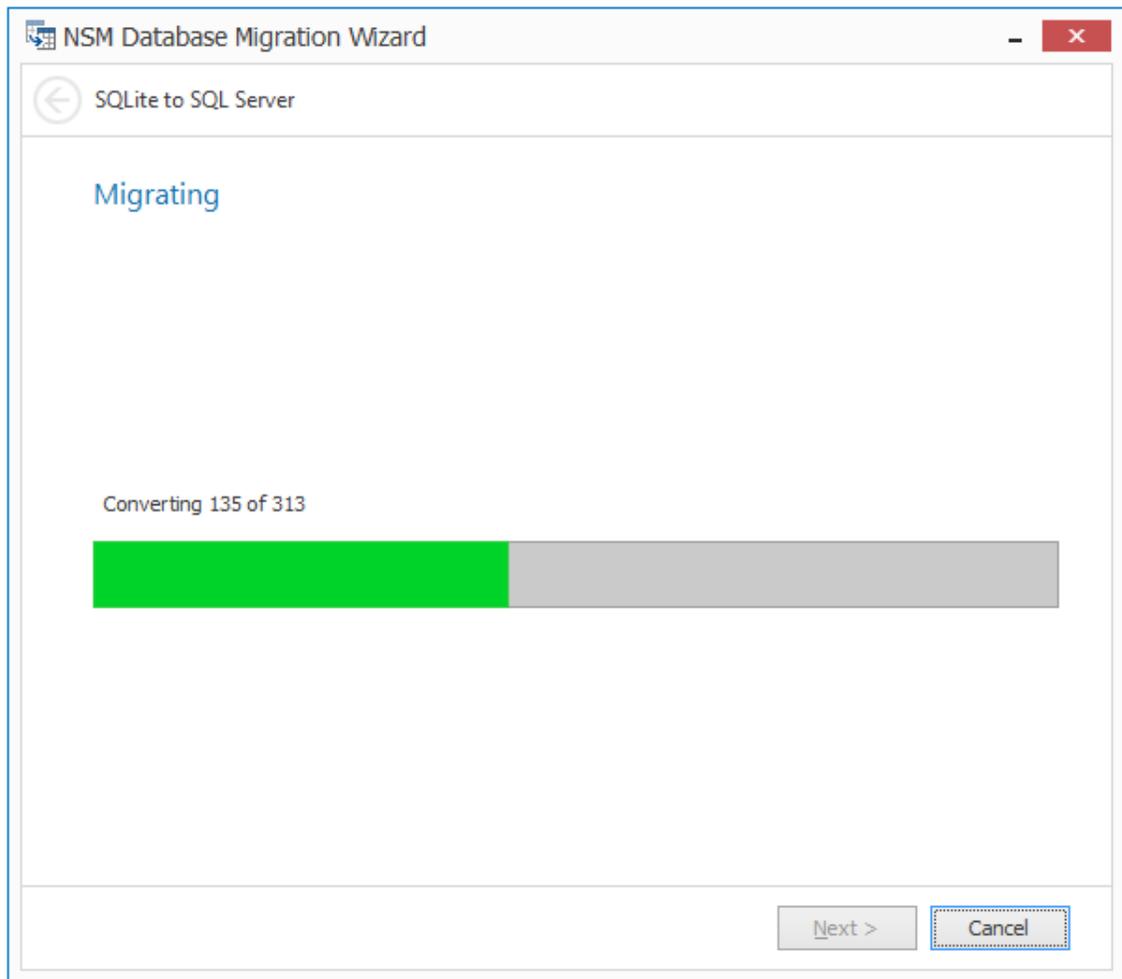


If there are any events in cache (and therefore not yet pending events), the events are displayed.

The *Remove all records from the target SQL Server database before continuing* option lets you remove any existing records in the target database instance before migrating. If there are any existing records in the SQL Server database instance, you should select this option to maintain the integrity of the database contents that are being migrated. This is applicable even if you decide to migrate the SQLite database again.

It is not safe to migrate a Novell Storage Manager SQLite database to a SQL Server database that contains policies or other critical data. Doing so is not supported as it could result in unpredictable behavior with the database.

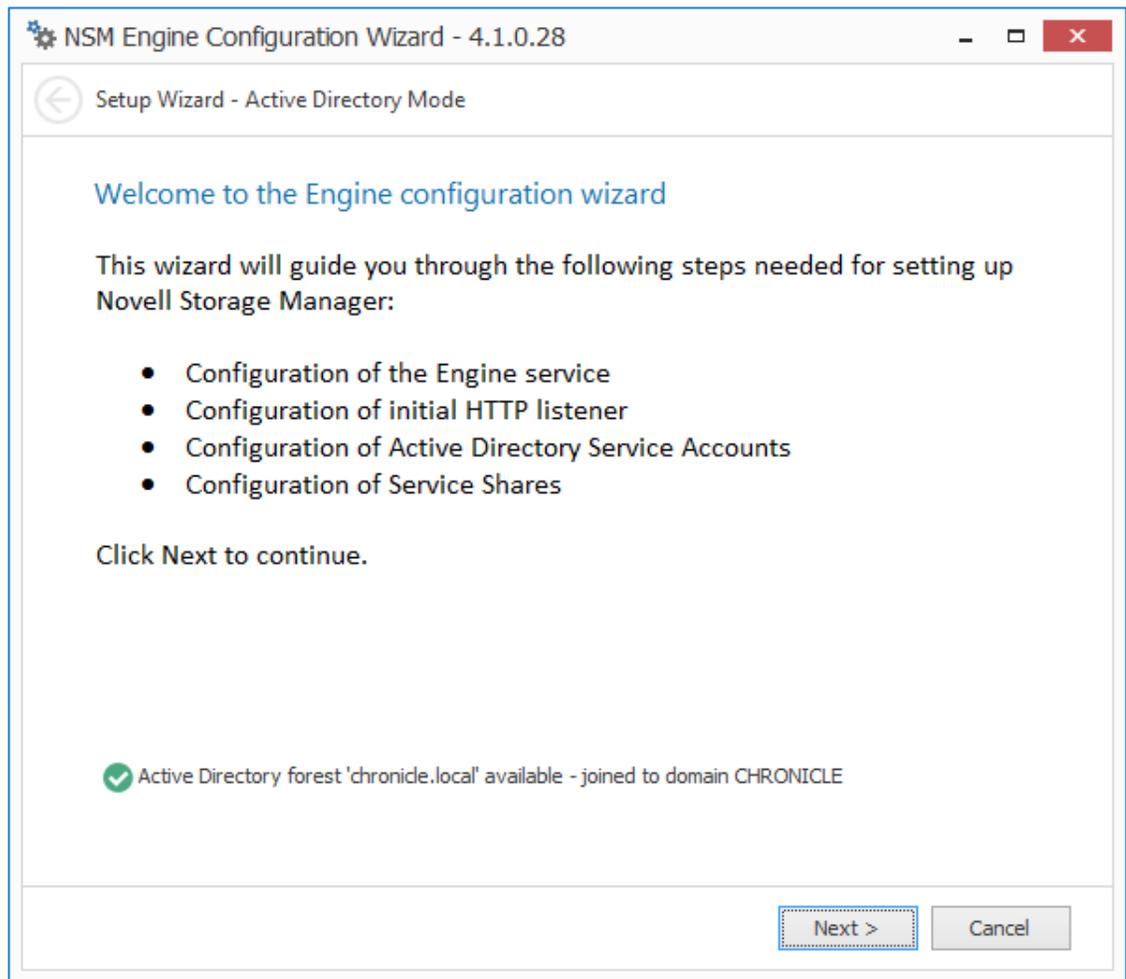
- 5 Specify whether to remove any existing records in the target database and click *Next*.



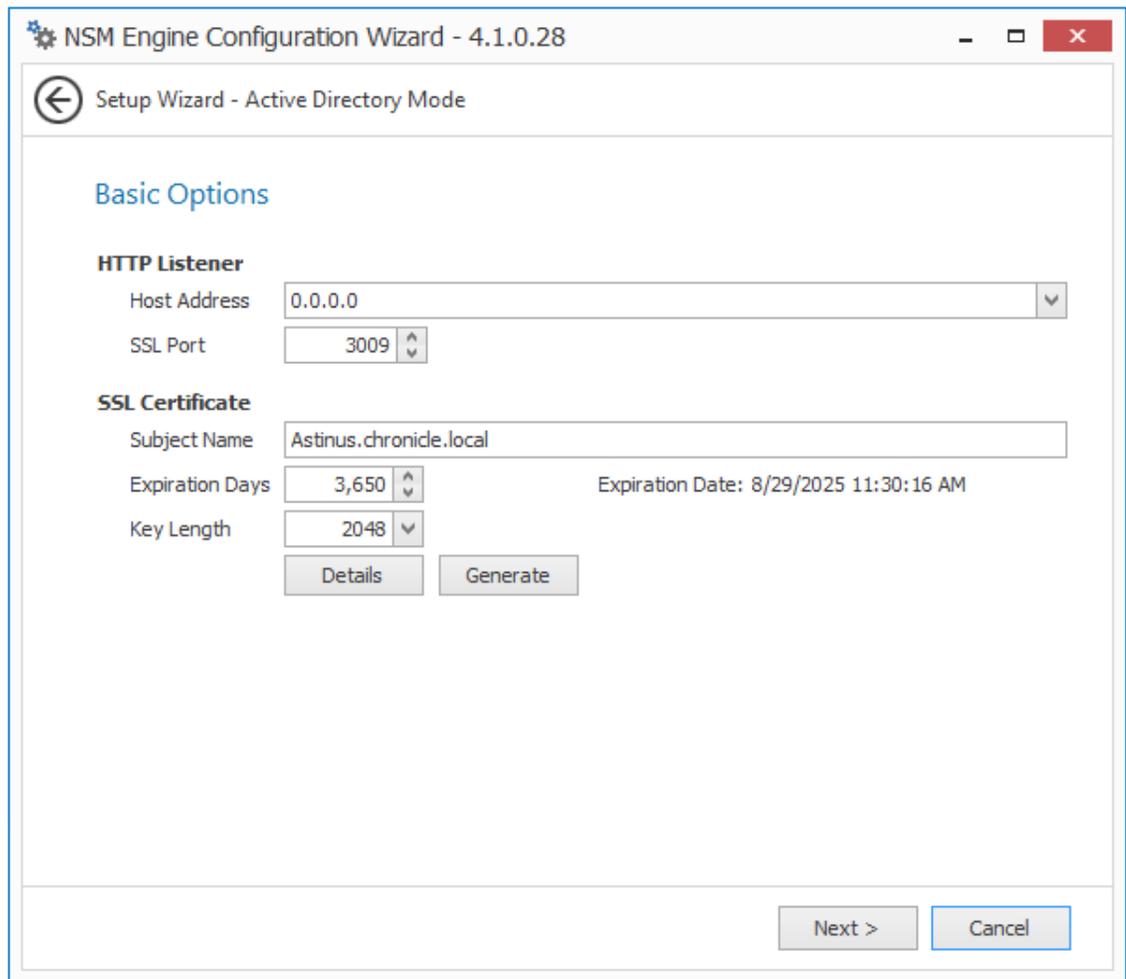
- 6 When notified that the migration has completed, click *Finish*.

4.9 Configuring the Engine

- 1 From the Configuration Dashboard, click *Configure Engine*.



2 From the wizard page, read the overview of what will be configured and click *Next*.



This page lets you confirm or change basic Engine configuration settings.

HTTP Listener: Communication parameters for the Engine.

Host Address: Unless you want the Engine to only listen on a certain IP address, leave this setting as it is.

SSL Port: Unless there is a port conflict, leave the setting at 3009.

SSL Certificate: Details for the SSL certificate that will be generated.

Subject Name: The name of the certificate that will be generated. The server name is listed by default.

Expiration Days: The life span of the security certificate, which is set at 10 years by default.

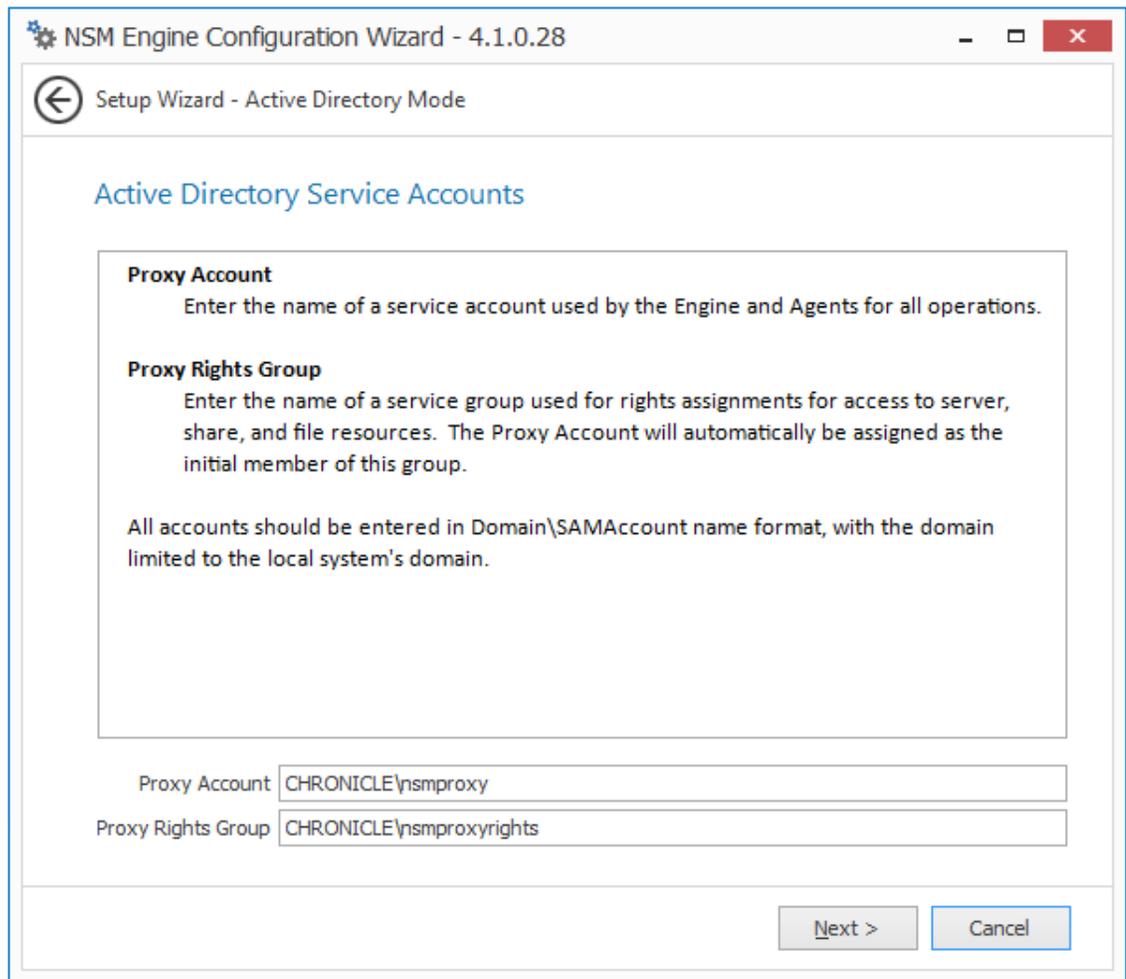
Key Length: The SSL certificate encryption setting, which is set at 2048 by default.

Details: Click the button to view the certificate data.

Generate: If you modify any of the settings in the SSL Certificate region, click this button to generate a new certificate.

Data Folder: The default location of the Data folder. The Data folder is used for a variety of tasks, including storing Agent configuration data, Event Monitor configuration data, and application specific historical data.

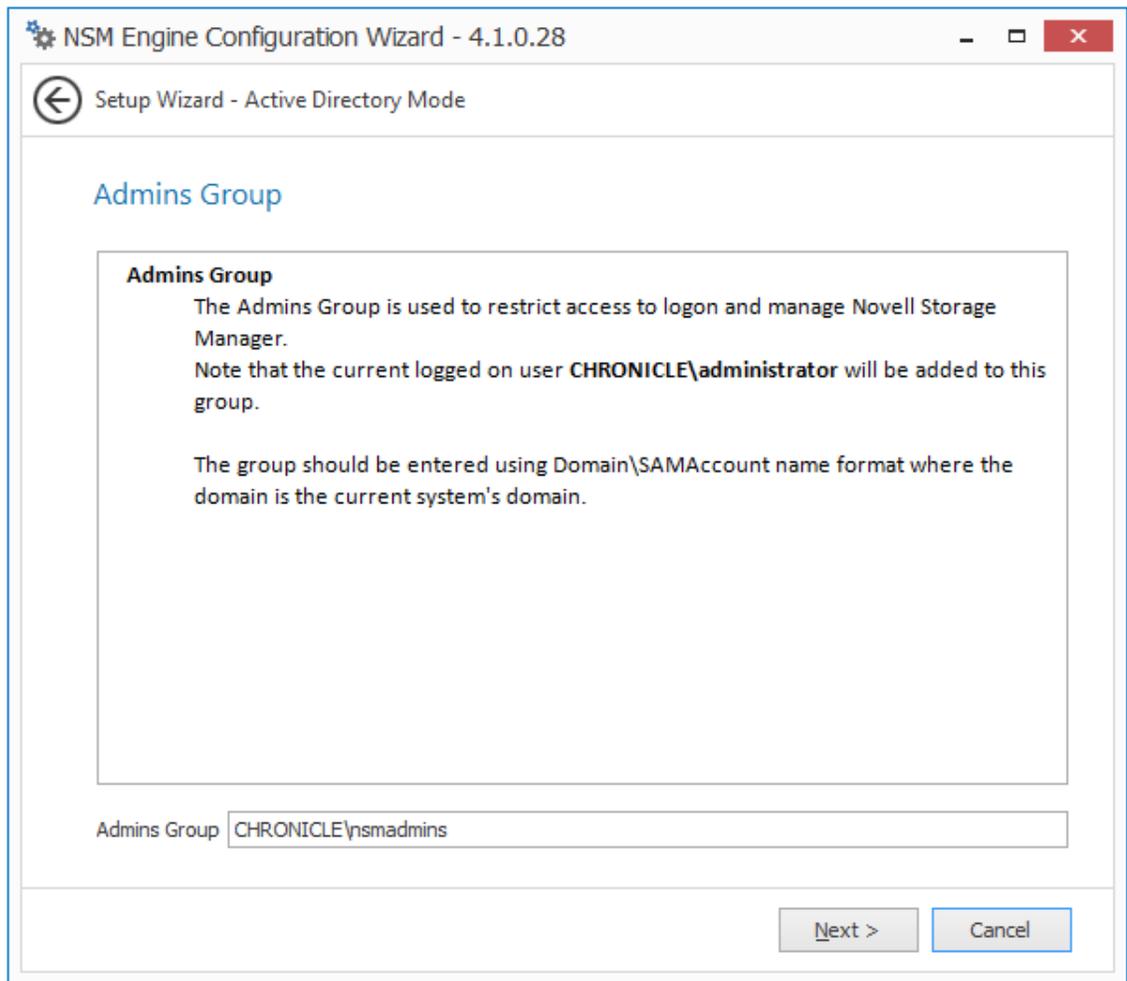
3 Edit any needed parameters settings and click *Next*.



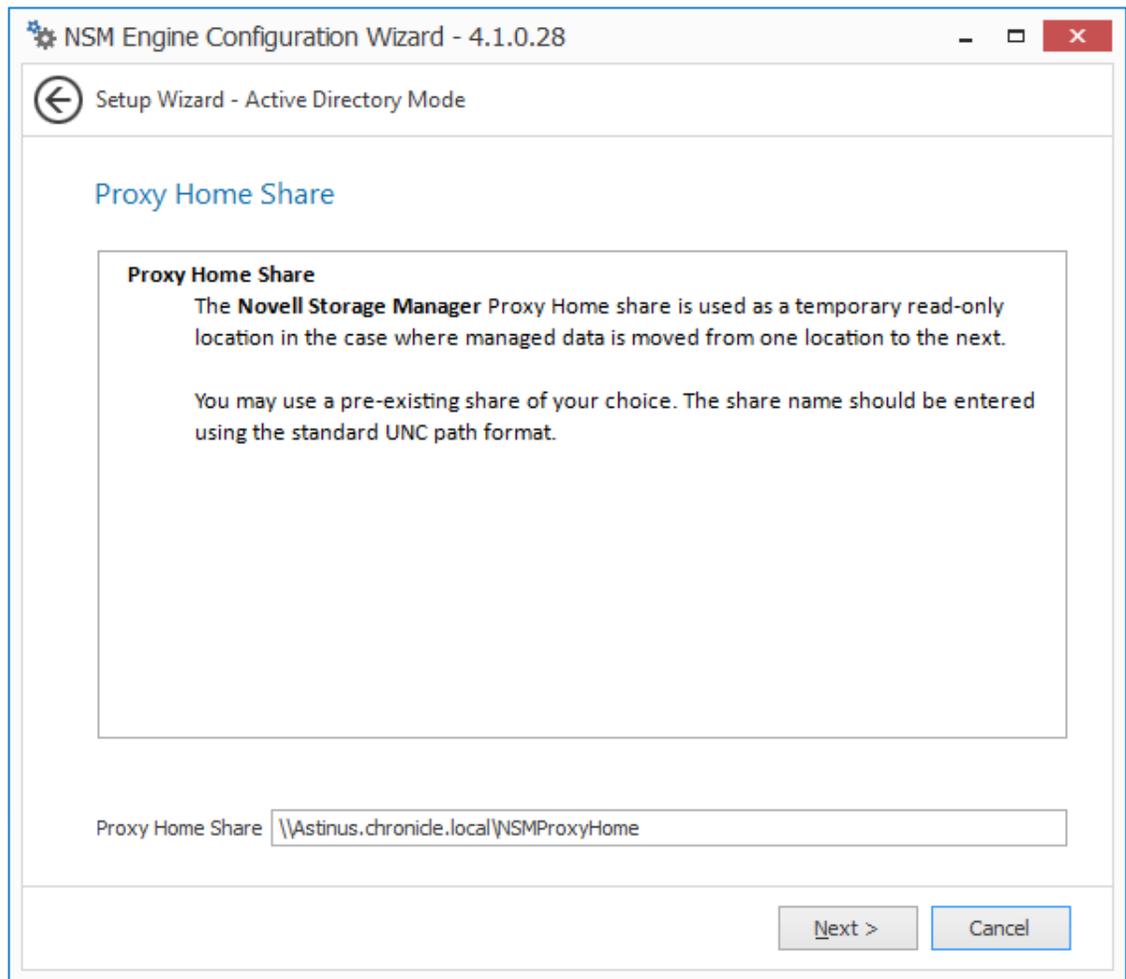
This page lets you establish a name for the proxy account and proxy rights group.

Novell Storage Manager uses a proxy account so that it can perform tasks necessary for storage management.

- 4 Click *Next*.



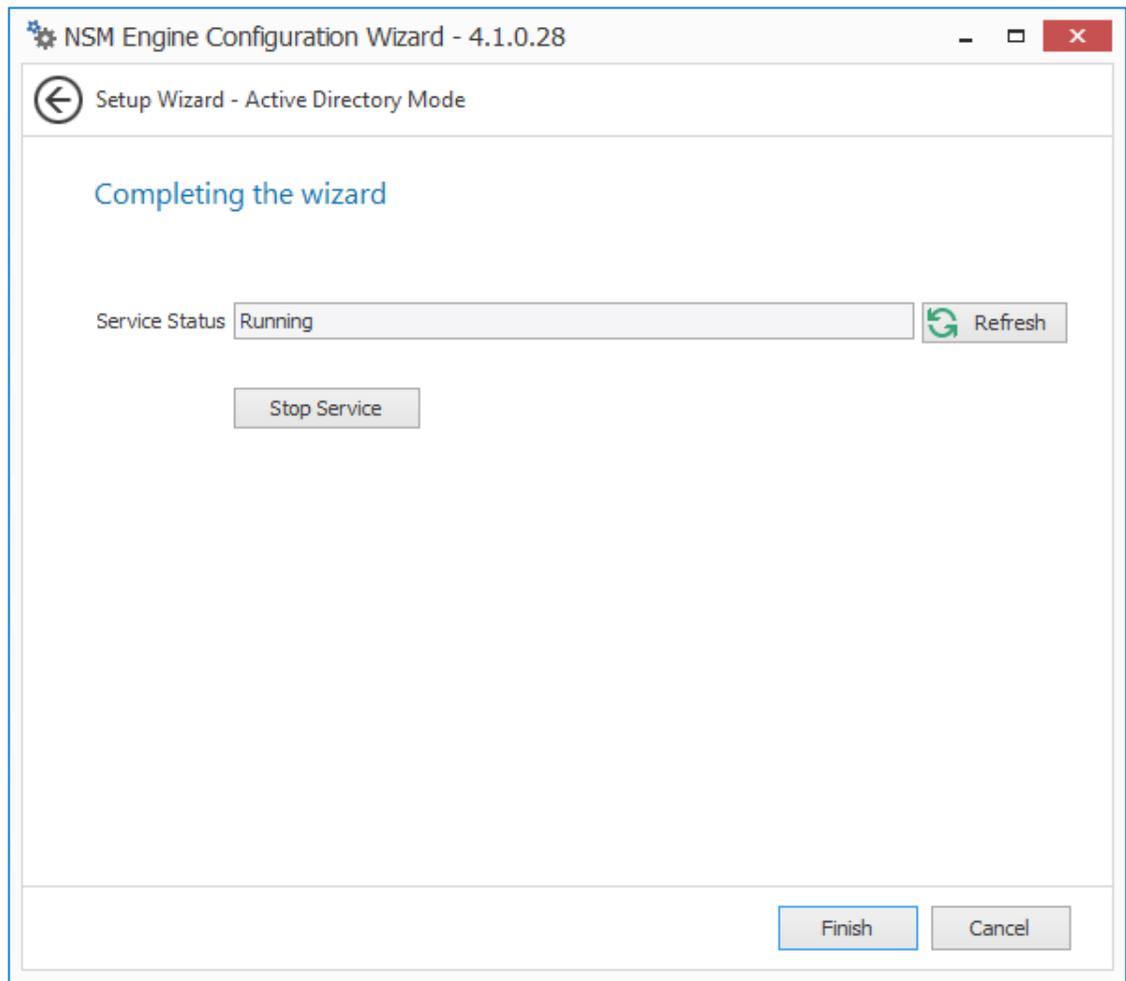
- 5 Specify the name for the Admins Group, or use the default name, and click *Next* to create the group.



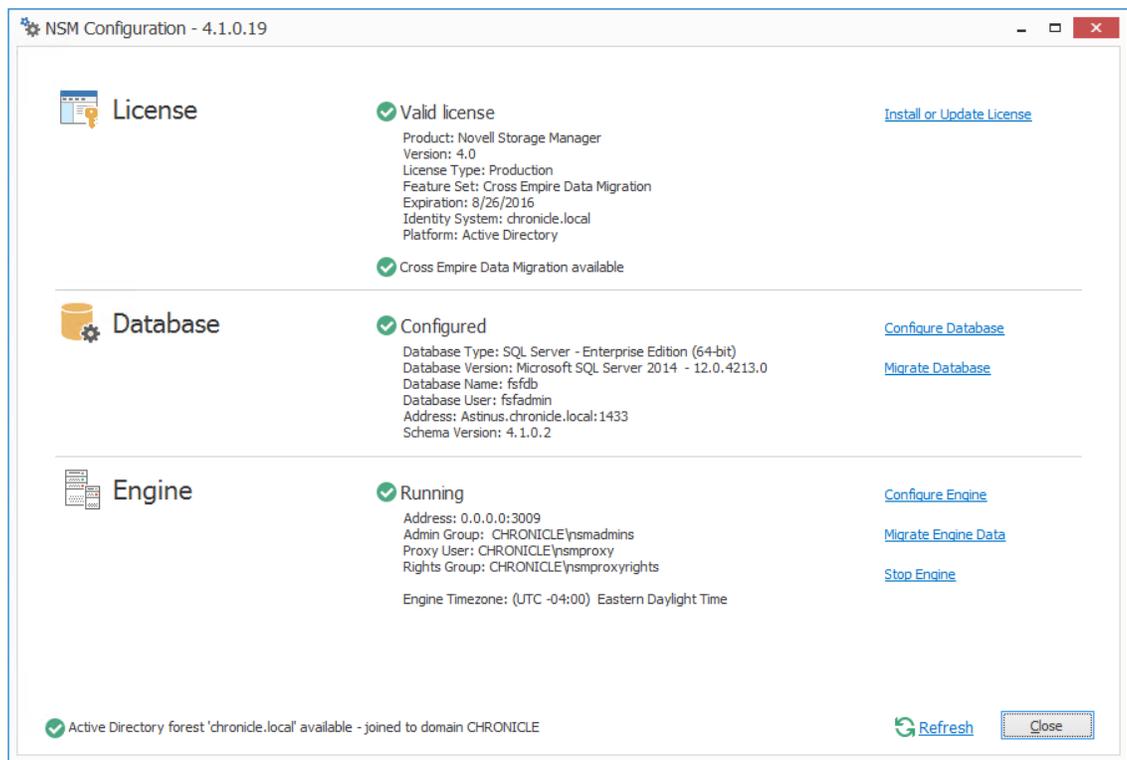
The Proxy Home Share that you establish in this page is the read-only location where users' managed path attributes are temporarily set when data is moved because of a change in policy.

The *Overwrite Existing Files* option lets the administrator specify whether files being placed in the Proxy Home Share are to replace existing files with the same name.

- 6 Specify whether to overwrite existing files and the Proxy Home Share path, then click *Next*.



7 Click *Finish*.

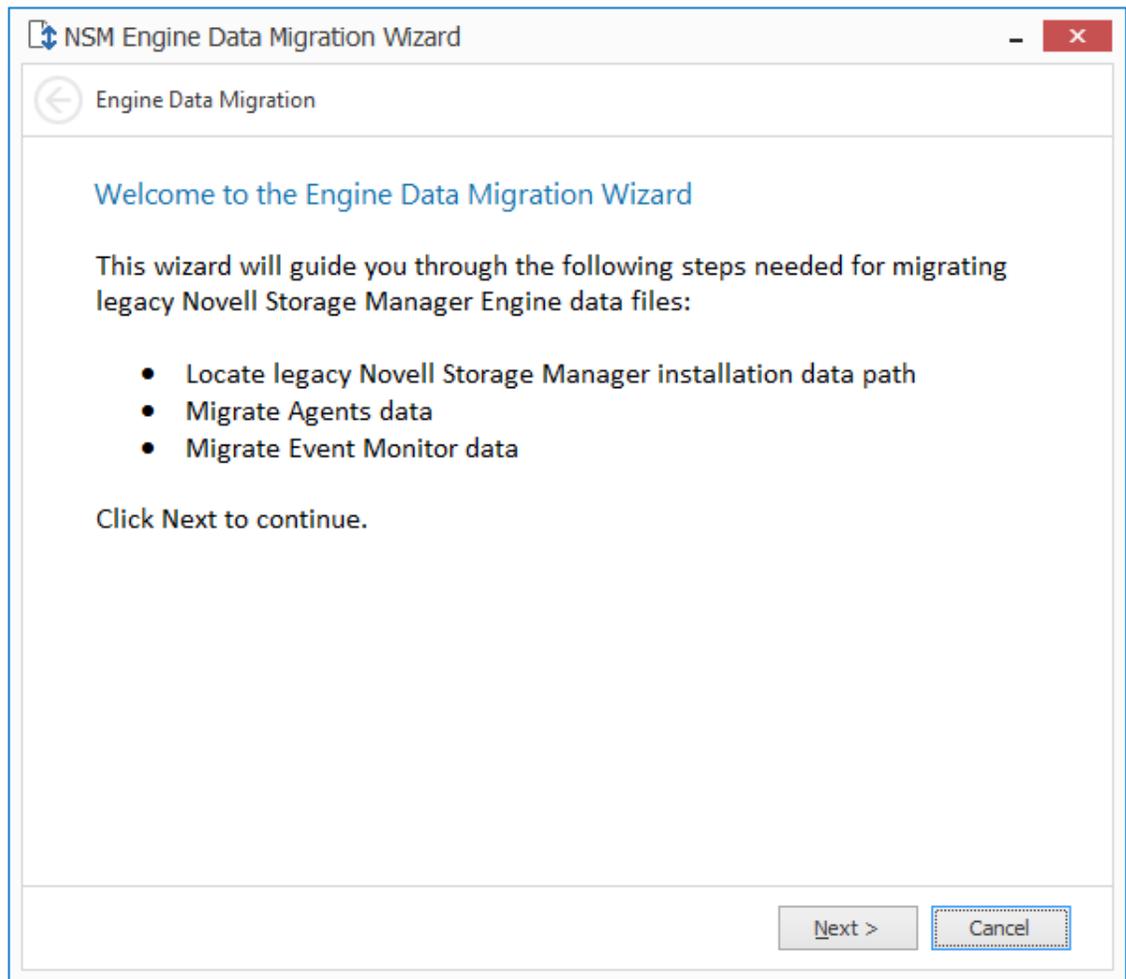


8 Proceed with [Section 4.10, "Migrating the Engine Data,"](#) on page 55.

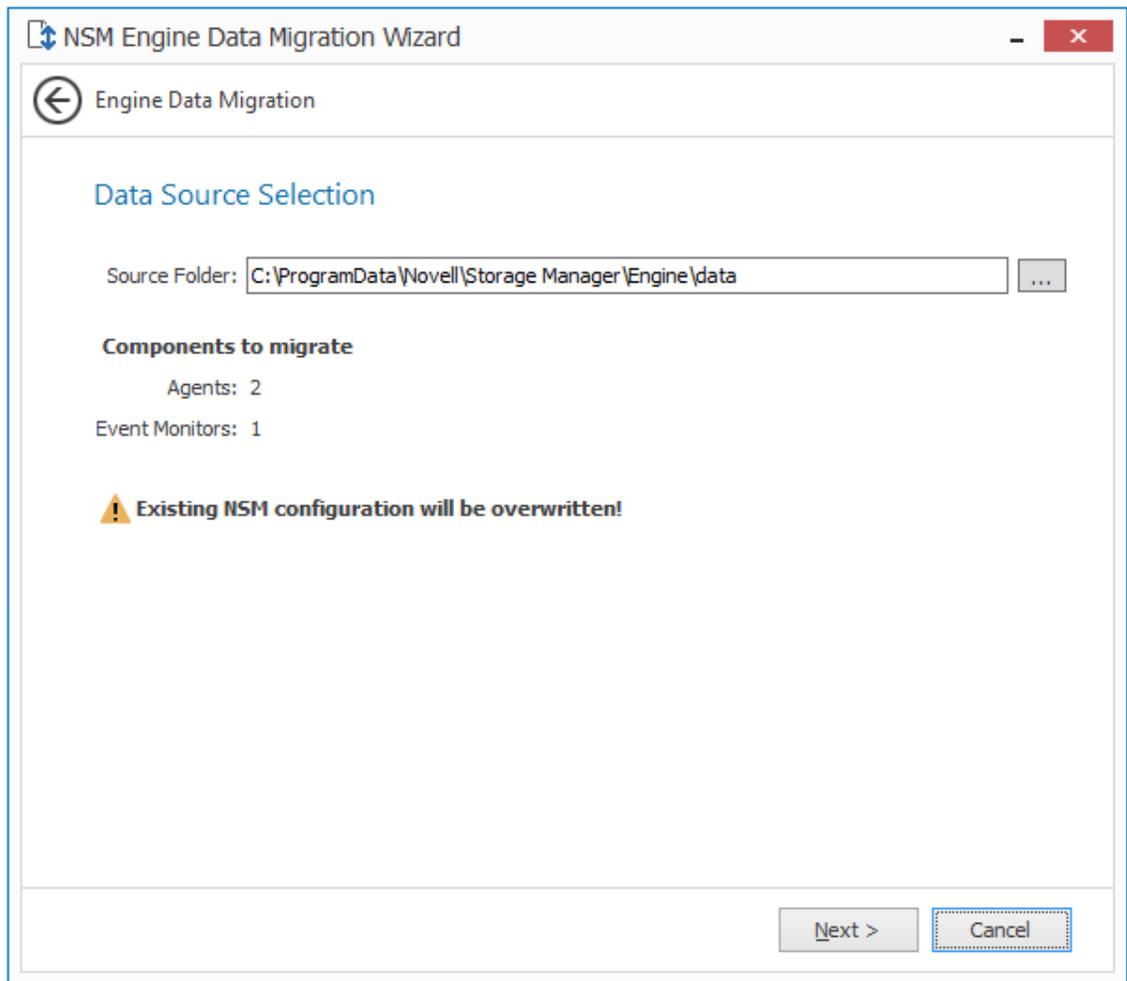
4.10 Migrating the Engine Data

Migrated Engine data includes the list of authorized Agents, the authorized Event Monitor, and the list of servers hosting Agents that are serving as Proxy Agents.

- 1 From the Configuration Dashboard, click *Migrate Engine Data*.
- 2 When prompted to stop the Engine, click *Yes*.



3 Read the summary of what is going to be migrated and click *Next*.



If the Novell Storage Manager data folder was installed using the default installation path, the path is displayed.

- 4 (Conditional) If the path to the data folder is not displayed, use the browse button to locate it.
- 5 Click *Next*.
- 6 When notified that the migration has completed, click *Finish*.
- 7 Click *Start Engine*.
- 8 Proceed with [Section 4.11, “Installing and Configuring the Event Monitor,”](#) on page 57.

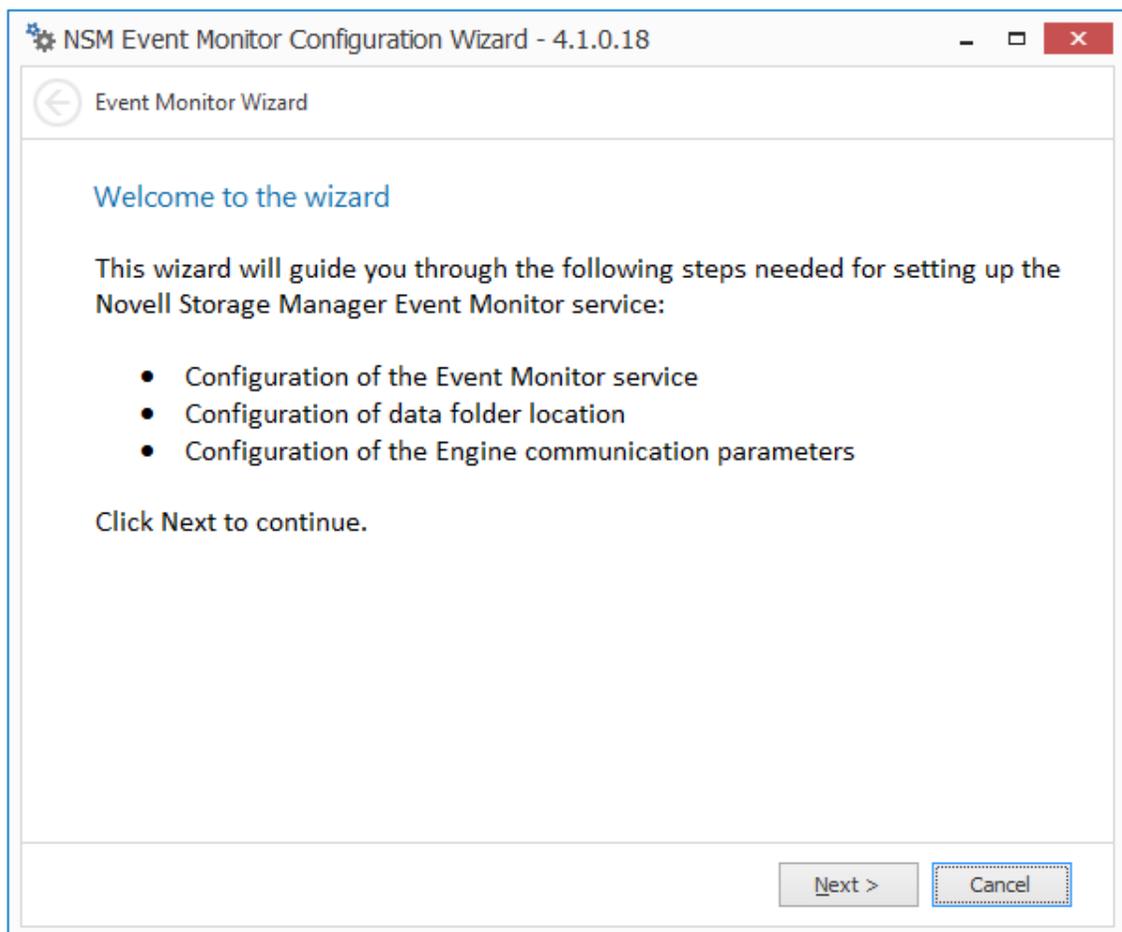
4.11 Installing and Configuring the Event Monitor

The Event Monitor can be installed on a Windows Server machine that meets the following minimum requirements:

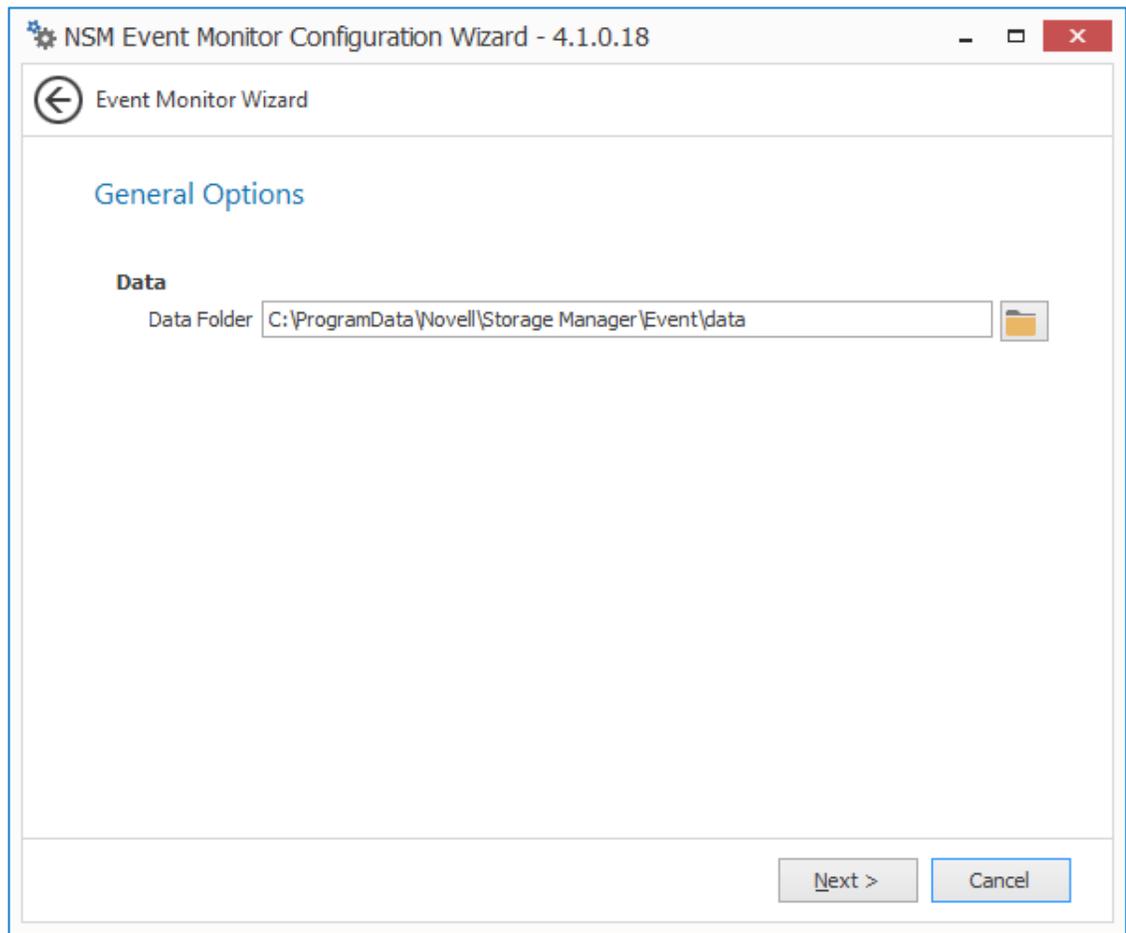
- ♦ Microsoft Windows Server 2012 R2 (Member Server)
- ♦ Microsoft Windows Server 2012 (Member Server)
- ♦ Microsoft Windows Server 2008 R2 (Member Server)
- ♦ At least 4 GB RAM
- ♦ Forest functional level 2003 or later in native mode

Other notable information about the Event Monitor:

- ◆ There is only one Event Monitor per domain
 - ◆ The Event Monitor runs as a native NT service that is configured to start by using the Local System account
 - ◆ The Event Monitor must be permitted to make outbound connections through the firewall
- 1 On the Windows server that will host the Event Monitor, copy to a directory the `NSM-AD_4_1.iso`.
 - 2 Mount the `NSM-AD_4_1.iso` file.
 - 3 At the root of the `NSM-AD_4_1.iso` image, double-click the `Windows` folder.
 - 4 Double-click the `x86_64` folder.
 - 5 Double-click `NSMEventMonitor-Installer-4.1-x64-xxxx.exe`.
 - 6 When you are asked if you want to run this file, click *Run*.
 - 7 Agree to the licensing terms and conditions and click *Install*.
 - 8 When notified that the setup was successful, click *Run Setup Utility*.

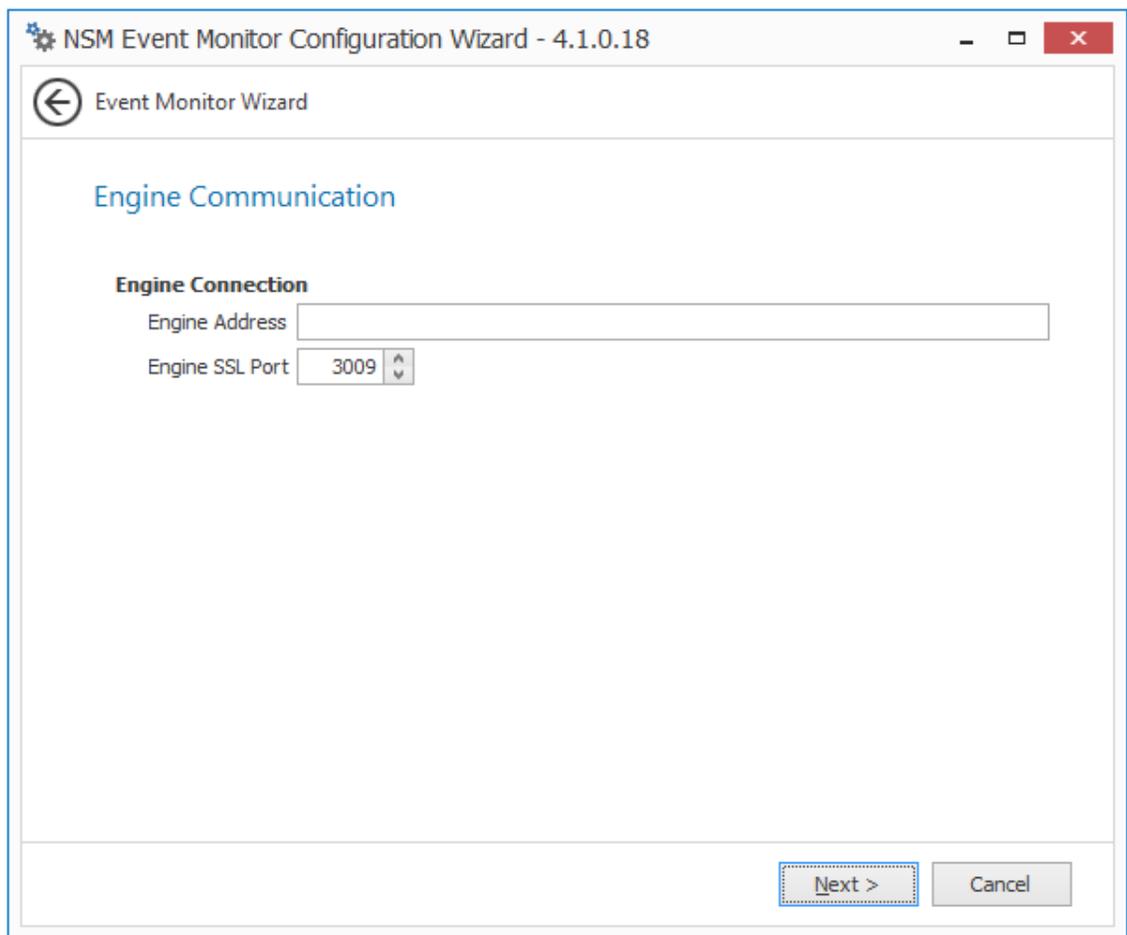


- 9 From the wizard page, read the overview of the setup steps and click *Next*.



The default path of the Data Folder is displayed, which you can edit. The Data folder contains application data needed by Novell Storage Manager.

- 10 Click *Next*.

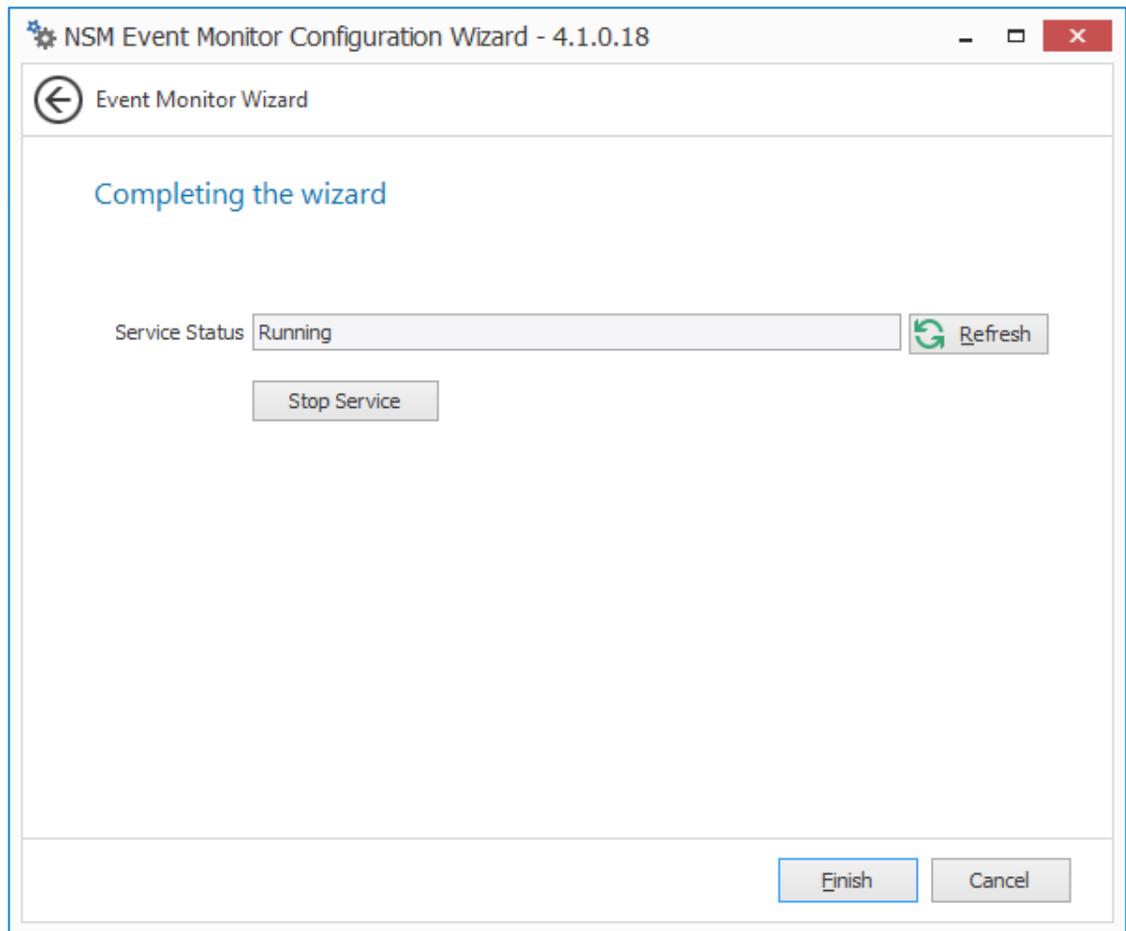


This page lets you set parameters for the Event Monitor to communicate with the Engine.

Engine Address: Specify the DNS name or IP address to the server hosting the Engine here.

Engine SSL Port: Specify the SSL port for the Engine here.

- 11 Enter the Engine connection settings and click *Next*.



- 12 Click *Finish*.

The Event Monitor is now installed and running. You must still authorize it using NSMAdmin. For procedures, see [Section 4.15, “Authorizing the Event Monitor,”](#) on page 67.

- 13 Proceed with [Section 4.12, “Installing and Configuring the Agents,”](#) on page 61.

4.12 Installing and Configuring the Agents

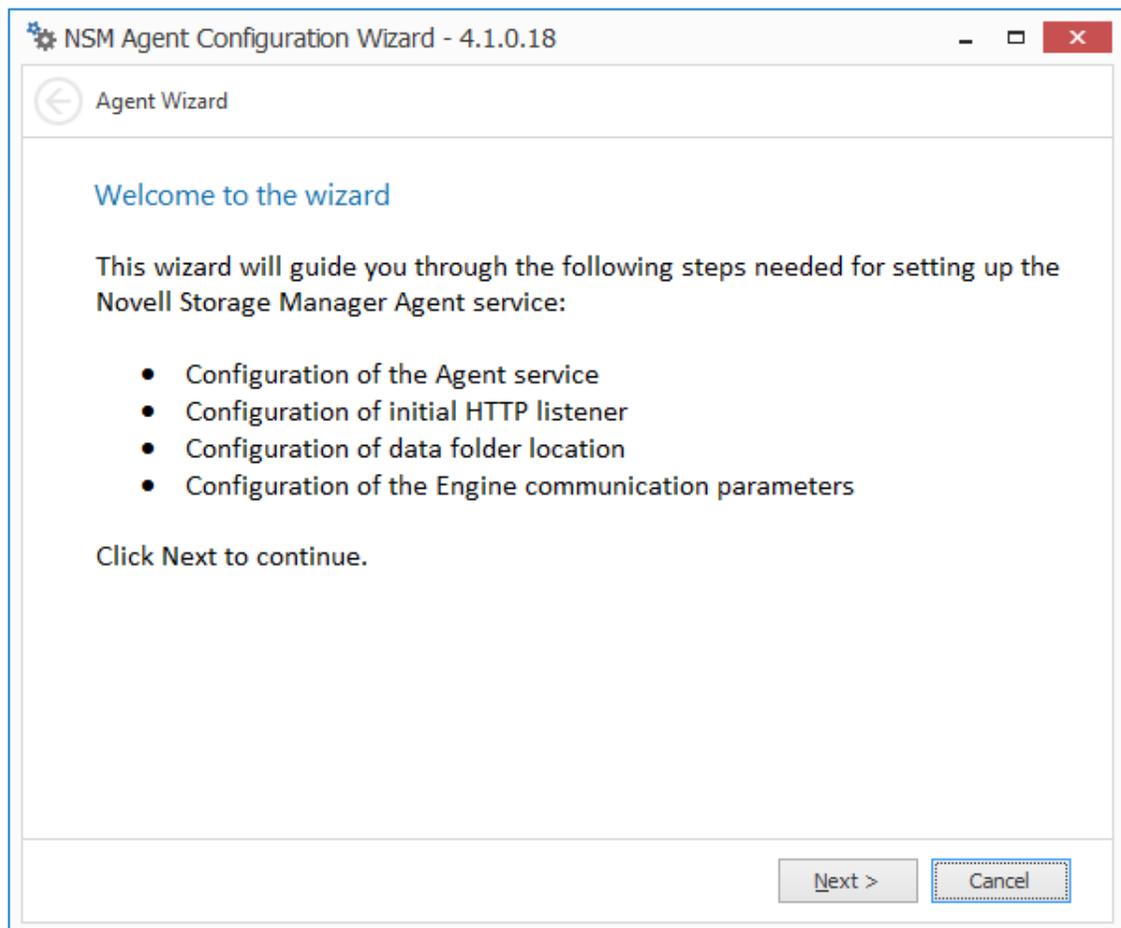
An Agent can be installed on a Windows Server machine that meets the following minimum requirements:

- ♦ Microsoft Windows Server 2012 R2 (Member Server)
- ♦ Microsoft Windows Server 2012 (Member Server)
- ♦ Microsoft Windows Server 2008 R2 (Member Server)
- ♦ At least 4 GB RAM
- ♦ For quota management, Microsoft File System Resource Manager (FSRM) must be installed

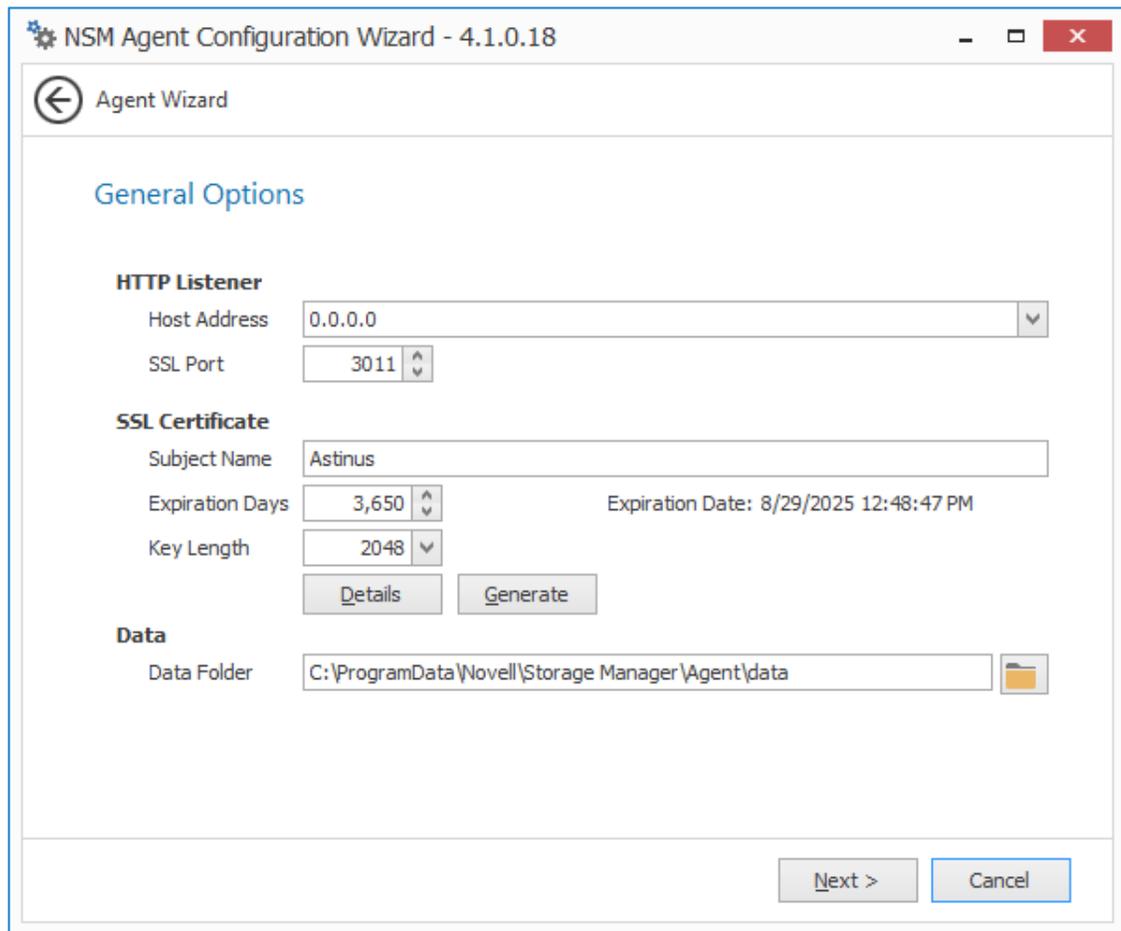
Other notable information about Agents:

- ♦ An Agent runs as a native NT service that is configured to start by using the Local System account

- ♦ The default Agent port is 3011
 - ♦ A firewall inbound rule for the Agent is created during the installation
- 1 On the Windows server that will host the Agent, copy to a directory the `NSM-AD_4_1.iso`.
 - 2 Mount the `NSM-AD_4_1.iso` file.
 - 3 At the root of the `NSM-AD_4_1.iso` image, double-click the `Windows` folder.
 - 4 Double-click the `x86_64` folder.
 - 5 Double-click `NSMAgent-Installer-4.1-x64-xxxx.exe`.
 - 6 When you are asked if you want to run this file, click *Run*.
 - 7 Agree to the licensing terms and conditions and click *Install*.
 - 8 When notified that the setup was successful, click *Run Setup Utility*.



- 9 From the wizard page, read the overview of the setup steps and click *Next*.



This page lets you confirm or change basic Agent configuration settings.

HTTP Listener: Communication parameters for the Agent.

Host Address: Unless you want the Agent to only listen on a certain IP address, leave this setting as it is.

SSL Port: Unless there is a port conflict, leave the setting at 3011.

SSL Certificate: Details for an SSL certificate that will be generated.

Subject Name: The name of the certificate that will be generated. The server name is listed by default.

Expiration Days: The life span of the security certificate, which is set at 10 years by default.

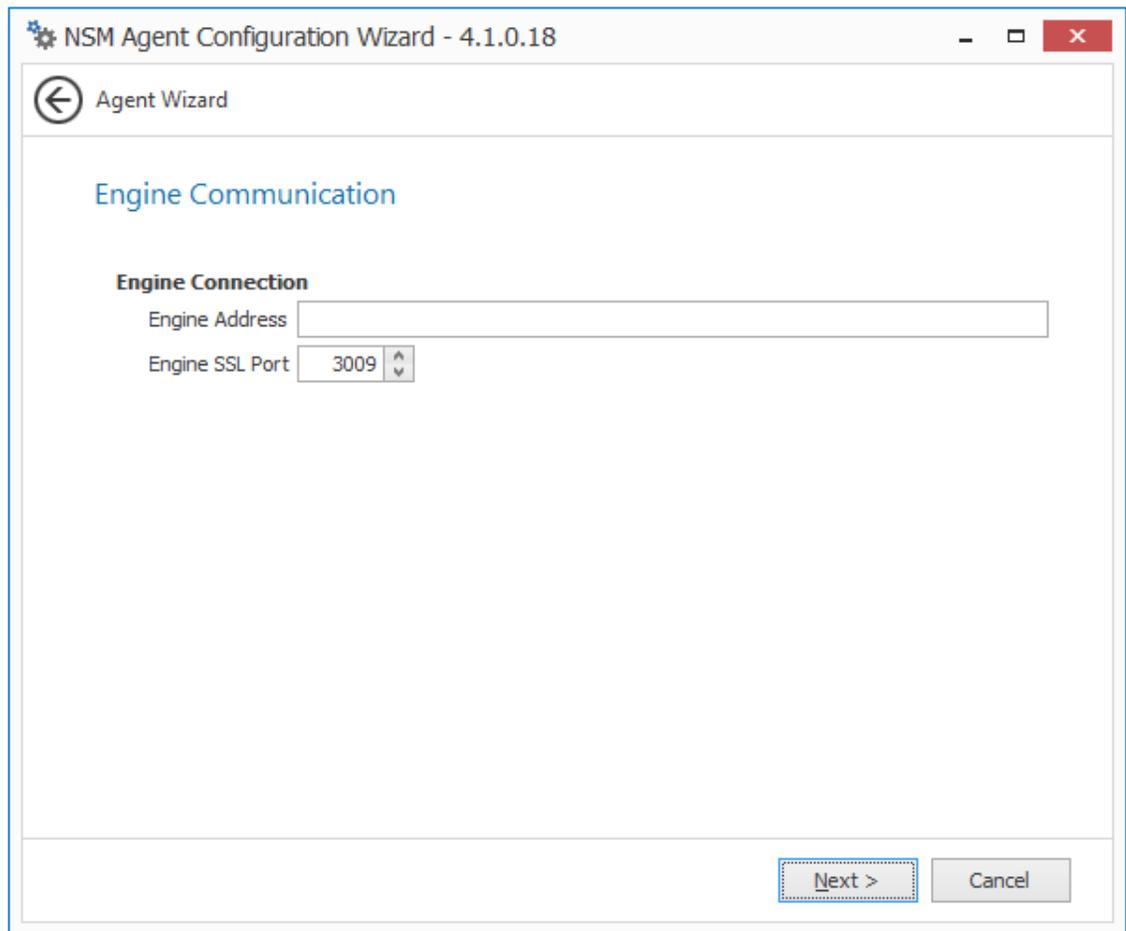
Key Length: The SSL certificate encryption setting, which is set at 2048 by default.

Details: Click the button to view the certificate data.

Generate: If you modify any of the settings in the *SSL Certificate* region, click this button to generate a new certificate.

Data Folder: The default path of the Data folder. The Data folder contains application data needed by Novell Storage Manager.

- 10 Edit any needed parameters settings and click *Next*.

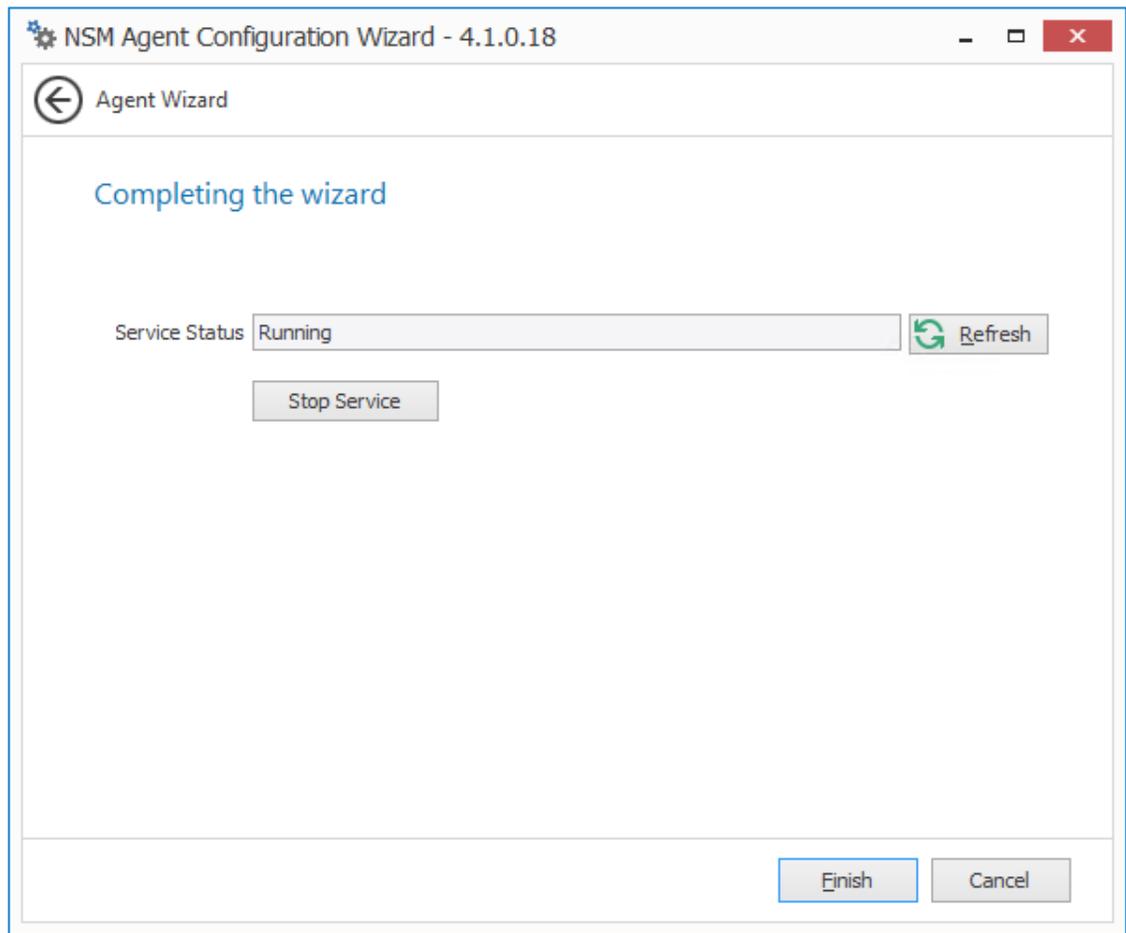


This page lets you set parameters for the Agent to communicate with the Engine.

Engine Address: Specify the DNS name or IP address to the server hosting the Engine here.

Engine SSL Port: Specify the SSL port for the Engine here.

- 11 Enter the Engine connection settings and click *Next*.



- 12 Click *Finish*.

The Agent is now installed, configured, and running. You must still authorize it using NSMAdmin. For procedures, see [Section 4.16, “Authorizing the Agents,”](#) on page 67.

- 13 Proceed with [Section 4.13, “Installing NSMAdmin,”](#) on page 65.

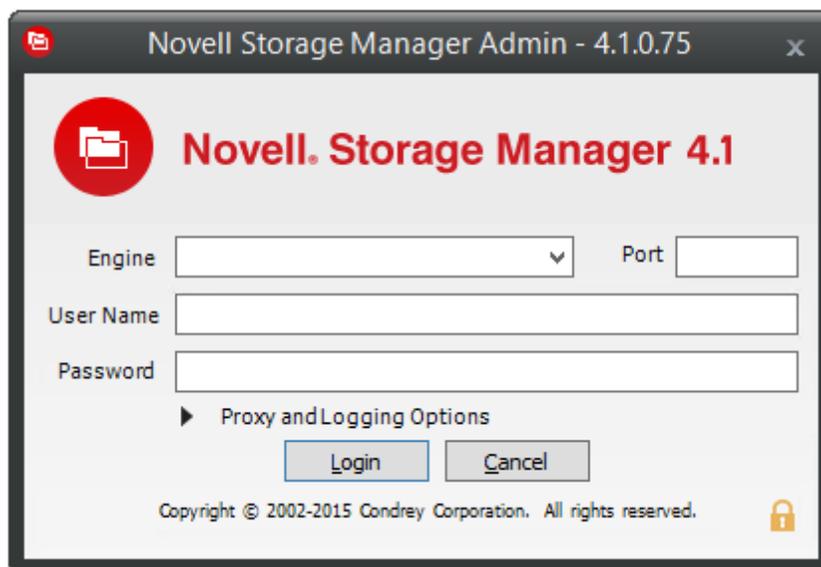
4.13 Installing NSMAdmin

NSMAdmin is the administrative interface for Novell Storage Manager. It can be installed on:

- ♦ Windows 8
- ♦ Windows 7
- ♦ Windows Vista
- ♦ Windows Server 2012 R2, 2012, 2008 R2, or 2008

IMPORTANT: Novell Storage Manager 4.1 introduces new database requirements for NSMAdmin. For details and requirements, see [NSMAdmin Database User Setup](#) in the *Novell Storage Manager 4.1 for Active Directory Administration Guide*.

- 1 On the Windows server or workstation where you will run NSMAdmin, copy to a directory the NSM-AD_4_1.iso.
- 2 Mount the NSM-AD_4_1.iso file.
- 3 At the root of the NSM-AD_4_1.iso image, double-click the Windows folder.
- 4 Double-click NSMAdmin-AD-Installer-4.1-xxxx.exe.
- 5 When you are asked if you want to run this file, click *Run*.
- 6 Agree to the licensing terms and conditions and click *Install*.
- 7 When notified that the setup was successful, click *Run Admin Client*.
The NSMAdmin login dialog box appears.



- 8 In the *Engine* field, specify the DNS name or IP address.
- 9 In the *Port* field, specify the secure port number.
The default setting is 3009.
- 10 Specify the username and password.
The user must be a member of the nsmadmins group to be able to log in.
- 11 Click *Login*.
If you are unable to log in, your proxy settings might be preventing you from doing so. Until you enter a proxy exception in your proxy settings, you can click *Proxy and Logging Options*, select *Do not use a Proxy*, then click *Login*.
- 12 Proceed with [Section 4.14, "Review Migrated Policies,"](#) on page 67.

4.14 Review Migrated Policies

While in NSMAdmin, you should verify that your policies migrated properly and that the settings are accurate.

- 1 In NSMAdmin, click the *Main* tab.
- 2 Click *Policy Management*.
- 3 Verify that all of the policies from Novell Storage Manager 3.1.1 for Active Directory are listed.
- 4 Verify the settings in the policies to make sure that they are accurate.
- 5 Proceed with [Section 4.15, “Authorizing the Event Monitor,” on page 67](#).

4.15 Authorizing the Event Monitor

- 1 In NSMAdmin, click the *Configure* tab.
- 2 Click *Event Servers*.
- 3 Select the listed domain.
- 4 Click *Authorize*.
- 5 When you are asked if you want to authorize the selected event monitor, click *Yes*.
- 6 When the Results page appears, click *Close*.
- 7 Proceed with [Section 4.16, “Authorizing the Agents,” on page 67](#).

4.16 Authorizing the Agents

- 1 In NSMAdmin, click the *Configure* tab.
- 2 Click *Agent Servers*.
- 3 Select a listed server.
- 4 Click *Authorize*.
- 5 When you are asked if you want to authorize the selected Agent, click *Yes*.
- 6 When the Results page appears, click *Close*.

4.17 Uninstalling the File System Factory Components

Once you have reviewed the migrated policies and authorized the Event Monitor and Agents, you can uninstall the Novell Storage Manager 3.1.1 for Active Directory components.

4.17.1 Uninstalling the Engine

- 1 On the server hosting the Engine, open the Control Panel.
- 2 Double-click *Programs and Features*.
- 3 Right-click *Novell Storage Manager 3.1.1 Engine* and select *Uninstall*.
- 4 When asked if you are sure about uninstalling the Engine, click *Yes*.

4.17.2 Uninstalling the Event Monitor

- 1 On the server hosting the Event Monitor, open the Control Panel.
- 2 Double-click *Programs and Features*.
- 3 Right-click *Novell Storage Manager 3.1.1 Event Monitor* and select *Uninstall*.
- 4 When asked if you are sure about uninstalling the Event Monitor, click *Yes*.

4.17.3 Uninstalling the Agents

- 1 On the server hosting the Agent, open the Control Panel.
- 2 Double-click *Programs and Features*.
- 3 Right-click *File System Factory 3.1.1 Agent* and select *Uninstall*.
- 4 When asked if you are sure about uninstalling the Agent, click *Yes*.

4.18 Removing Novell Storage Manager 3.1.1 Data Folders

Once the components have been uninstalled, you can remove the data from the previous Engine, Event Monitor, and Agents. This is most easily done by deleting the folders themselves.

- ♦ The Data folder for the Engine is located at: `C:\ProgramData\Novell\Storage Manager\Engine\data`
- ♦ The Data folder for the Event Monitor is located at: `C:\ProgramData\Novell\Storage Manager\Event\data`
- ♦ The Data folder for the Agent is located at: `C:\ProgramData\Novell\Storage Manager\Agent\data`

4.19 Administering Novell Storage Manager 4.1 for Active Directory

You have now completed the migration from Novell Storage Manager 3.1.1 for Active Directory to Novell Storage Manager 4.1 for Active Directory. For procedures on administering Novell Storage Manager 4.1 for Active Directory, refer to the *Novell Storage Manager 4.1 for Active Directory Administration Guide*.

5 Installing Novell Storage Manager 4.1 for Active Directory

This section provides procedures for installing the NSM Engine, NSMAdmin, the Event Monitor, and the NSM Agents. For information on how these components work in a Novell Storage Manager deployment, see Chapter 2 “[Overview](#)” in the *Novell Storage Manager 4.1 for Active Directory Administration Guide*.

You should follow these procedures only after you have performed the prerequisite tasks in [Chapter 1, “Prerequisites,” on page 7](#), and obtained a Novell Storage Manager 4.1 for Active Directory product license as indicated in [Chapter 2, “Licensing the Product,” on page 13](#).

- ◆ [Section 5.1, “Performing Installation Tasks as a Domain Administrator,” on page 69](#)
- ◆ [Section 5.2, “Accessing the Product Contents,” on page 69](#)
- ◆ [Section 5.3, “Installing the NSM Engine,” on page 70](#)
- ◆ [Section 5.4, “Installing the License,” on page 71](#)
- ◆ [Section 5.5, “Configuring the Database,” on page 73](#)
- ◆ [Section 5.6, “Configuring the Engine,” on page 77](#)
- ◆ [Section 5.7, “Setting Rights and Privileges on Managed Storage,” on page 83](#)
- ◆ [Section 5.8, “Installing and Configuring the Event Monitor,” on page 87](#)
- ◆ [Section 5.9, “Installing and Configuring the Agents,” on page 91](#)
- ◆ [Section 5.10, “Installing NSMAdmin,” on page 95](#)
- ◆ [Section 5.11, “Authorizing the Event Monitor,” on page 97](#)
- ◆ [Section 5.12, “Authorizing the Agents,” on page 97](#)
- ◆ [Section 5.13, “Administering Novell Storage Manager,” on page 97](#)

This section also provides procedures for assigning rights and privileges to the NSMProxyRights group that is created when you install NSMAdmin.

5.1 Performing Installation Tasks as a Domain Administrator

In order to successfully install the NSM Engine, Event Monitor, NSM Agents, and NSMAdmin, you must be logged in to the computer as a domain administrator. If you are not, the rights are not sufficient.

5.2 Accessing the Product Contents

- 1 On the Windows server that will host the NSM Engine, copy to a directory the `NSM-AD_4_1.iso` file that was made available to you following your purchase of Novell Storage Manager 4.1 for Active Directory.
- 2 Mount the `NSM-AD_4_1.iso` file.

3 Note the location of the mounted ISO.

This is the installation source you will use to install Novell Storage Manager 4.1 for Active Directory components.

5.3 Installing the NSM Engine

Novell Storage Manager uses only one NSM Engine per forest. The NSM Engine can be installed on a Windows Server machine that meets the following minimum requirements:

- ♦ Microsoft Windows Server 2012 R2 (Member Server)
- ♦ Microsoft Windows Server 2012 (Member Server)
- ♦ Microsoft Windows Server 2008 R2 (Member Server)
- ♦ At least 4 GB RAM
- ♦ For quota management, Microsoft File System Resource Manager (FSRM) must be installed; see [Section 1.2, “File Server Resource Manager,” on page 8](#).
- ♦ Forest functional level of Windows Server 2003 or later

Other notable information about the NSM Engine:

- ♦ The NSM Engine runs as a native NT service that is configured to start by using the Local System account
- ♦ The default NSM Engine port is 3009
- ♦ The Firewall Inbound Rule is added during the NSM Engine installation

1 At the root of the `NSM-AD_4_1.iso` image, double-click the `Windows` folder.

2 Double-click the `x86_64` folder.

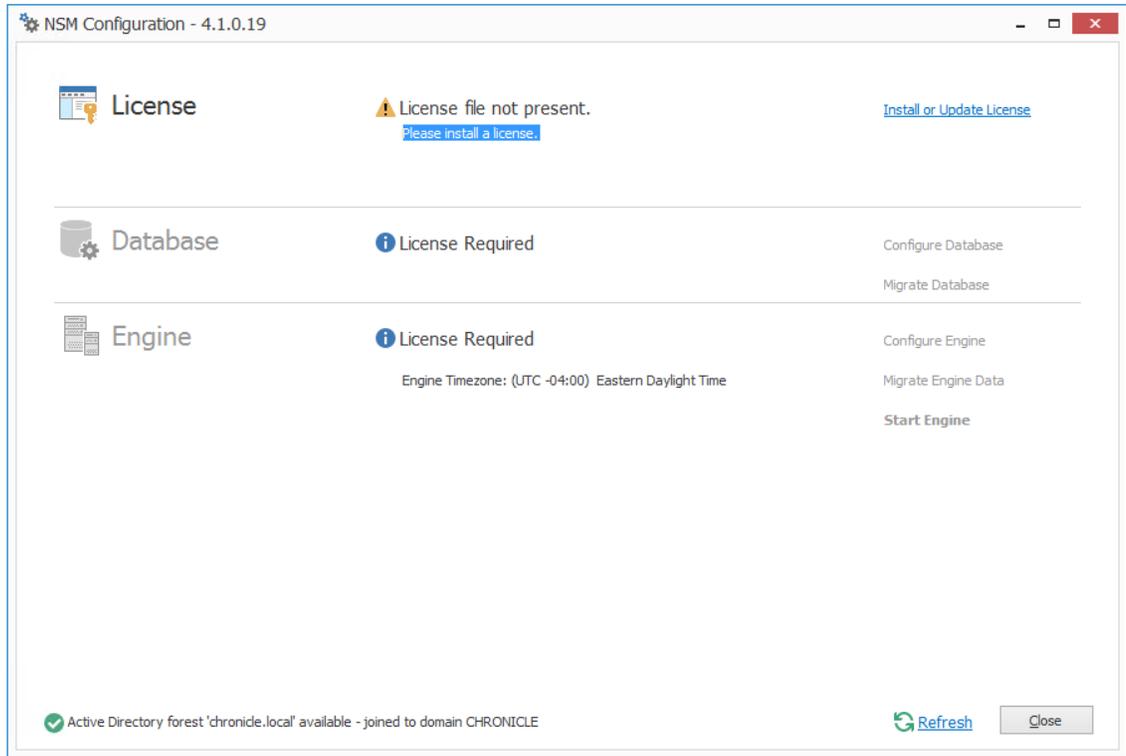
3 Double-click `NSMEngine-Installer-4.1-x64-xxxx.exe`.

4 When you are asked if you want to run this file, click *Run*.

5 Agree to the licensing terms and conditions and click *Install*.

6 When notified that the setup was successful, click *Run Setup Utility*.

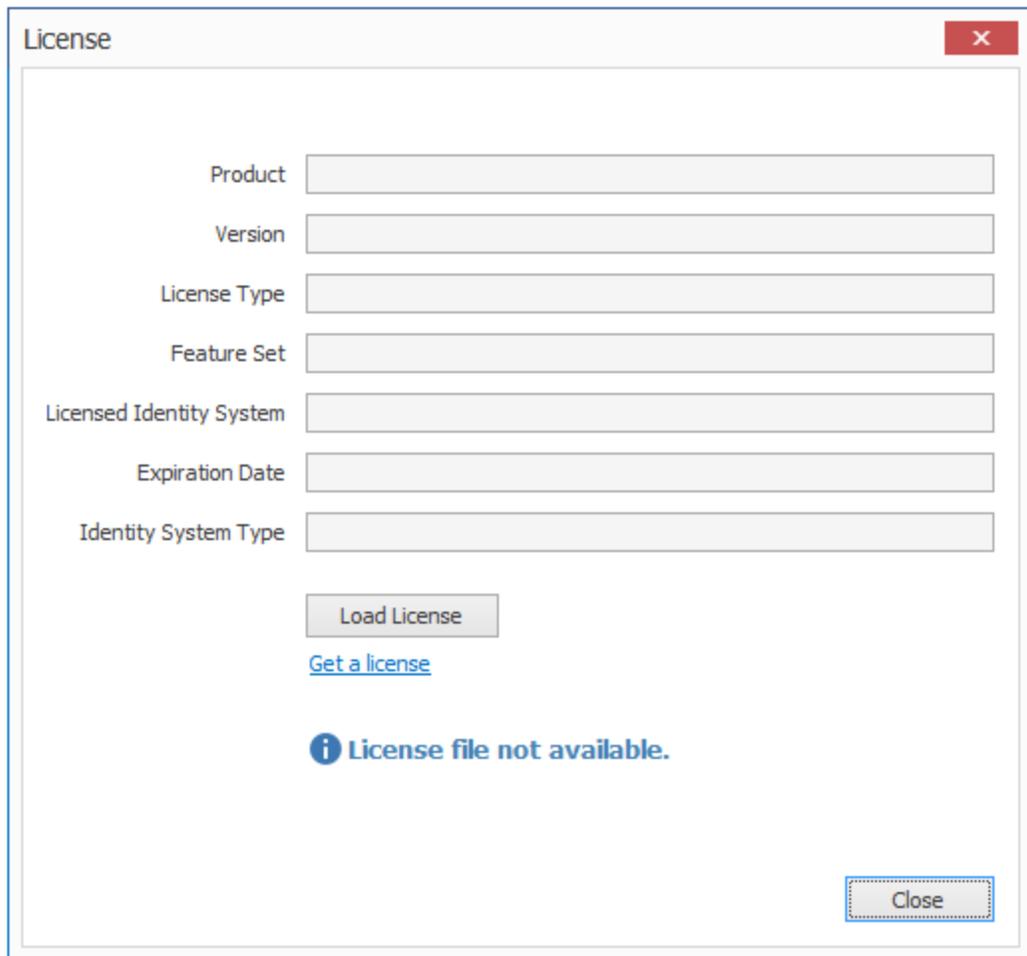
The Configuration Dashboard appears.



5.4 Installing the License

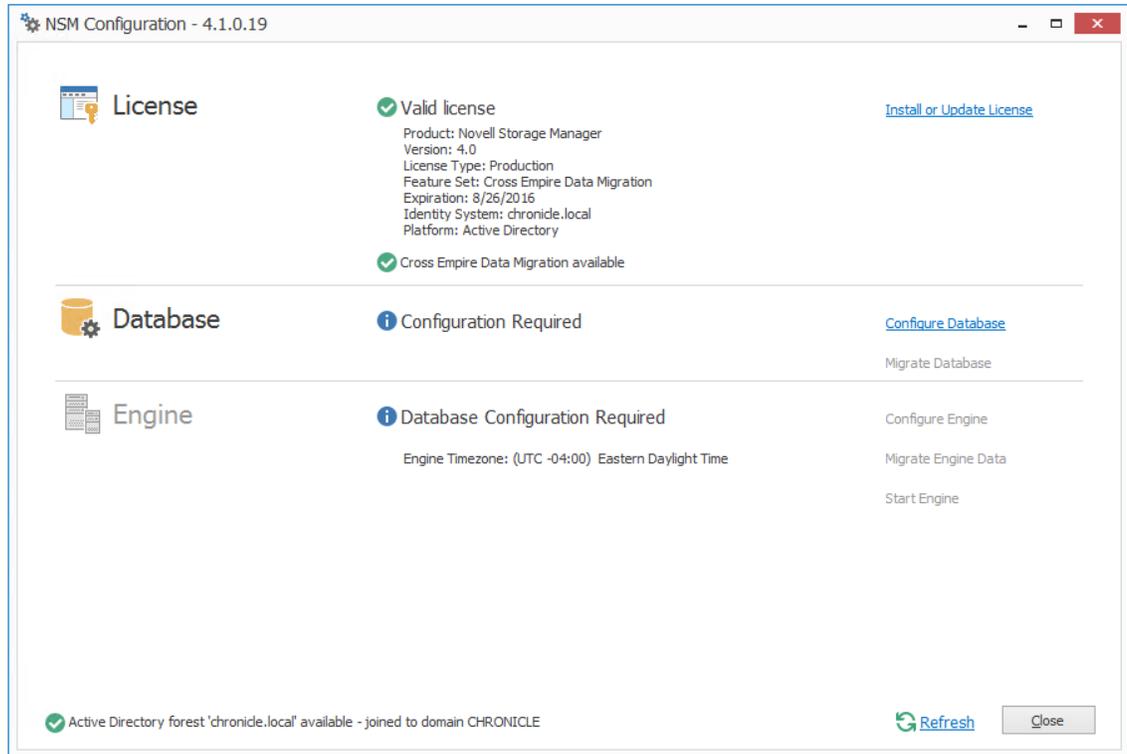
- 1 Click *Install or Update License*.

The License dialog box appears:



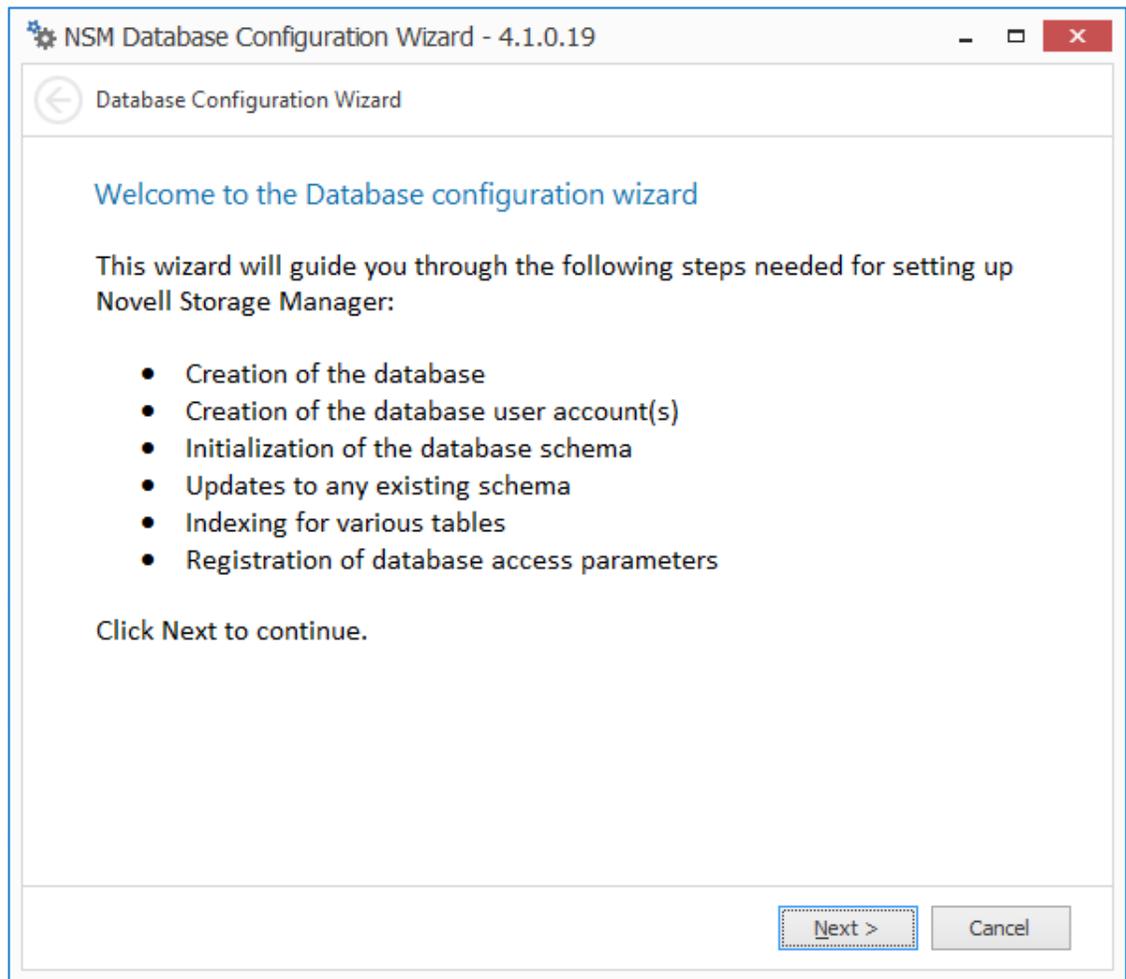
- 2 Click *Load License*, then browse to and select the license file.
- 3 When the confirmation prompt appears, click *Yes*.

4 Click *Close*.



5.5 Configuring the Database

1 Click *Configure Database*.



The page indicates what database configuration tasks are to be completed in this wizard.

2 From the wizard page, read the overview of what will be configured and click *Next*.

The following page appears:

Database Connection

Database Properties

Type: SQL Server 2012

Communication

Database Host Address: Astinus.chronide.local Port: 1433

Initial Database: fsfdb

Database Service Account - Enter the name of a database account for this application.

Database Account Name: fsfadmin

Password: [Empty]

Verify Password: [Empty]

Database Admin Credentials - Enter the credentials needed for provisioning the database.

Database Administrator: sa

Password: [Empty]

Next > Cancel

This page lets you establish the settings needed for the Engine to communicate with the database.

Database Properties: Displays information on the database.

Type: Displays the minimum supported version of the database, which is SQL Server 2012.

Communication: Specifies address, port number, and name of the database.

Database Host Address: Specify the host address of the server where the database is installed.

Port: The default SQL Server port setting is 1433. If there is a port conflict, you can change it.

Initial Database: The default name of the Novell Storage Manager database.

Database Service Account: Use this region to set authentication information for the database service account, which is the database account that the Engine uses to sign in to the database.

Database Account Name: By default, the database account is fsfadmin, which you can change in this field.

Password: Specify a password for the service account to connect to the database.

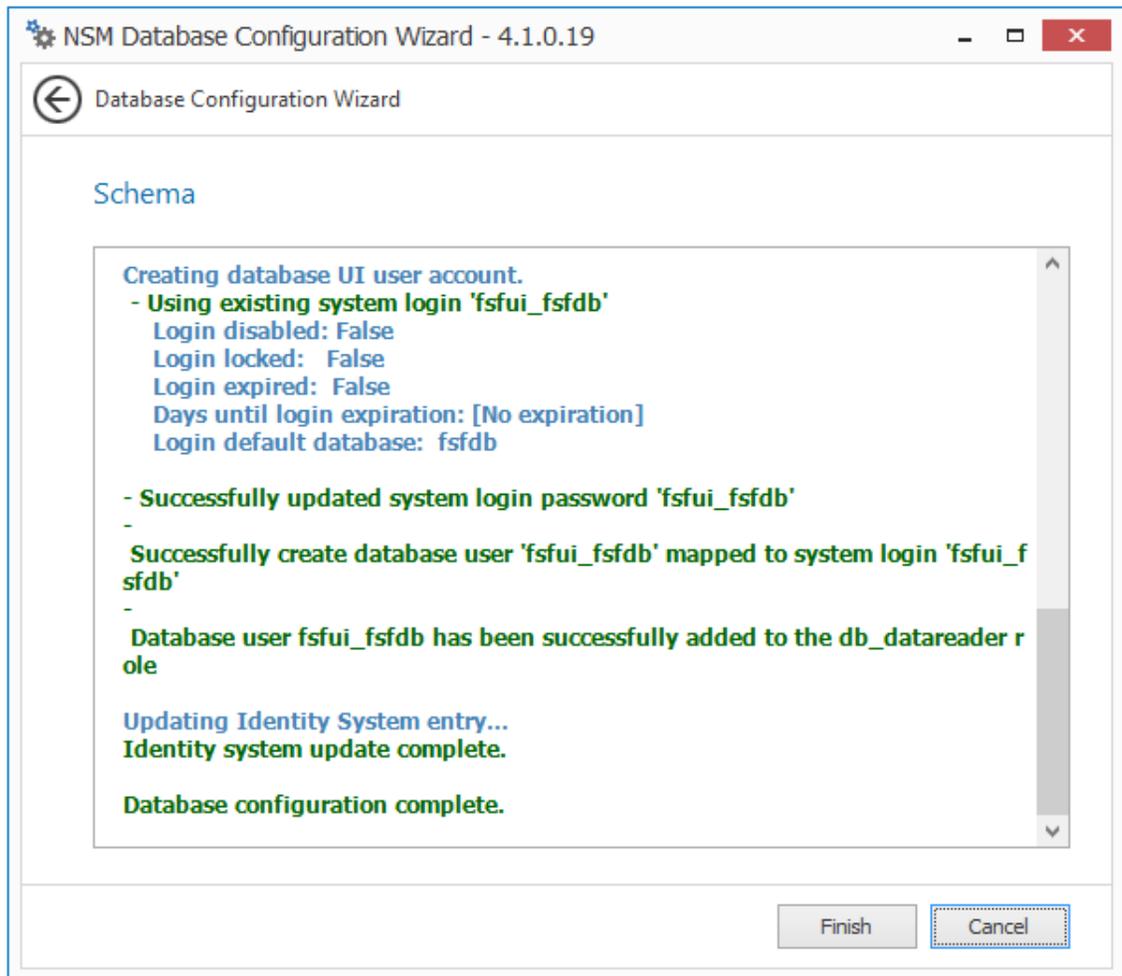
Verify Password: Specify the password again in this field.

Database Admin Credentials: Use this region to establish the database administrator name and credentials.

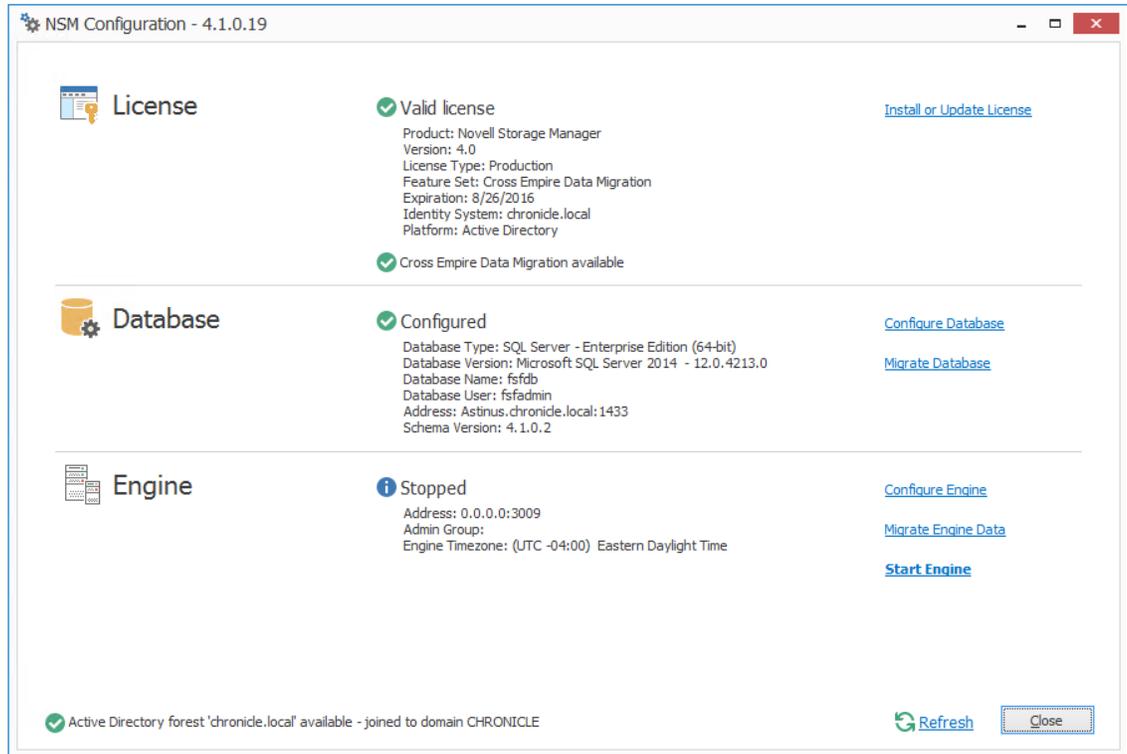
Database Administrator: Specify the SQL Server administrator name.

Password: Specify the SQL Server administrator password.

3 Complete the fields and click *Next*.

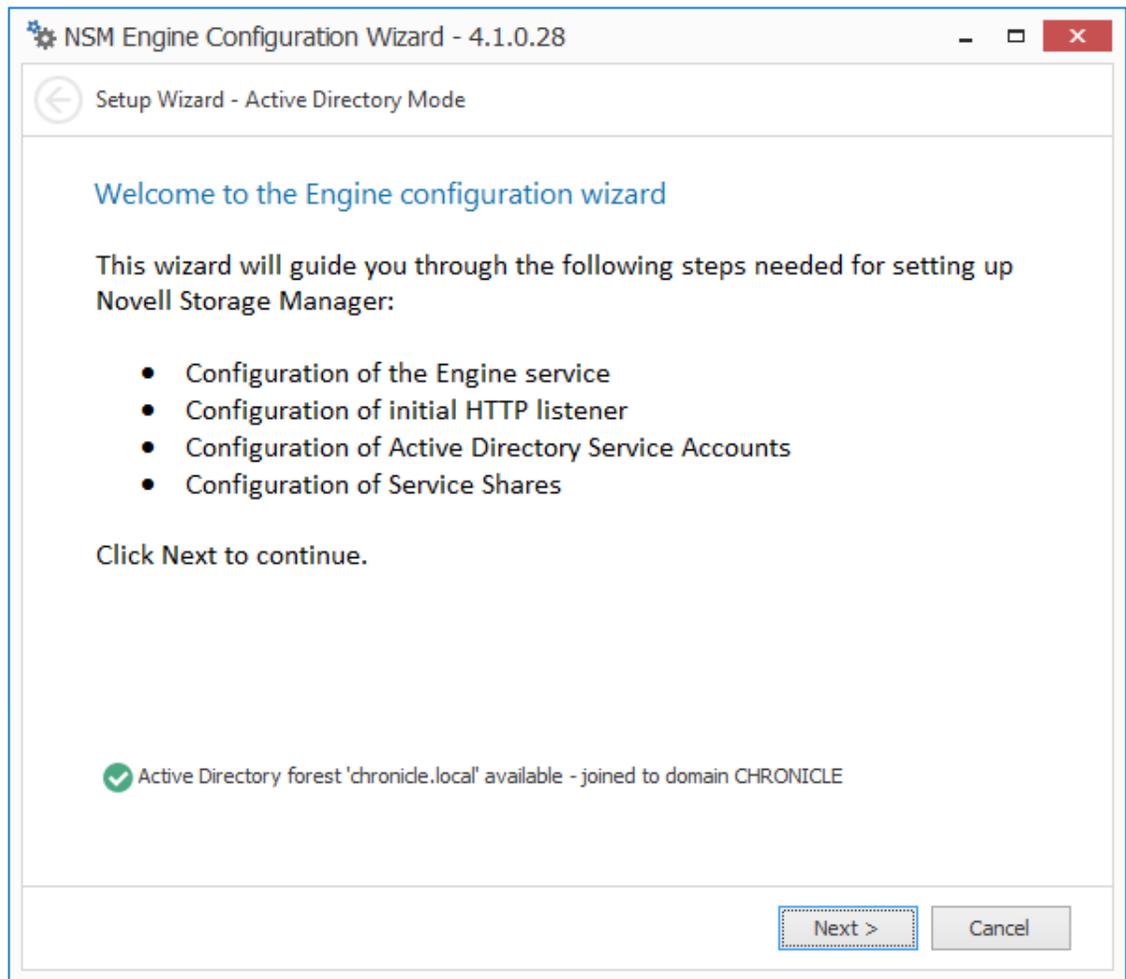


4 Review the configuration log and click *Finish*.



5.6 Configuring the Engine

1 From the Configuration Dashboard, click *Configure Engine*.



2 From the wizard page, read the overview of what will be configured and click *Next*.

NSM Engine Configuration Wizard - 4.1.0.28

Setup Wizard - Active Directory Mode

Basic Options

HTTP Listener

Host Address: 0.0.0.0

SSL Port: 3009

SSL Certificate

Subject Name: Astinus.chronide.local

Expiration Days: 3,650 Expiration Date: 8/29/2025 11:30:16 AM

Key Length: 2048

Details Generate

Next > Cancel

This page lets you confirm or change basic Engine configuration settings.

HTTP Listener: Communication parameters for the Engine.

Host Address: Unless you want the Engine to only listen on a certain IP address, leave this setting as it is.

SSL Port: Unless there is a port conflict, leave the setting at 3009.

SSL Certificate: Details for the SSL certificate that will be generated.

Subject Name: The name of the certificate that will be generated. The server name is listed by default.

Expiration Days: The life span of the security certificate, which is set at 10 years by default.

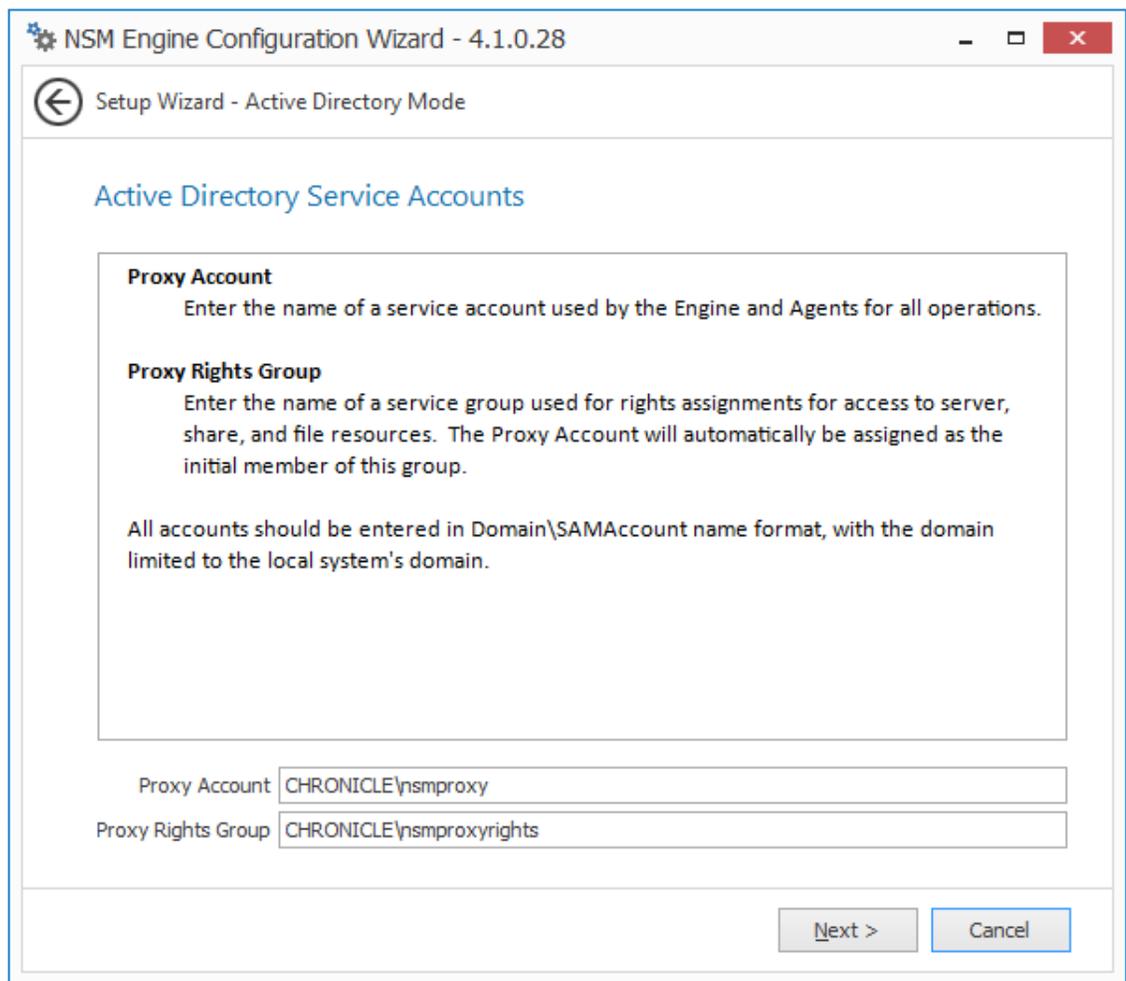
Key Length: The SSL certificate encryption setting, which is set at 2048 by default.

Details: Click the button to view the certificate data.

Generate: If you modify any of the settings in the SSL Certificate region, click this button to generate a new certificate.

Data Folder: The default location of the Data folder. The Data folder is used for a variety of tasks, including storing Agent configuration data, Event Monitor configuration data, and application specific historical data.

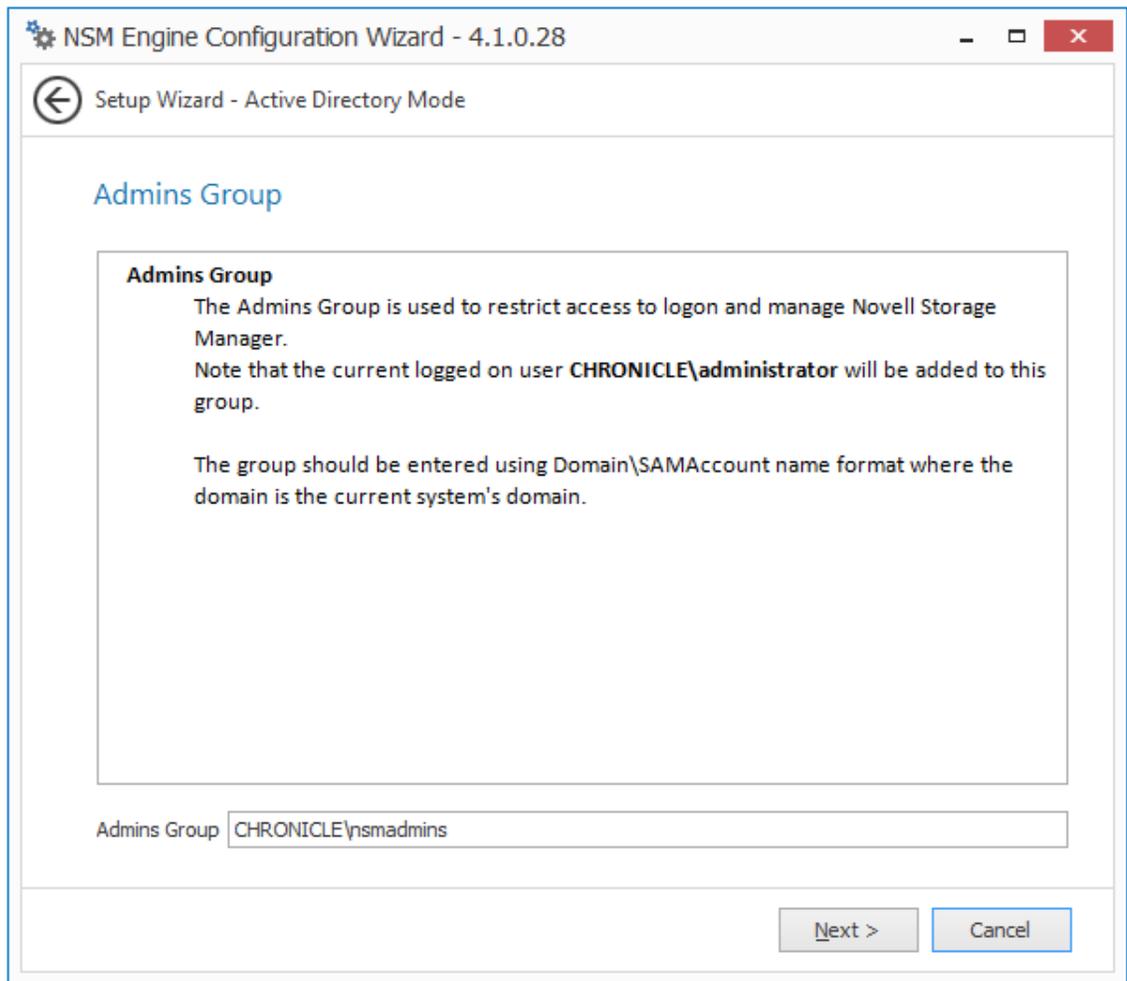
- 3 Edit any needed parameters settings and click *Next*.



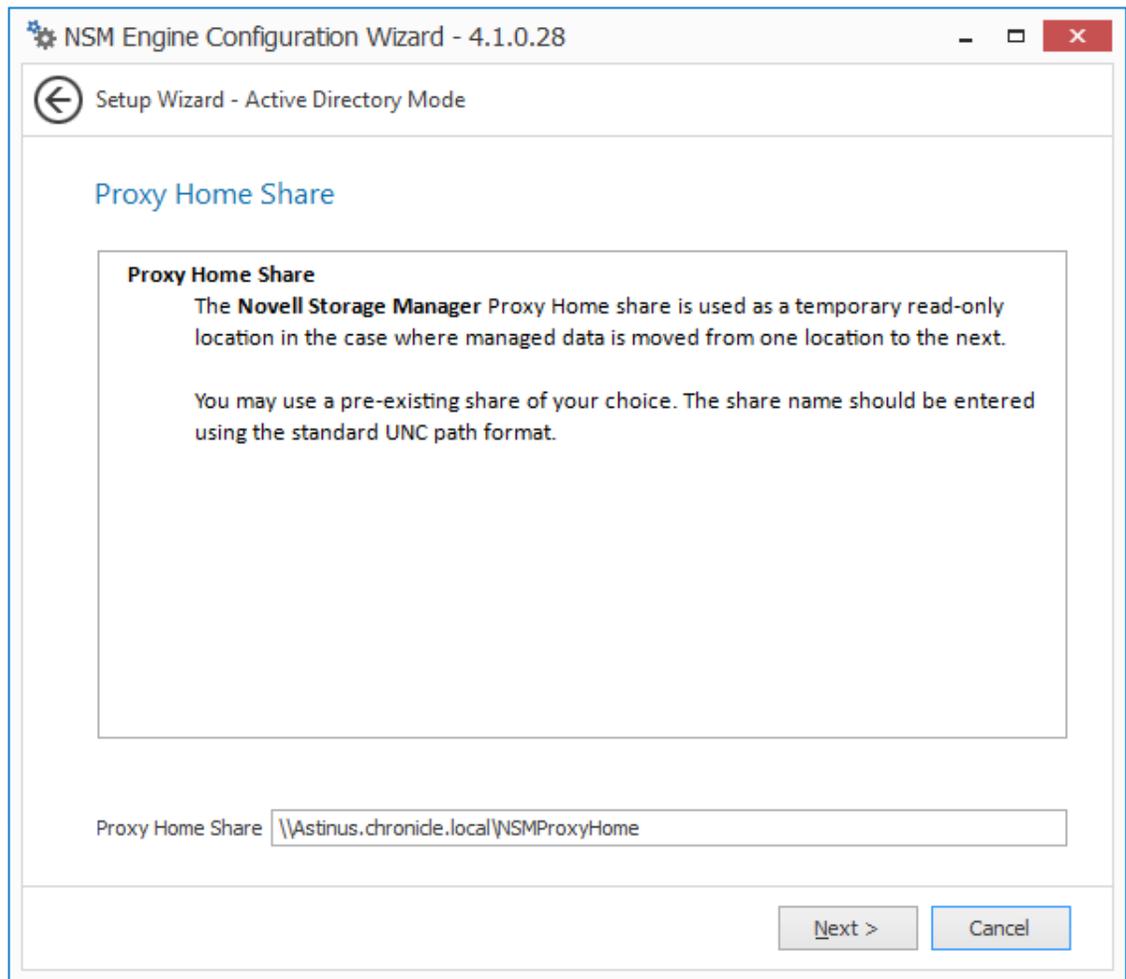
This page lets you establish a name for the proxy account and proxy rights group.

Novell Storage Manager uses a proxy account so that it can perform tasks necessary for storage management.

- 4 Click *Next*.

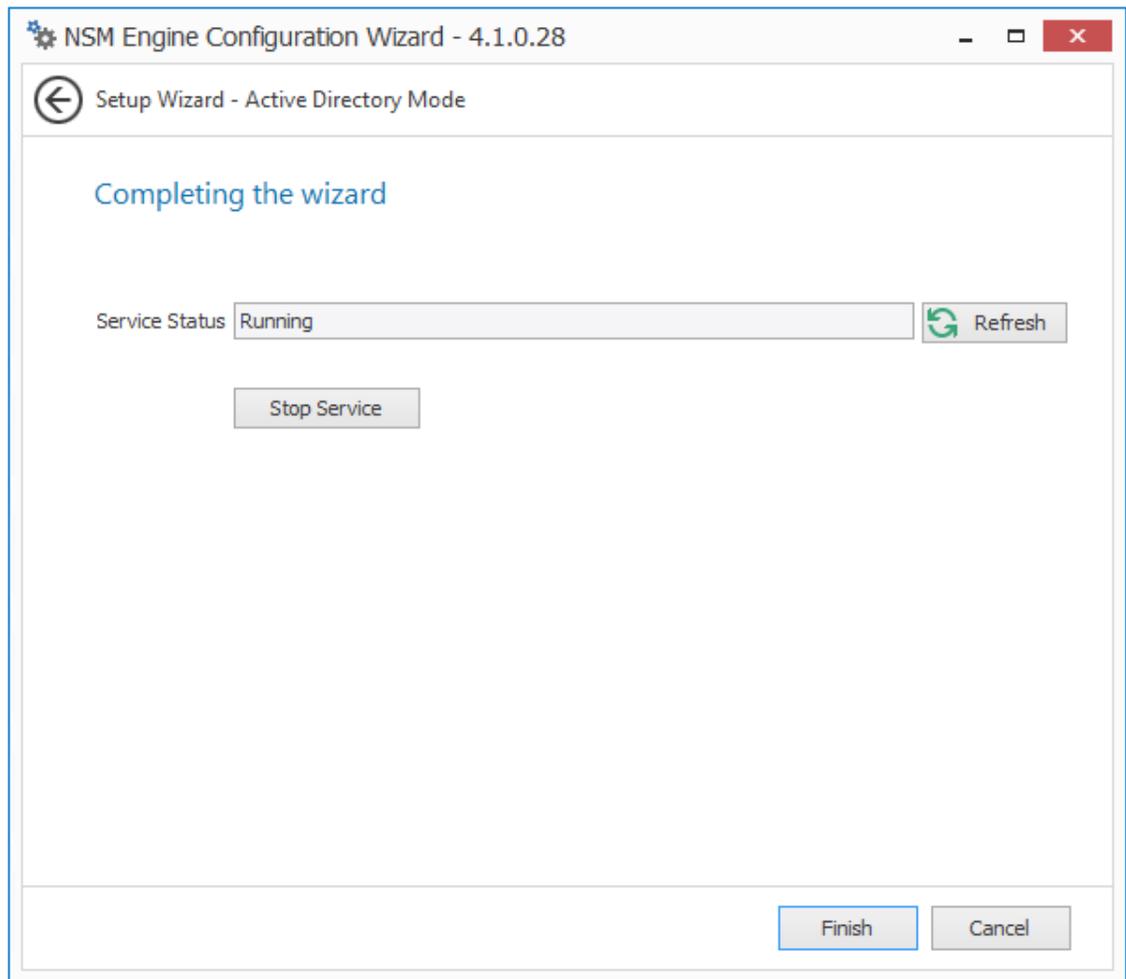


- 5 Specify the name for the Admins Group, or use the default name, and click *Next* to create the group.



The Proxy Home Share that you establish in this page is the read-only location where users' managed path attributes are temporarily set when data is moved because of a change in policy.

- 6 Click *Next*.



7 Click *Finish*.

With a valid license and a running Engine, you are now ready to set rights and privileges on managed storage.

8 Proceed with [Section 5.7, “Setting Rights and Privileges on Managed Storage,”](#) on page 83.

5.7 Setting Rights and Privileges on Managed Storage

Novell Storage Manager must have the proper rights set on each network share that it will manage; this is, shares that contain managed home folders or collaborative storage. In addition, certain privileges must be granted to Novell Storage Manager on each server where storage will be managed.

5.7.1 Granting Rights

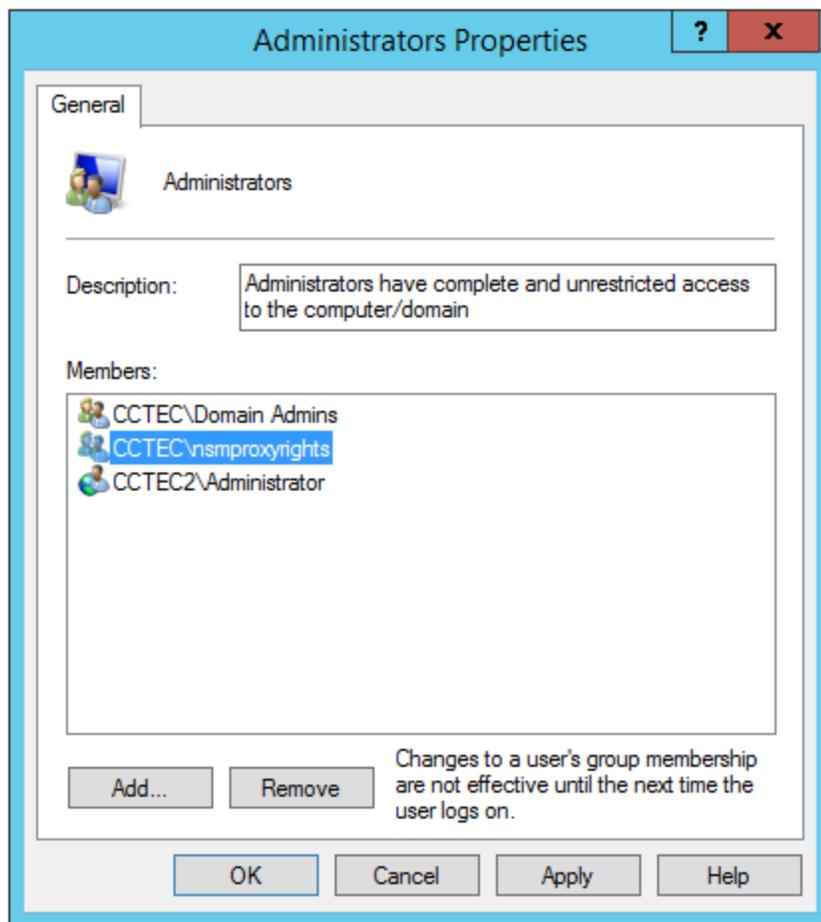
Every share to be managed by Novell Storage Manager must have proper rights assigned to the nsmproxyrights group.

- 1 As a user with privileges to manage shares, authenticate to the server where the storage is located.
- 2 Grant Full Control sharing privileges to the nsmproxyrights group for each share that Novell Storage Manager will manage.
- 3 Do one of the following:
 - ♦ If you are proxying storage on a member server, go to [Section 5.7.2, “Granting Privileges on a Member Server,” on page 84.](#)
 - ♦ If you are proxying storage on a domain controller, go to [Section 5.7.3, “Granting Privileges on a Domain Controller,” on page 85.](#)

5.7.2 Granting Privileges on a Member Server

Every server that has storage managed by Novell Storage Manager must have certain privileges granted to the nsmproxyrights group. If you install the Agent on a server, this privilege assignment is made automatically. If you use the Agent on one server to act as a Proxy Agent on another server—rather than installing an Agent on that server—you need to manually assign these privileges on that server.

- 1 Authenticate to a domain controller within the domain where the storage is located.
Be sure to log in as a domain administrator.
- 2 At any domain controller or any computer where the Admin or Remote Server administration tools are installed, click *Start > Administrative Tools > Active Directory Users and Computers*.
This brings up the Active Directory Users and Computers page.
- 3 In the left pane, select the container where the server is so that it is listed in the right pane.
- 4 In the right pane, right-click the server and select *Manage*.
This brings up the Computer Management page.
- 5 In the left pane, expand *Local Users and Groups*.
- 6 Select *Groups*.
- 7 In the right pane, double-click *Administrators*.
This brings up the Administrators Properties dialog box.
- 8 Click *Add*.
This brings up the Select Users, Computers, or Groups dialog box.
- 9 In the *Enter the object names to select* field, type: `domain_name\nsmproxyrights`.

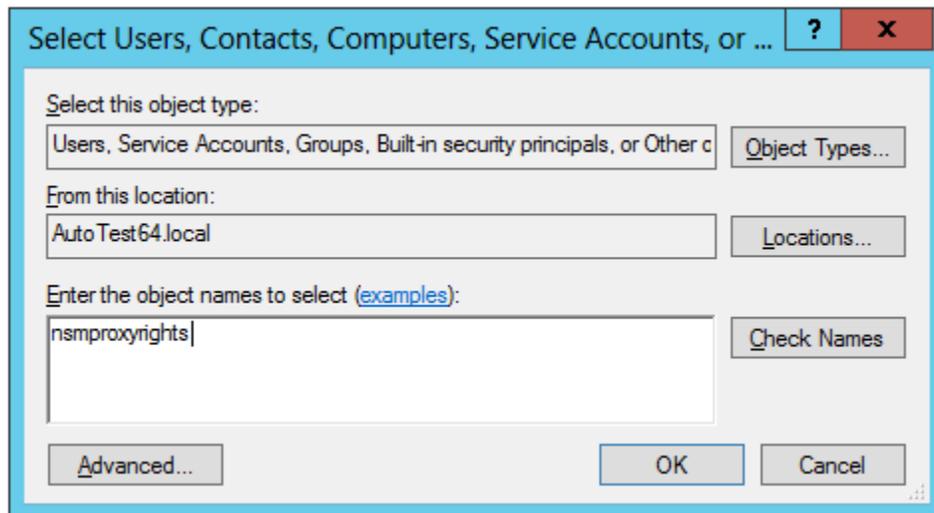


- 10 Click *OK* to save the setting.
- 11 Proceed with [Section 5.8, "Installing and Configuring the Event Monitor,"](#) on page 87.

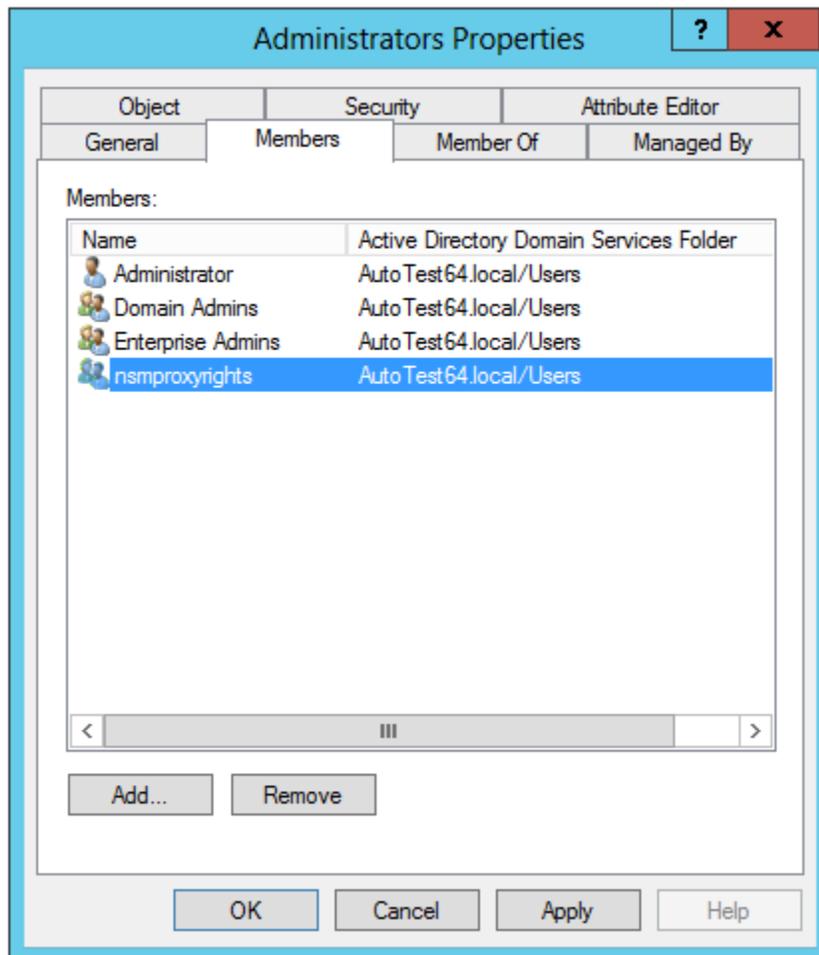
5.7.3 Granting Privileges on a Domain Controller

Every server that has storage managed by Novell Storage Manager must have certain privileges granted to the `nsmproxyrights` group. If you install the Agent on a server, this privilege assignment is made automatically. If you use the Agent on one server to act as a Proxy Agent on another server—rather than installing an Agent on that server—you need to manually assign these privileges on that server.

- 1 Authenticate to a domain controller within the domain where the storage is located.
Be sure to log in as a domain administrator.
- 2 Launch Active Directory Users and Computers.
This brings up the Active Directory Users and Computers page.
- 3 In the left pane, select *Builtin*.
- 4 In the right pane, double-click the *Administrators* group.
- 5 Click the *Members* tab.
- 6 Click *Add*.
- 7 In the *Enter the object names to select* field, type: `nsmproxyrights`



- 8 Click *Check Names*.
- 9 Click *OK*.



- 10 Click *OK*.

5.8 Installing and Configuring the Event Monitor

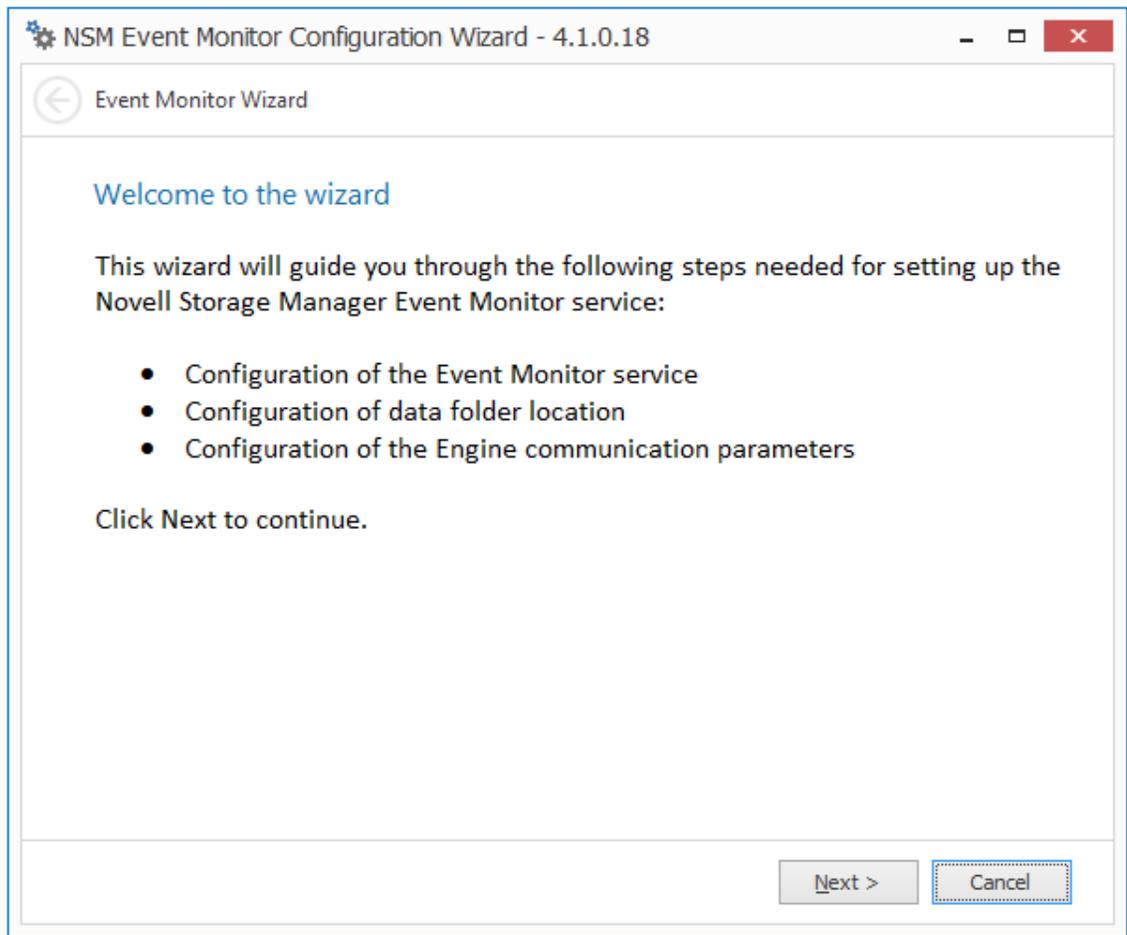
The Event Monitor can be installed on a Windows Server machine that meets the following minimum requirements:

- ◆ Microsoft Windows Server 2012 R2 (Member Server)
- ◆ Microsoft Windows Server 2012 (Member Server)
- ◆ Microsoft Windows Server 2008 R2 (Member Server)
- ◆ At least 4 GB RAM
- ◆ Forest functional level 2003 or later in native mode

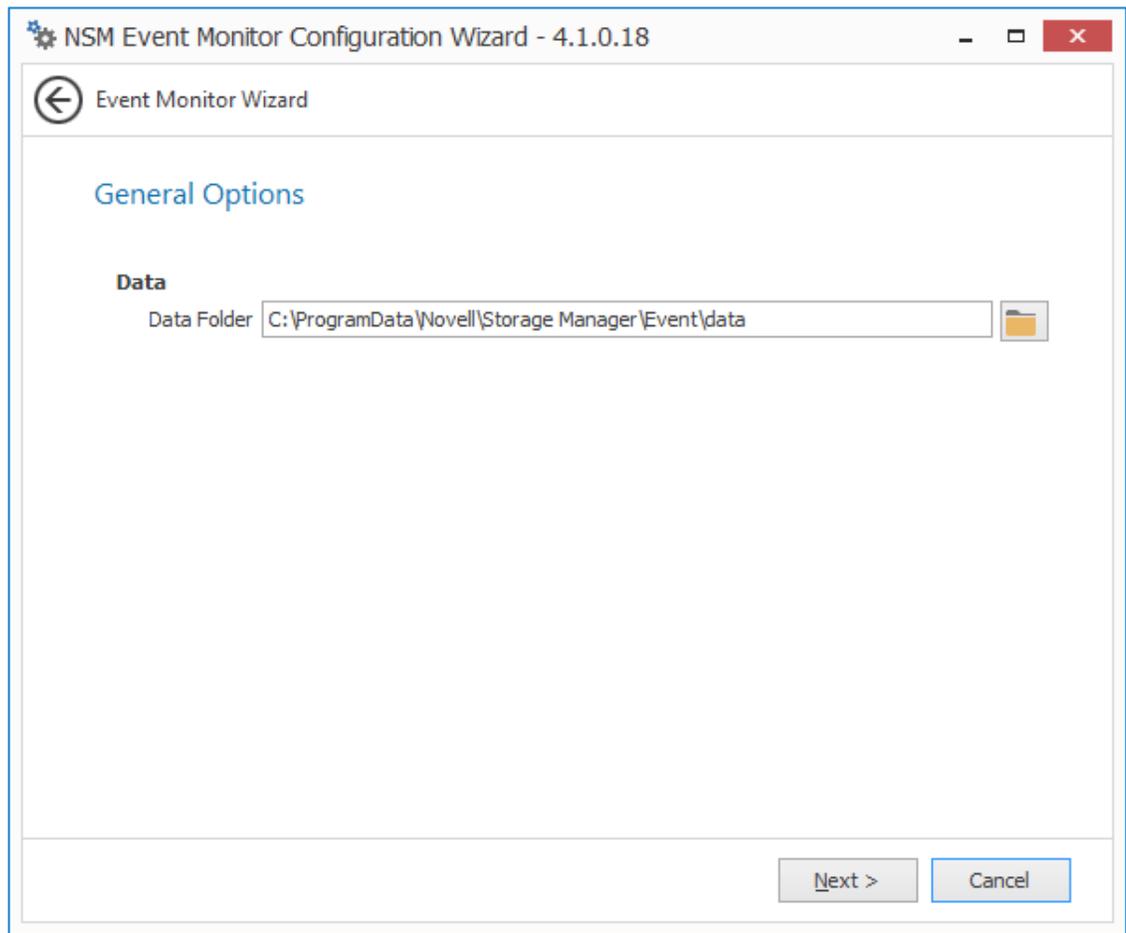
Other notable information about the Event Monitor:

- ◆ There is only one Event Monitor per domain
- ◆ The Event Monitor runs as a native NT service that is configured to start by using the Local System account
- ◆ The Event Monitor must be permitted to make outbound connections through the firewall

- 1 On the Windows server that will host the Event Monitor, copy to a directory the `NSM-AD_4_1.iso`.
- 2 Mount the `NSM-AD_4_1.iso` file.
- 3 At the root of the `NSM-AD_4_1.iso` image, double-click the `Windows` folder.
- 4 Double-click the `x86_64` folder.
- 5 Double-click `NSMEventMonitor-Installer-4.1-x64-xxxx.exe`.
- 6 When you are asked if you want to run this file, click *Run*.
- 7 Agree to the licensing terms and conditions and click *Install*.
- 8 When notified that the setup was successful, click *Run Setup Utility*.

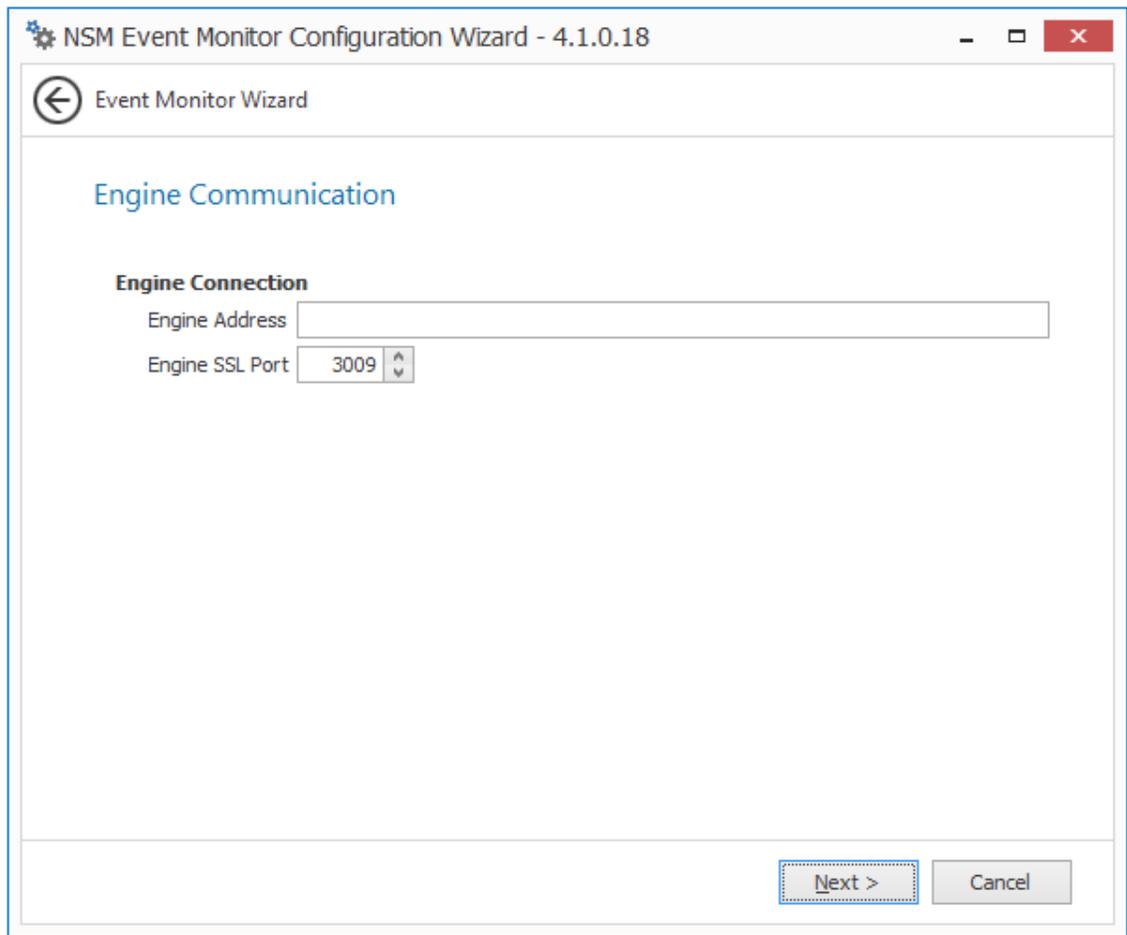


9 From the wizard page, read the overview of the setup steps and click *Next*.



The default path of the Data Folder is displayed, which you can edit. The Data folder contains application data needed by Novell Storage Manager.

- 10 Click *Next*.

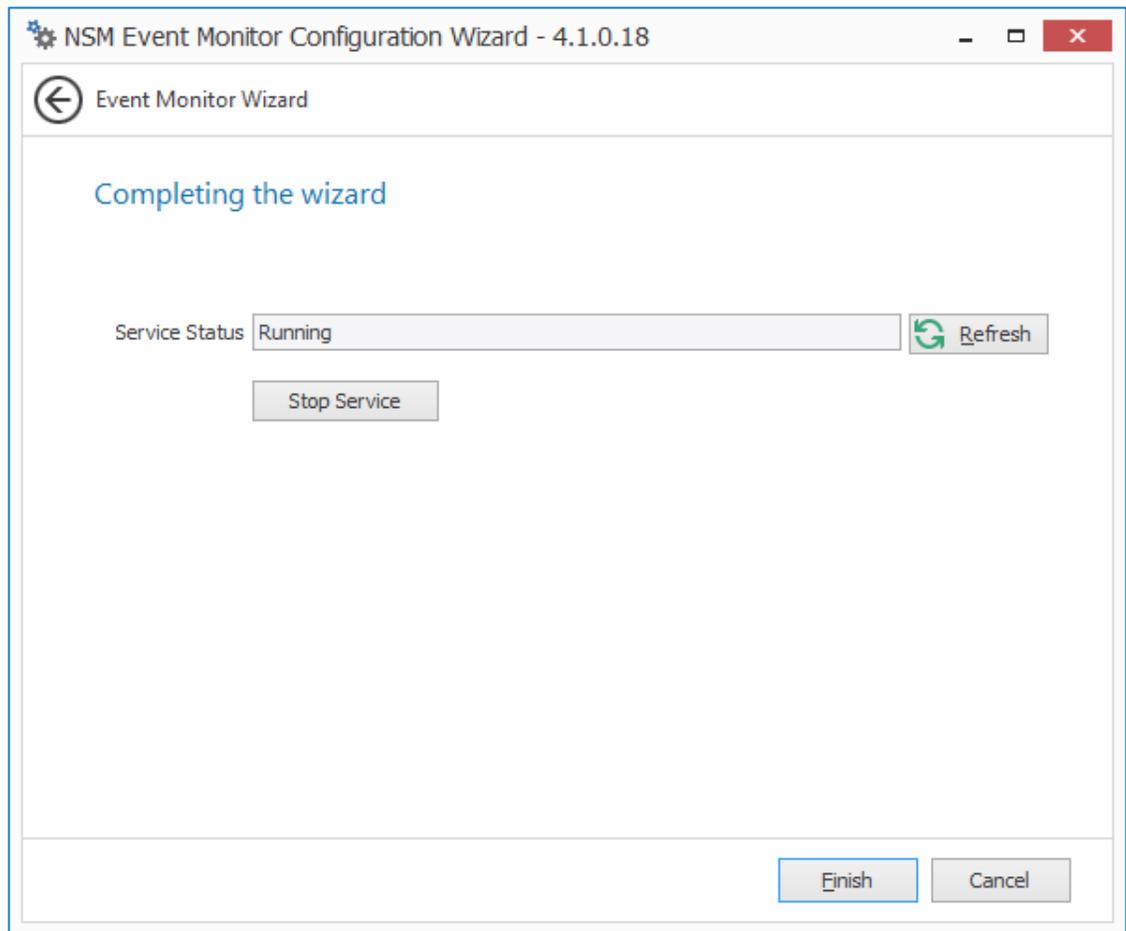


This page lets you set parameters for the Event Monitor to communicate with the Engine.

Engine Address: Specify the DNS name or IP address to the server hosting the Engine here.

Engine SSL Port: Specify the SSL port for the Engine here.

- 11 Enter the Engine connection settings and click *Next*.



- 12 Click *Finish*.

The Event Monitor is now installed and running. You must still authorize it using NSMAdmin. For procedures, see [Section 5.11, “Authorizing the Event Monitor,”](#) on page 97.

- 13 Proceed with [Section 5.9, “Installing and Configuring the Agents,”](#) on page 91.

5.9 Installing and Configuring the Agents

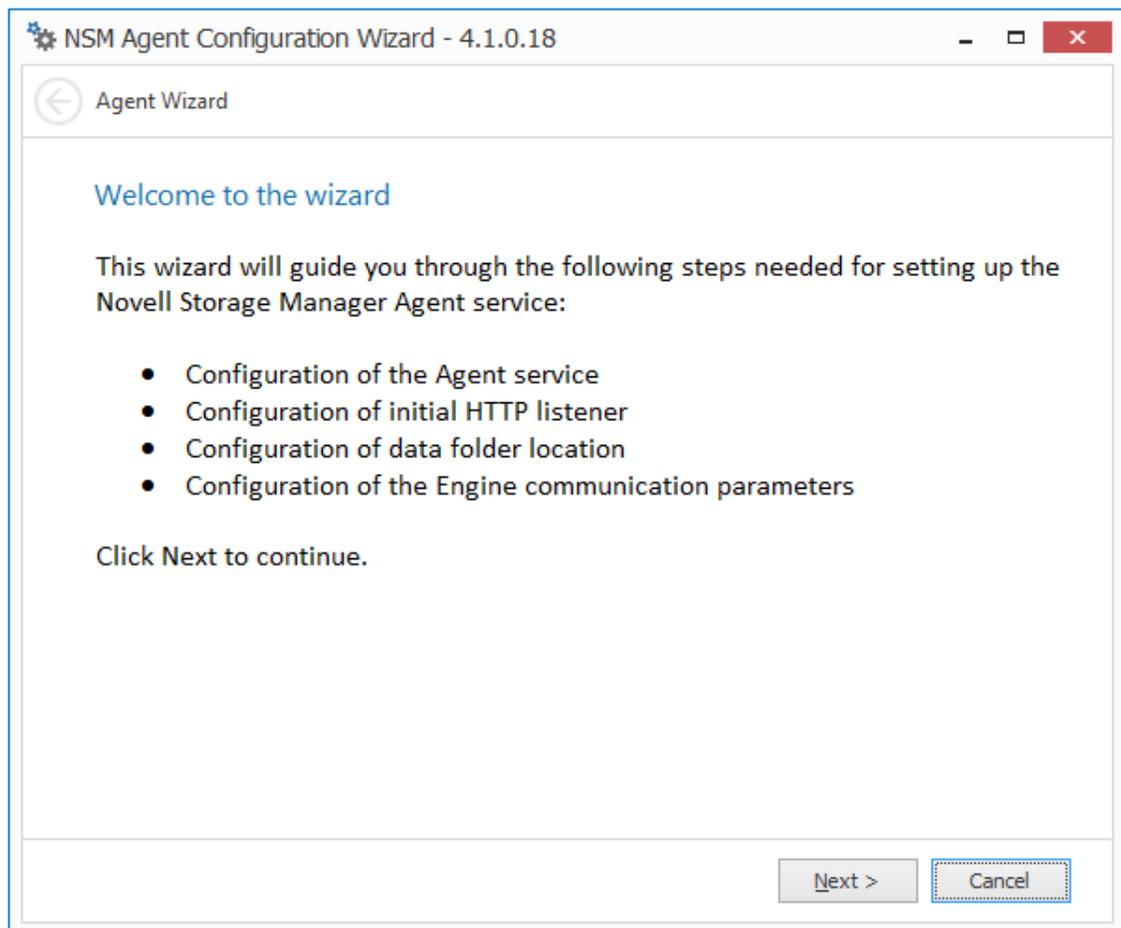
An Agent can be installed on a Windows Server machine that meets the following minimum requirements:

- ♦ Microsoft Windows Server 2012 R2 (Member Server)
- ♦ Microsoft Windows Server 2012 (Member Server)
- ♦ Microsoft Windows Server 2008 R2 (Member Server)
- ♦ For quota management, Microsoft File System Resource Manager (FSRM) must be installed

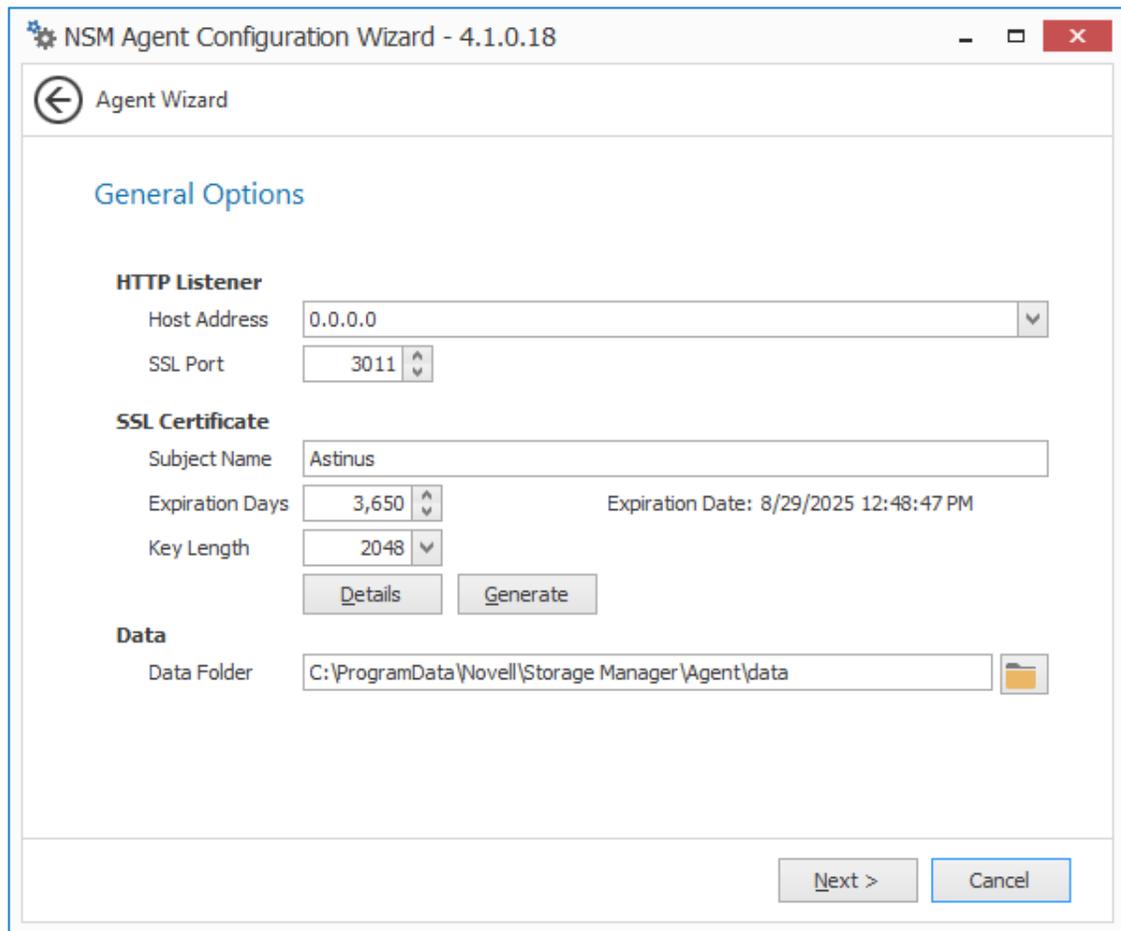
Other notable information about Agents:

- ♦ An Agent runs as a native NT service that is configured to start by using the Local System account

- ♦ The default Agent port is 3011
 - ♦ A firewall inbound rule for the Agent is created during the installation
- 1 On the Windows server that will host the Agent, copy to a directory the `NSM-AD_4_1.iso`.
 - 2 Mount the `NSM-AD_4_1.iso` file.
 - 3 At the root of the `NSM-AD_4_1.iso` image, double-click the `Windows` folder.
 - 4 Double-click the `x86_64` folder.
 - 5 Double-click `NSMAgent-Installer-4.1-x64-xxxx.exe`.
 - 6 When you are asked if you want to run this file, click *Run*.
 - 7 Agree to the licensing terms and conditions and click *Install*.
 - 8 When notified that the setup was successful, click *Run Setup Utility*.



- 9 From the wizard page, read the overview of the setup steps and click *Next*.



This page lets you confirm or change basic Agent configuration settings.

HTTP Listener: Communication parameters for the Agent.

Host Address: Unless you want the Agent to only listen on a certain IP address, leave this setting as it is.

SSL Port: Unless there is a port conflict, leave the setting at 3011.

SSL Certificate: Details for an SSL certificate that will be generated.

Subject Name: The name of the certificate that will be generated. The server name is listed by default.

Expiration Days: The life span of the security certificate, which is set at 10 years by default.

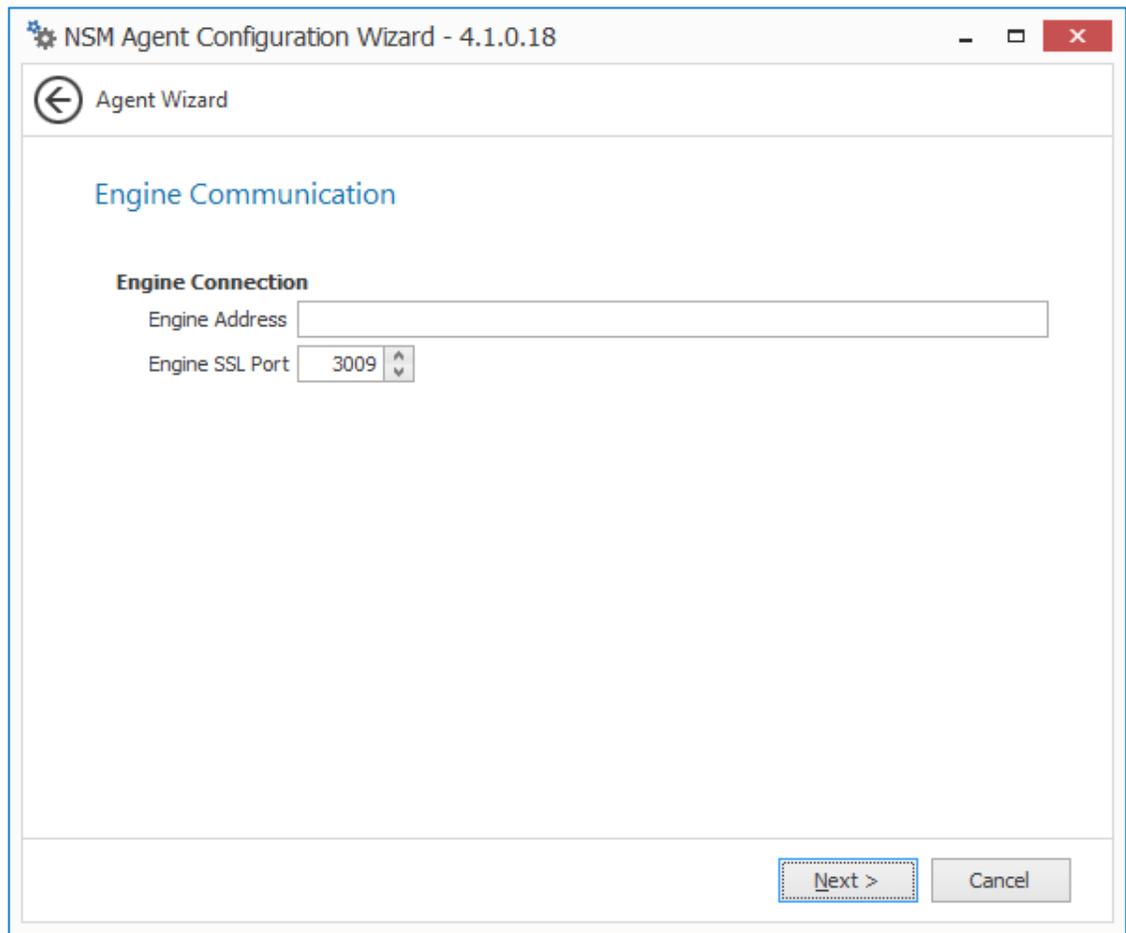
Key Length: The SSL certificate encryption setting, which is set at 2048 by default.

Details: Click the button to view the certificate data.

Generate: If you modify any of the settings in the SSL Certificate region, click this button to generate a new certificate.

Data Folder: The default path of the Data folder. The Data folder contains application data needed by Novell Storage Manager.

- 10 Edit any needed parameters settings and click *Next*.

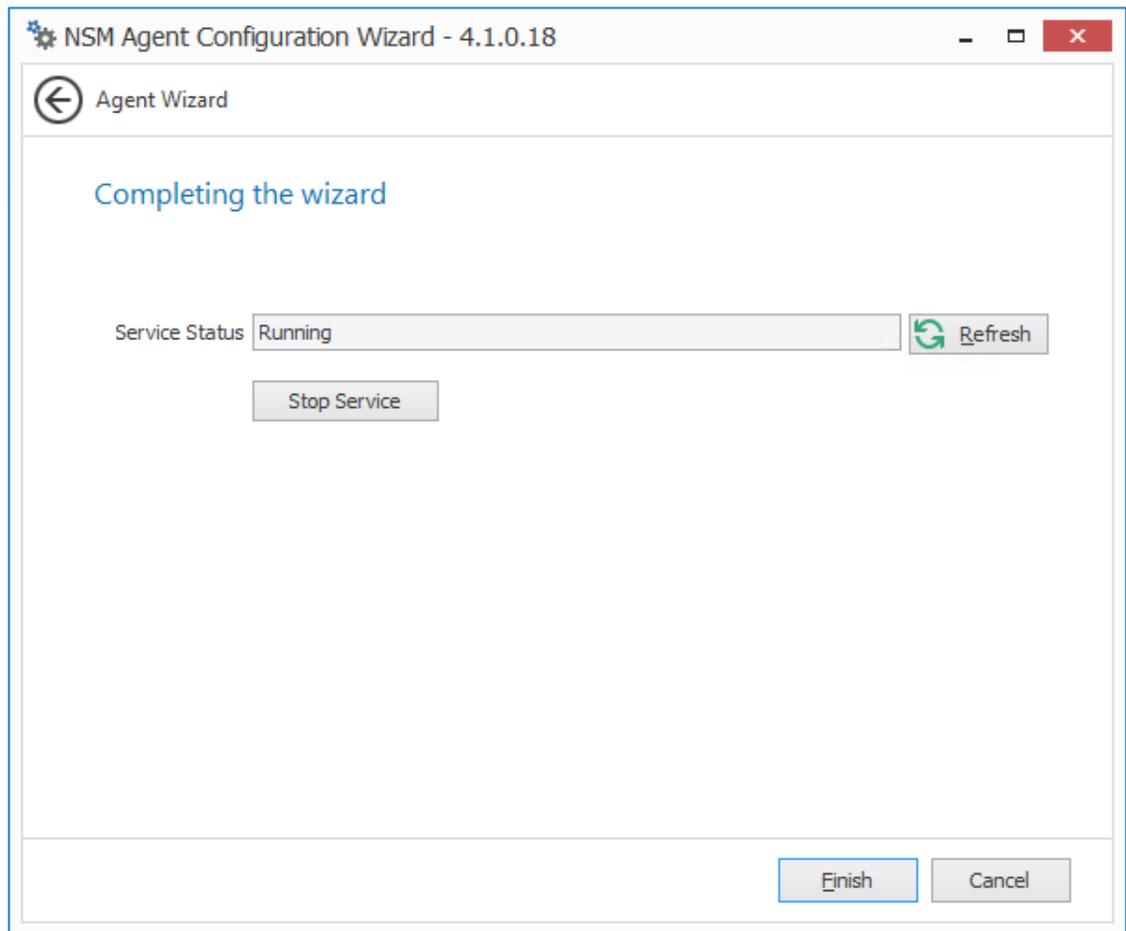


This page lets you set parameters for the Agent to communicate with the Engine.

Engine Address: Specify the DNS name or IP address to the server hosting the Engine here.

Engine SSL Port: Specify the SSL port for the Engine here.

- 11 Enter the Engine connection settings and click *Next*.



- 12 Click *Finish*.
- 13 The Agent is now installed, configured, and running. You must still authorize it using NSMAdmin. For procedures, see [Section 5.12, “Authorizing the Agents,”](#) on page 97.
- 14 Proceed with [Section 5.10, “Installing NSMAdmin,”](#) on page 95.

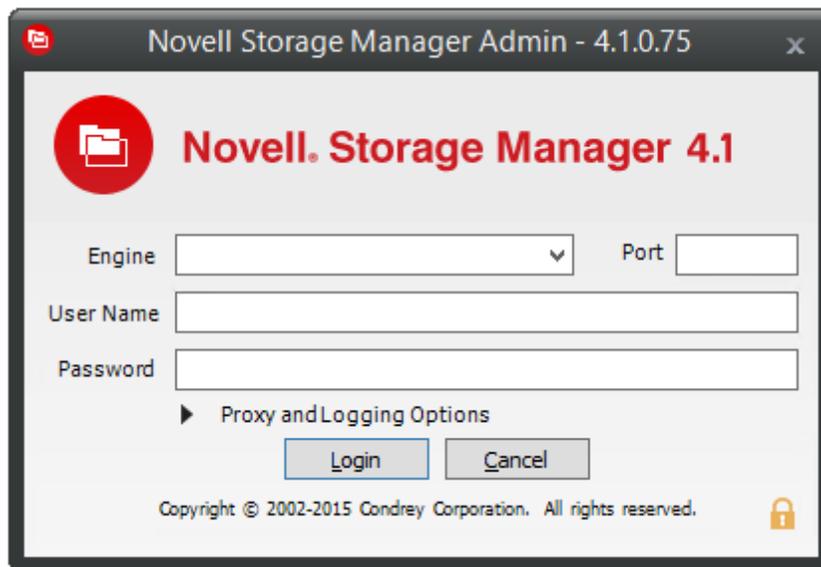
5.10 Installing NSMAdmin

NSMAdmin is the administrative interface for Novell Storage Manager. It can be installed on:

- ♦ Windows 8
- ♦ Windows 7
- ♦ Windows Vista
- ♦ Windows Server 2012 R2, 2012, 2008 R2, or 2008

IMPORTANT: Novell Storage Manager 4.1 introduces new database requirements for NSMAdmin. For details and requirements, see [NSMAdmin Database User Setup](#) in the *Novell Storage Manager 4.1 for Active Directory Administration Guide*.

- 1 On the Windows server or workstation where you will run NSMAdmin, copy to a directory the NSM-AD_4_1.iso.
- 2 Mount the NSM-AD_4_1.iso file.
- 3 At the root of the NSM-AD_4_1.iso image, double-click the Windows folder.
- 4 Double-click NSMAdmin-AD-Installer-4.1-xxxx.exe.
- 5 When you are asked if you want to run this file, click *Run*.
- 6 Agree to the licensing terms and conditions, then click *Install*.
- 7 When you are notified that the setup was successful, click *Run Admin Client*.
The NSMAdmin login dialog box appears.



- 8 In the *Engine* field, specify the DNS name or IP address.
- 9 In the *Port* field, specify the secure port number.
The default setting is 3009.
- 10 Specify the username and password.
The user must be a member of the nsmadmins group to be able to log in.
- 11 Click *Login*.
If you are unable to log in, your proxy settings might be preventing you from doing so. Until you enter a proxy exception in your proxy settings, you can click *Proxy and Logging Options*, select *Do not use a Proxy*, then click *Login*.
- 12 Proceed with [Section 5.11, “Authorizing the Event Monitor,”](#) on page 97.

5.11 Authorizing the Event Monitor

- 1 In NSMAdmin, click the *Configure* tab.
- 2 Click *Event Servers*.
- 3 Select the listed domain.
- 4 Click *Authorize*.
- 5 When you are asked if you want to authorize the selected event monitor, click *Yes*.
- 6 When the Results page appears, click *Close*.
- 7 Proceed with [Section 5.12, “Authorizing the Agents,”](#) on page 97.

5.12 Authorizing the Agents

- 1 In NSMAdmin, click the *Configure* tab.
- 2 Click *Agent Servers*.
- 3 Select a listed server.
- 4 Click *Authorize*.
- 5 When you are asked if you want to authorize the selected event monitor, click *Yes*.
- 6 When the Results page appears, click *Close*.

5.13 Administering Novell Storage Manager

You have now completed the installation of Novell Storage Manager 4.1 for Active Directory. For administration procedures, refer to the *Novell Storage Manager 4.1 for Active Directory Administration Guide*.

A Deploying Event Monitors and NSM Agents Remotely by Using the DeployAgents Tool

- ◆ [Section A.1, “Overview,” on page 99](#)
- ◆ [Section A.2, “Prerequisites,” on page 99](#)
- ◆ [Section A.3, “Copy the Component Installers,” on page 100](#)
- ◆ [Section A.4, “Creating the servernames.txt File,” on page 100](#)
- ◆ [Section A.5, “Deploying the Windows EXE Files,” on page 101](#)

A.1 Overview

The DeployAgents tool lets you remotely install NSM Agent software through a batch installation process.

The DeployAgents tool performs the following actions:

- ◆ Installs and configures the NSM Agent software
- ◆ Creates and copies the necessary SSL certificate for each server
- ◆ Modifies and copies the configuration file (if necessary)
- ◆ Sets any necessary privileges on the local server

NOTE: OpenSSL certificates are generated using the OpenSSL command line utilities, which have not been modified, and are distributed with permission. See the attribution provided in the `OpenSSL-License.txt` file for more details.

A.2 Prerequisites

- ◆ Verify that Windows PowerShell 2.0 or above is enabled on each Windows server where NSM Agents are being installed.

DeployAgents uses Windows PowerShell version 2.0 or above for parsing text, hiding credentials from plain text, and remote installation, but requires that remote signed scripts be allowed.

- ◆ Verify that the ExecutionPolicy is set to something other than `RESTRICTED`.

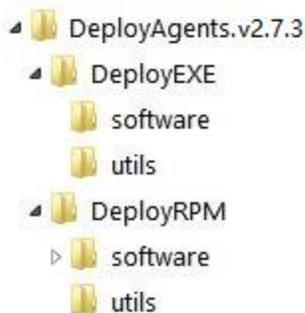
`REMOTESIGNED` works for deploying MSI files.

Use the `Get-ExecutionPolicy PowerShell` command to determine how the current policy is set. The `Set-ExecutionPolicy RemoteSigned` command can be used to change the current policy to one that is compatible with this process.

A.3 Copy the Component Installers

- 1 From the `NSM-AD_4_1.iso` image, double-click the `Utilities` folder.
- 2 Double click `DeployAgents`.
- 3 Copy the `DeployAgentv2.xx.zip` file to a folder of your choice.
- 4 Unzip the file.

The folder structure looks like the image below:



- 5 From the `NSM-AD_4_1.iso` image, copy the Agent installation files you want to install into the `software` folder of the appropriate installer format.
For example, if you were going to do a batch installation of Agents for Novell Storage Manager, you would copy the following files into the `DeployEXE/software` folder:
`Windows\x86_64\NSMAgent-Installer-4.1-x64-xxxx.exe`
- 6 Verify that each `software` folder contains a `.cfg` file for the Agent.

A.4 Creating the `servername.txt` File

This file specifies the names of all of the servers on which the Agent software is to be deployed.

A.4.1 Manually Creating the `servername.txt` File

- 1 Launch a text editor such as Notepad.
- 2 On individual lines, type the names of each server where you want to deploy the Agent software.
Depending on whichever is appropriate for your environment, you can use simple or DNS naming. We recommend DNS naming.

For example:

```
cclx1.cctec.org  
cclx2.cctec.org  
cclx3.cctec.org
```

- 3 Save the document as `servername.txt` to the root directory of the deployment folder for the installer format.

For example, if the `servername.txt` file listed Windows Server machines, you would save the file to the `DeployEXE` folder.

A.4.2 Automatically Creating the `servername.txt` File

If you already have Agents installed and you want to update them, the DeployAgents tool can automatically create a `servername.txt` file for you.

Simply copy the `agents.dat` file from its location on the Engine or to the root of the DeployMSI folders.

The location of the of the `agents.dat` file is: `C:\ProgramData\Novell\Storage Manager\Engine\data\agents.dat`

When you provide the `agents.dat` file, the DeployAgents tool parses the existing server names and creates the `servername.txt` file for you.

A.5 Deploying the Windows EXE Files

A.5.1 Deployment Specifics

The DeployAgents tool performs the following actions:

- ◆ Employs wrapper scripts that work with the NSM Agents.
- ◆ Utilizes scripts that rely on the `C$ admin` share being available on the servers where the NSM Agent is to be installed, and that the `C:\temp` directory exists or can be created, and can be written to over the network by a domain administrator.
- ◆ Uses the installer name without path information.
- ◆ Uses the latest version by time and date in the software folder, regardless of the command line designation.

A.5.2 Setting an Alternate Installation Path

By default, DeployAgents installs the NSM Agent software to the following location:

`C:\Program Files\Novell\Storage Manager\Agent`

You can change the default installation path for the NSM Agent software through the `AlternateInstallPath.txt` file.

- 1 In the root of the `DeployEXE` file, locate the `_AlternateInstallPath.txt` file.
- 2 Rename the file to `AlternateInstallPath.txt` by removing the underscore.

After it is renamed, the file can be edited via Notepad or another text editor.

The `AlternateInstallPath.txt` file uses a combination of text and variables so it can be used over and over.

- 3 Use Notepad or another text editor to edit the installation path.

You can change the drive letter, add additional path text, or change the text altogether to make the component best fit your environment.

Example:

Default path: `c:\%brand%\%product%\%component%`

Modified path example: `e:\%brand%\%product%\%component%`

A.5.3 Using DeployAgentsEXE.cmd

- 1 Launch the DOS Command Prompt utility.
- 2 Change to the `DeployEXE` directory.
- 3 From the `NSM-AD_4_1.iso`, copy the EXE installers to the `DeployEXE\software` directory.
- 4 Do one of the following:
 - ♦ Enter: `deployAgentsEXE.exe servernames.txt domain\administrator NSMAgent-Installerx64-4.1-xxxx.exe`
 - ♦ Enter: `deployAgentsEXE.exe agents.dat domain\administrator NSMAgent-Installerx64-4.1.xxxx.exe`

When you deploy EXEs through an `agents.dat` file, if a `servername.txt` file already exists, you are asked if you want to use the `servername.txt` file that already exists.

If you choose No, the `servername.txt` file is deleted and a new one is created, based on the contents of the `agents.dat` file.

B Deploying Windows Agents Remotely Using Microsoft System Center Configuration Manager

In addition to the DeployAgents tool discussed in [Appendix A, “Deploying Event Monitors and NSM Agents Remotely by Using the DeployAgents Tool,”](#) on page 99, another means of deploying Windows Agents remotely is through Microsoft System Center 2012 Configuration Manager (SCCM).

Parameters have been written that allow you to remotely install and configure the NSM Windows Agents “quietly” or without user intervention.

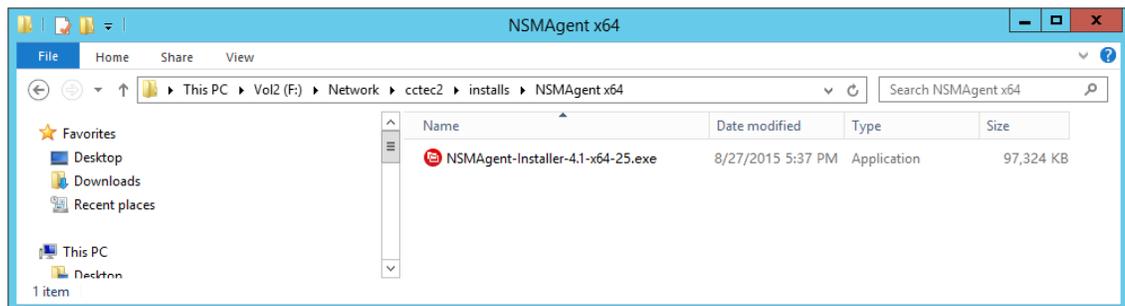
You must already have System Center 2012 Configuration Manager installed and configured before proceeding.

NOTE: This appendix covers the command line options needed to remotely deploy the NSM Windows Agent.

B.1 Creating an SCCM Application for Distribution

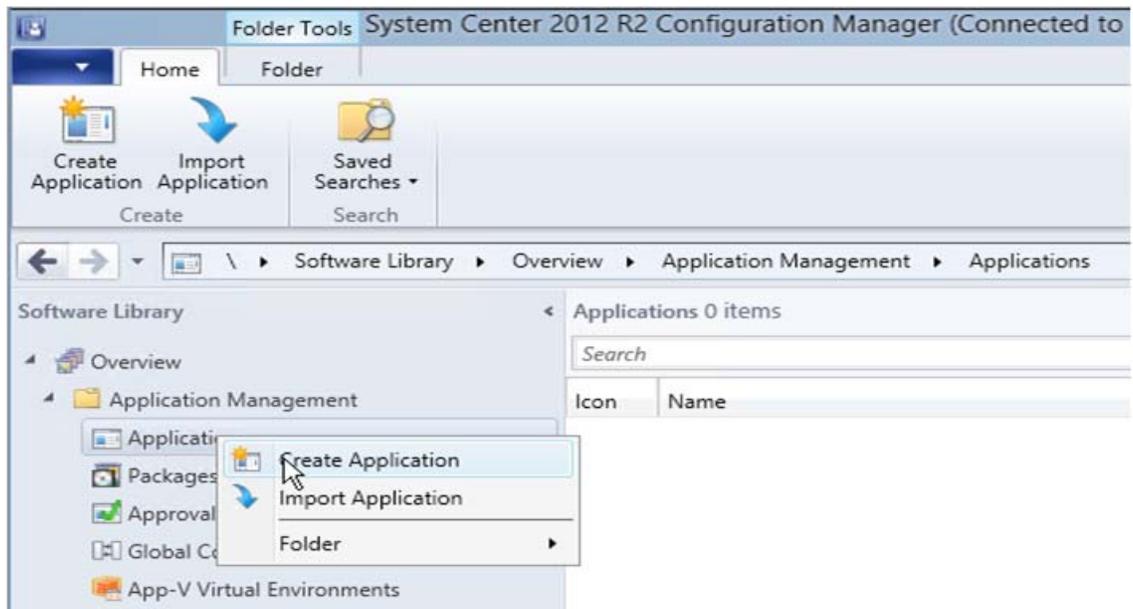
SCCM deploys software from a shared folder on the network. This shared folder is probably already defined by the SCCM administrator.

- 1 Copy the NSM Agent installation executable file to the already defined software distribution folder.

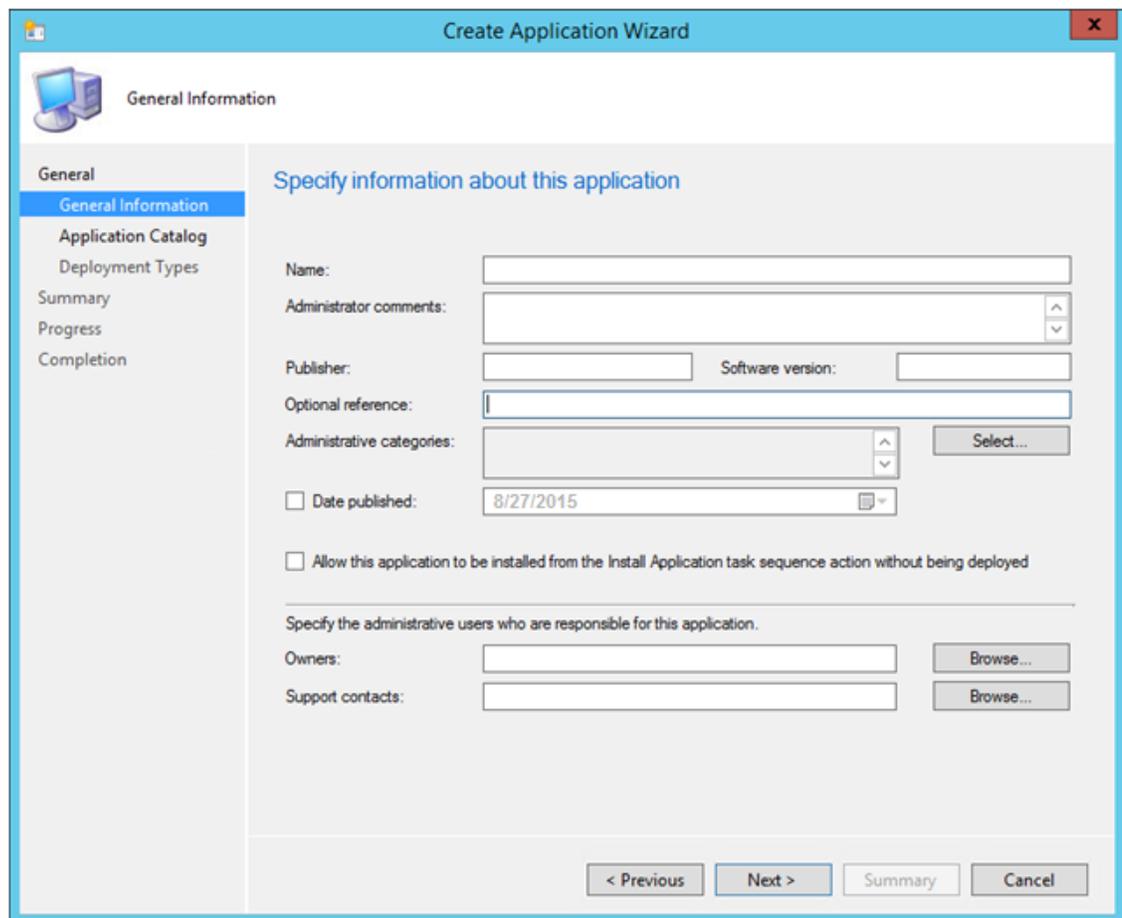


In this example, the shared folder is named `installs` and is located on a server named `CCTEC2`. An `NSMAgent x64` subfolder contains the `NSMAgent-Installer` package.

- 2 From System Center Configuration Manager, select *Software Library > Application Management*, then right-click and select *Create Application*.



The Create Application wizard is launched.



3 In the *Name* field, specify a descriptive name.

For example, NSM 4.1 Agent x64.

Completing the other fields is optional.

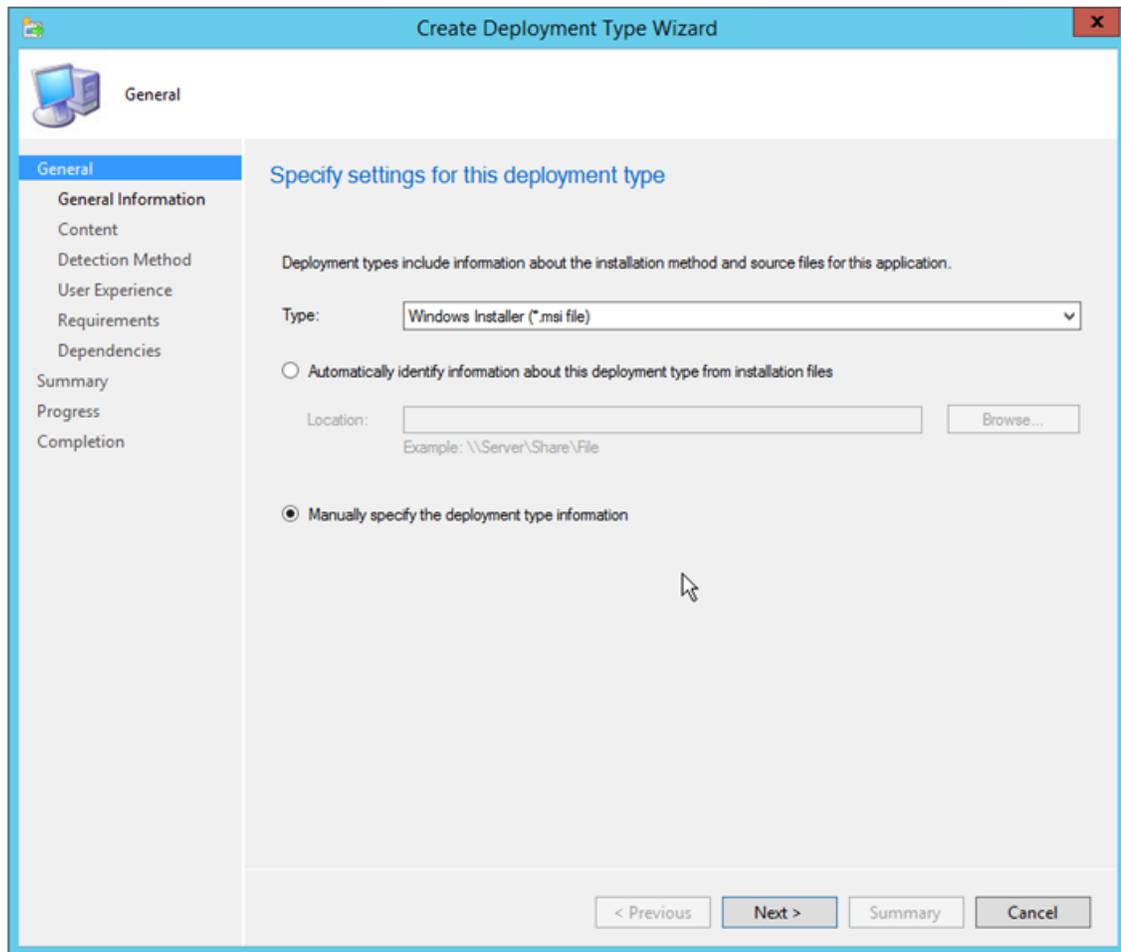
- 4 Click *Next*.
- 5 (Optional) In the Specify the Configuration Manager Application Catalog entry page, browse to display the Novell Storage Manager Agent icon.

The screenshot shows the 'Create Application Wizard' window with the 'Specify the Configuration Manager Application Catalog entry' step selected. The left sidebar shows the 'Application Catalog' section. The main area contains the following fields and controls:

- Selected language:** English (United States) default (with an 'Add/Remove...' button)
- Localized application name:** NSM 4.1 Agent x64
- User categories:** (empty text box with an 'Edit...' button)
- User documentation:** (empty text box with a 'Browse...' button)
- Link text:** (empty text box)
- Privacy URL:** (empty text box)
- Localized description:** (empty text box with up/down arrows)
- Keywords:** (empty text box)
- Icon:** (empty text box with a red icon placeholder and a 'Browse...' button)
- Display this as a featured app and highlight it in the company portal

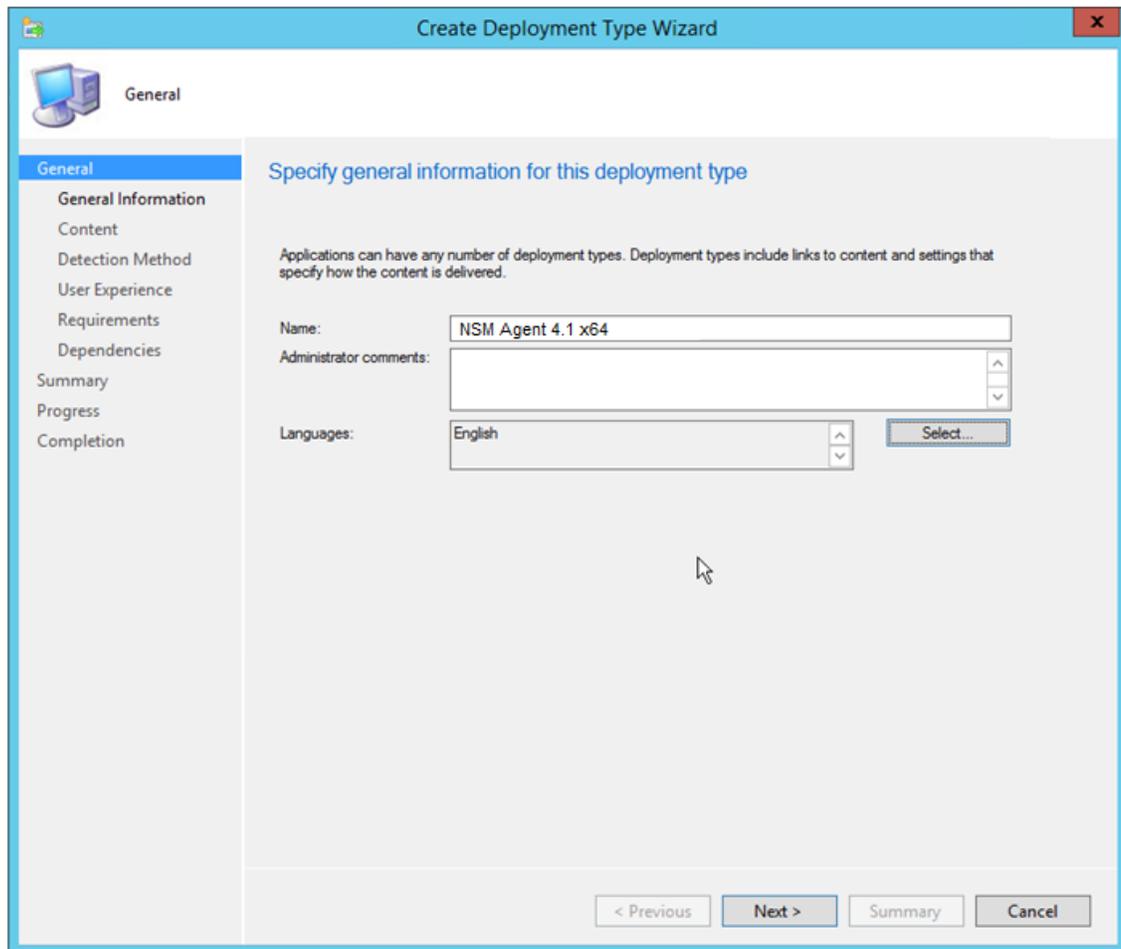
At the bottom, there are navigation buttons: '< Previous', 'Next >', 'Summary', and 'Cancel'.

- 6 Click *Next*.
- 7 Select *Manually specify the deployment type information*.

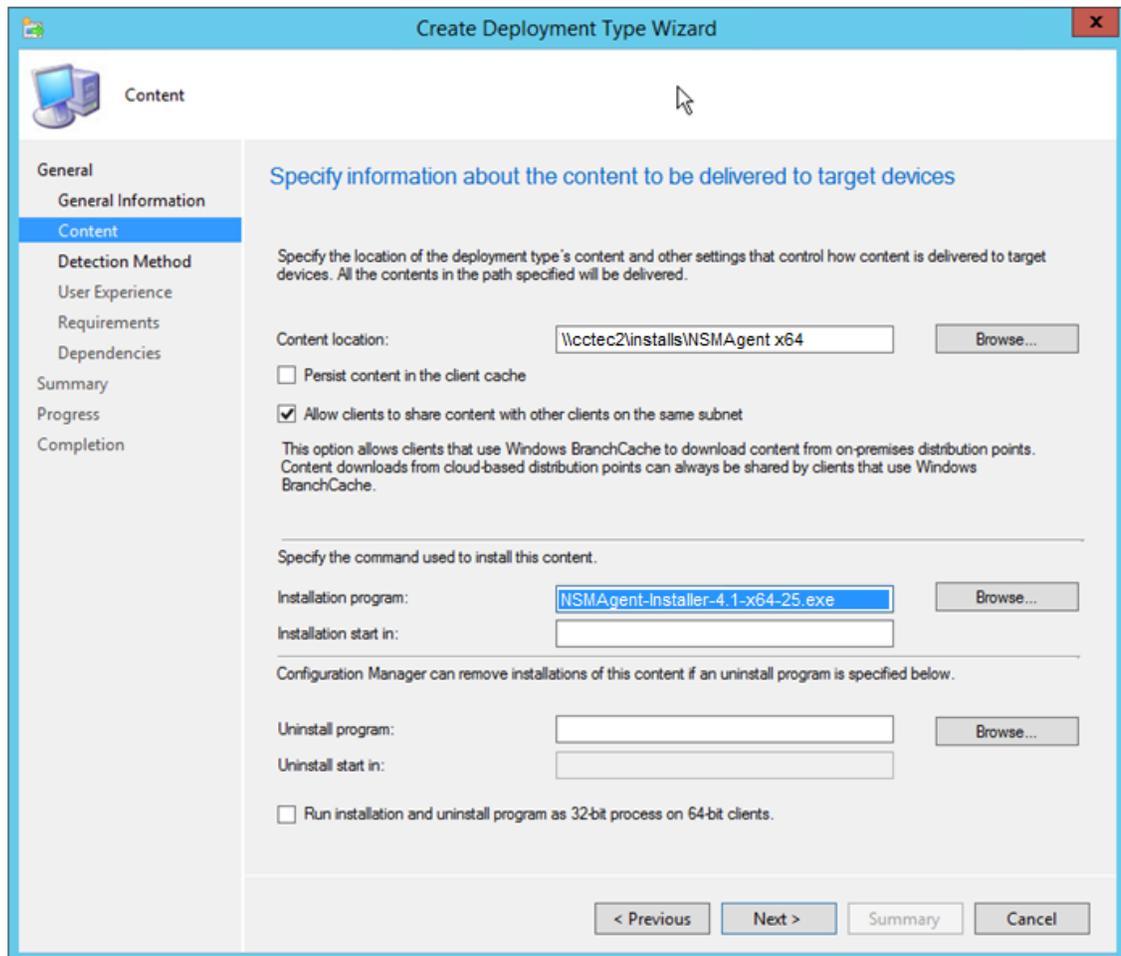


Because SCCM does not have an option for automatically detecting bootstrapped executable installation packages (such as the NSM Agent installation executable), you will need to manually specify the file.

- 8 Click *Next*.
- 9 In the *Name* field, give the deployment type a name.
For example, NSM Agent 4.1 x64.



10 Click *Next*.



- 11 In the *Content location* field, browse to the parent folder where the NSM Agent is located.
For example: \\cctec\installs\NSMAgent x64
- 12 In the *Installation program* field, browse for the installation file.
Because the dialog box is limited to displaying MSI files only, you will need to start typing the name of the installation executable in the *File name* field and then click the *Open* button.
The *Installation program* field displays the executable file in quotes, preceded by `msiexec /i` text.
- 13 In the *Installation program* field, remove the `msiexec /i` portion and the quotes.
- 14 Review the parameters and configuration options below before further modifying the parameters in the *Installation program* field.

Installation Program	NSMAgent-Installer-4.1-x64.x.exe
Standard Built-In Options	/quiet /install /norestart
Non-Standard Option:	INSTALL_FOLDER="full path to install to alternate install path"
	(Available with a new installation only, overridden by what is in the Registry.)
Added Alternate Installation Path Option	

The bootstrap technology sends these options on to the wrapped MSI after installing any dependencies such as a particular version of the DOTNET FRAMEWORK, the Visual Studio runtime, or some other prerequisite that you don't want to address. Other options are passed through the MSI all the way to the configuration utility.

Command Line Option	Parameter	Notes
ENGINE_ADDRESS=	<DNS or IP Address>	ENGINE_ADDRESS is required for any of the configuration options.
ENGINE_PORT=	3009	
DATA_PATH=	"full path to where the data path is configured"	This option could abandon an existing DATA_PATH, if used to upgrade, and a new path is chosen.

The configuration utility is responsible for creating the configuration file and SSL certificate needed by the Agent to communicate with the Engine. The configuration file contains information such as the Engine's IP Address or DNS Name, the IP port needed to communicate with the Engine, and where to place the DATA_PATH. The only required option is the ENGINE_ADDRESS; the other options have defaults.

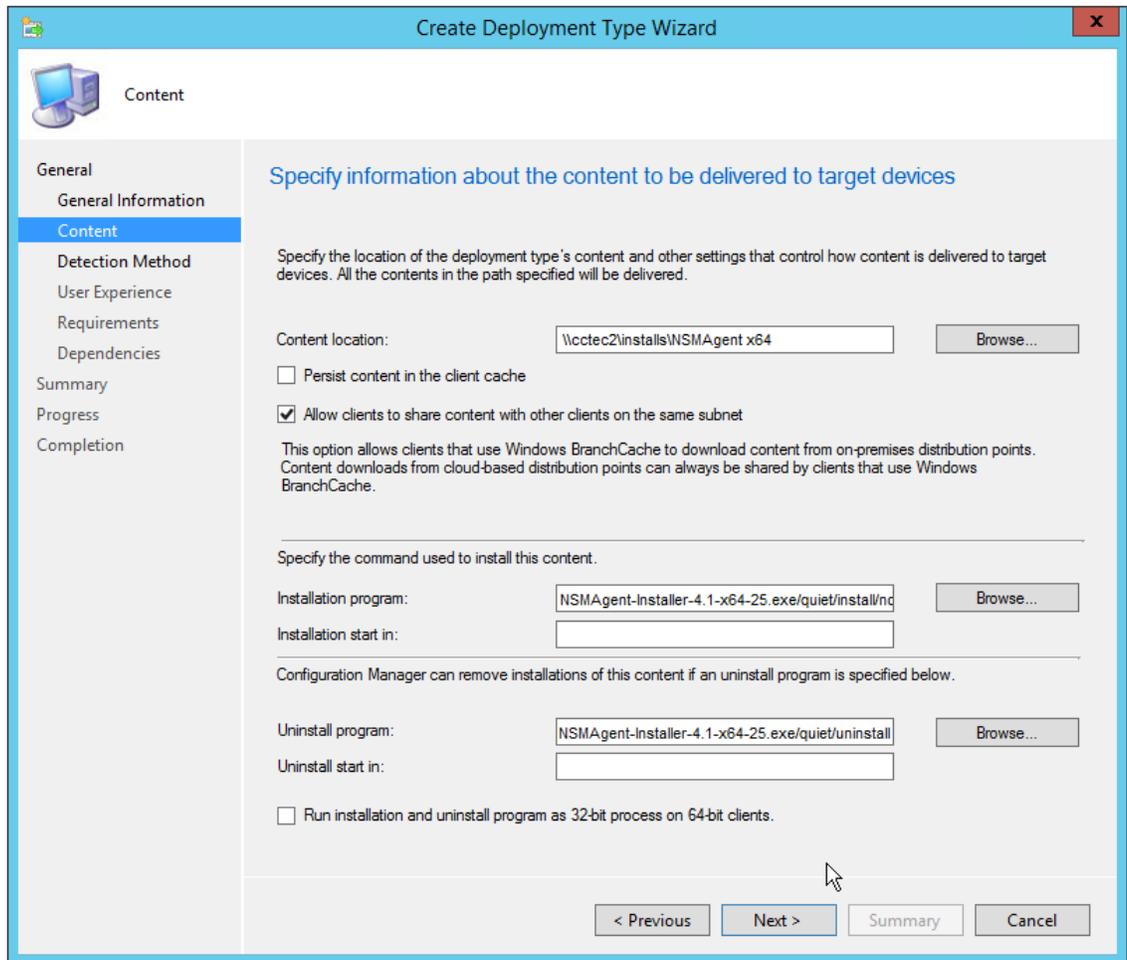
Example of combined options:

```
NSMAgent-Installer-4.1-x64-25.exe
/quiet
/install
/norestart
*INSTALL_FOLDER="C:\Program Files\Novell\Storage Manager\Agent"
ENGINE_ADDRESS=10.1.1.10
*ENGINE_PORT=3009
*DATA_PATH="C:\ProgramData\Condrey Corporation\Storage Manager\Agent\data"
* These options can be omitted if the default options are preferred.
```

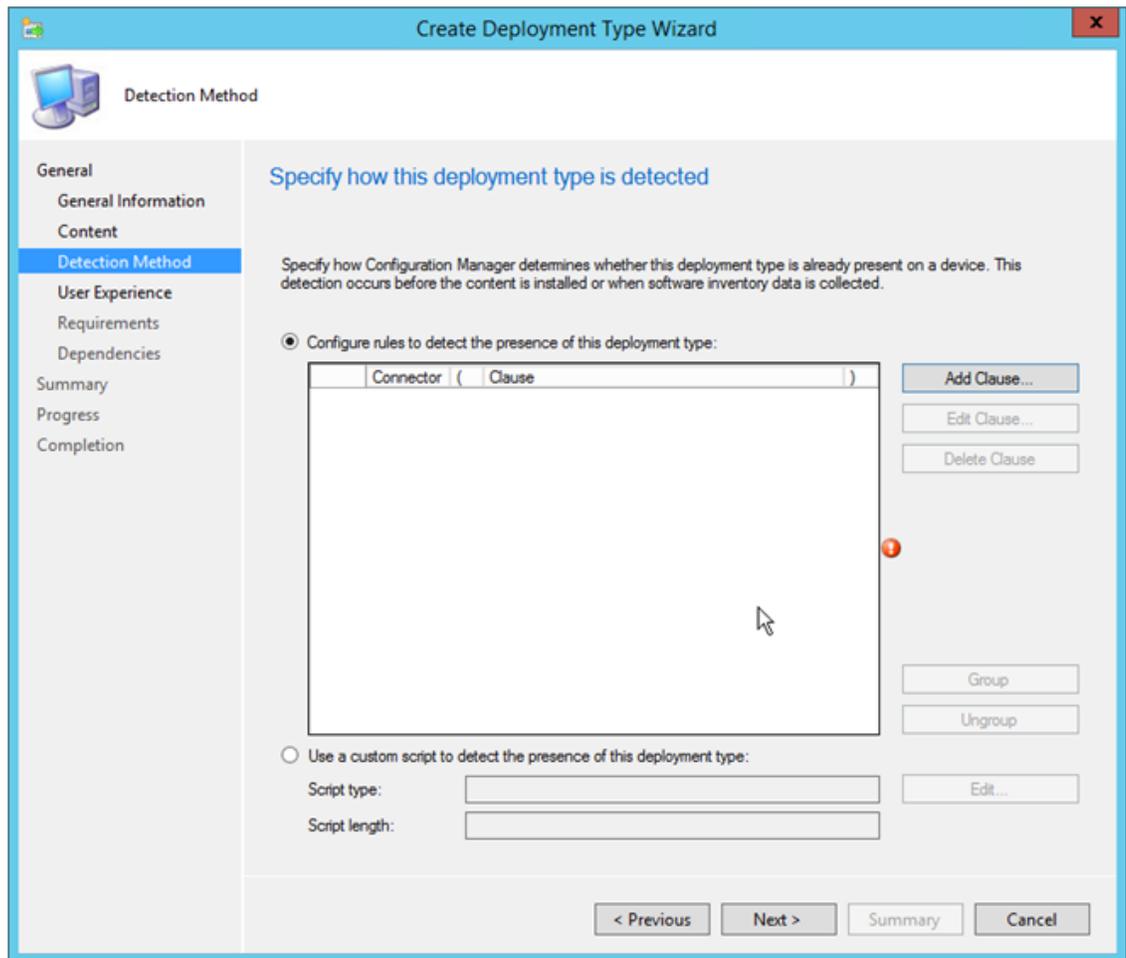
Example of Installation program field entry:

```
NSMAgent-Installer-4.1-x64-1004.exe /quiet /install /norestart
ENGINE_ADDRESS=10.1.1.10
```

- 15 In the *Installation program* field, enter the specific combined parameters and commands necessary for remotely installing Agents.
- 16 (Optional) In the *Uninstall program* field, use the specific combined parameters and commands necessary for remotely uninstalling earlier versions of Agents.
Only the /quiet and /uninstall arguments are needed for uninstalling Agents.

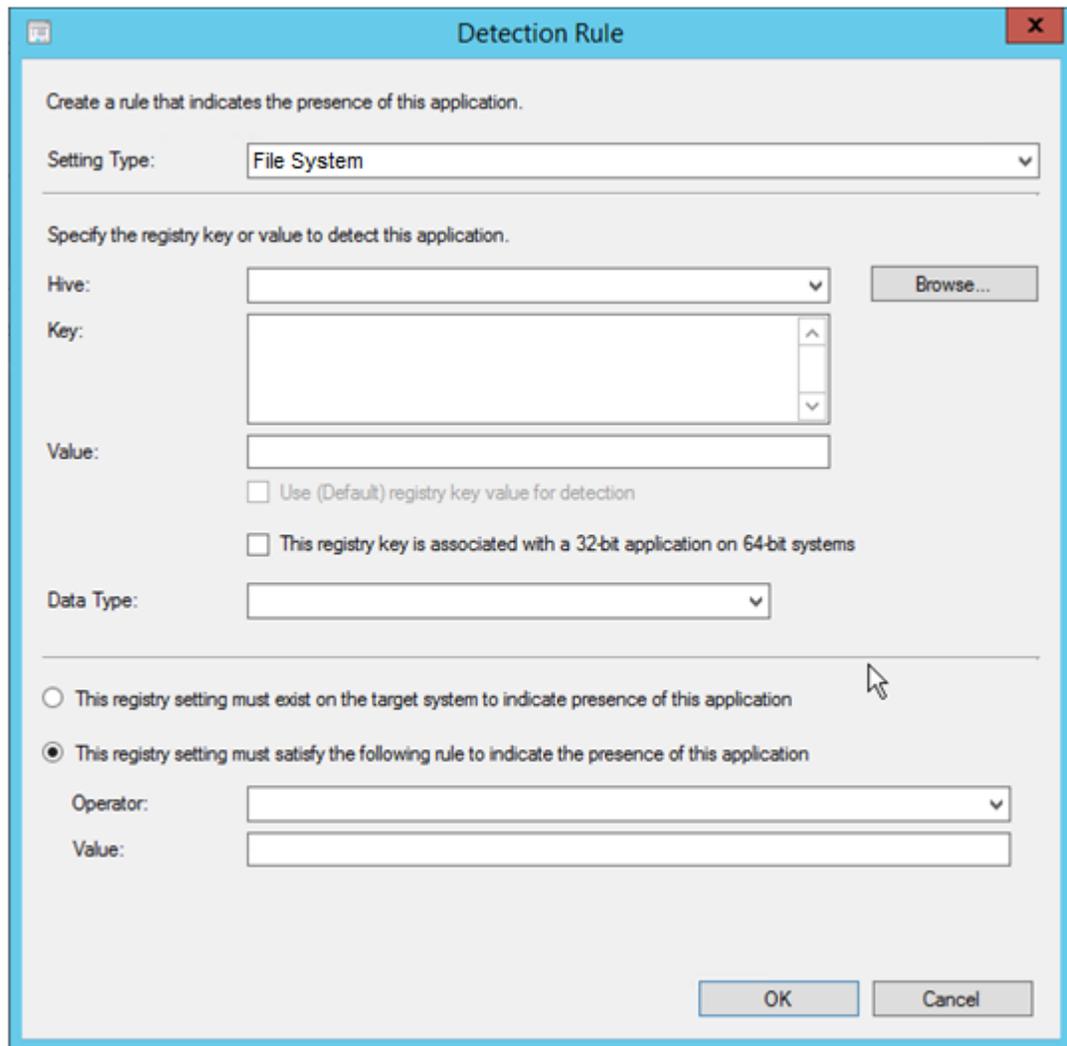


17 Click *Next*.



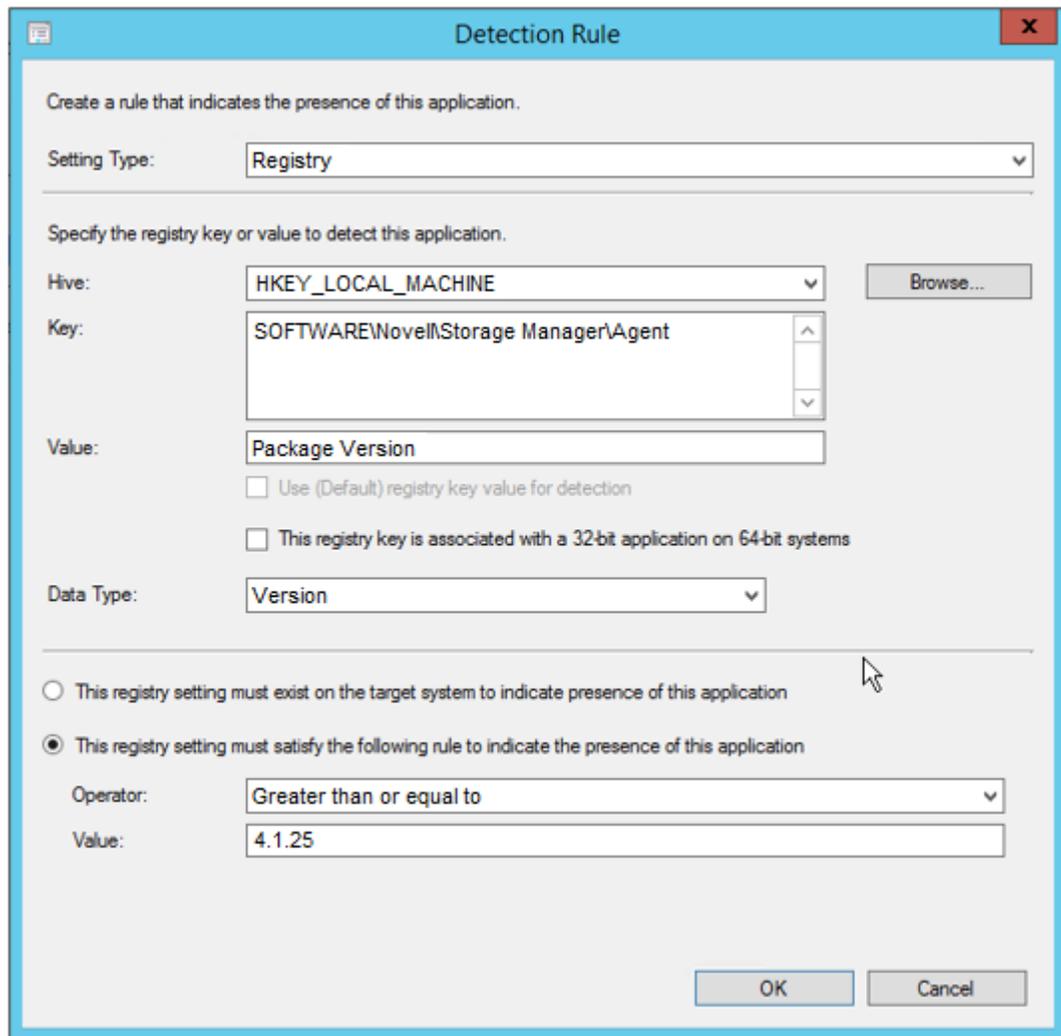
This page lets you specify how SCCM will determine if a package has already been installed.

18 Click *Add Clause*.



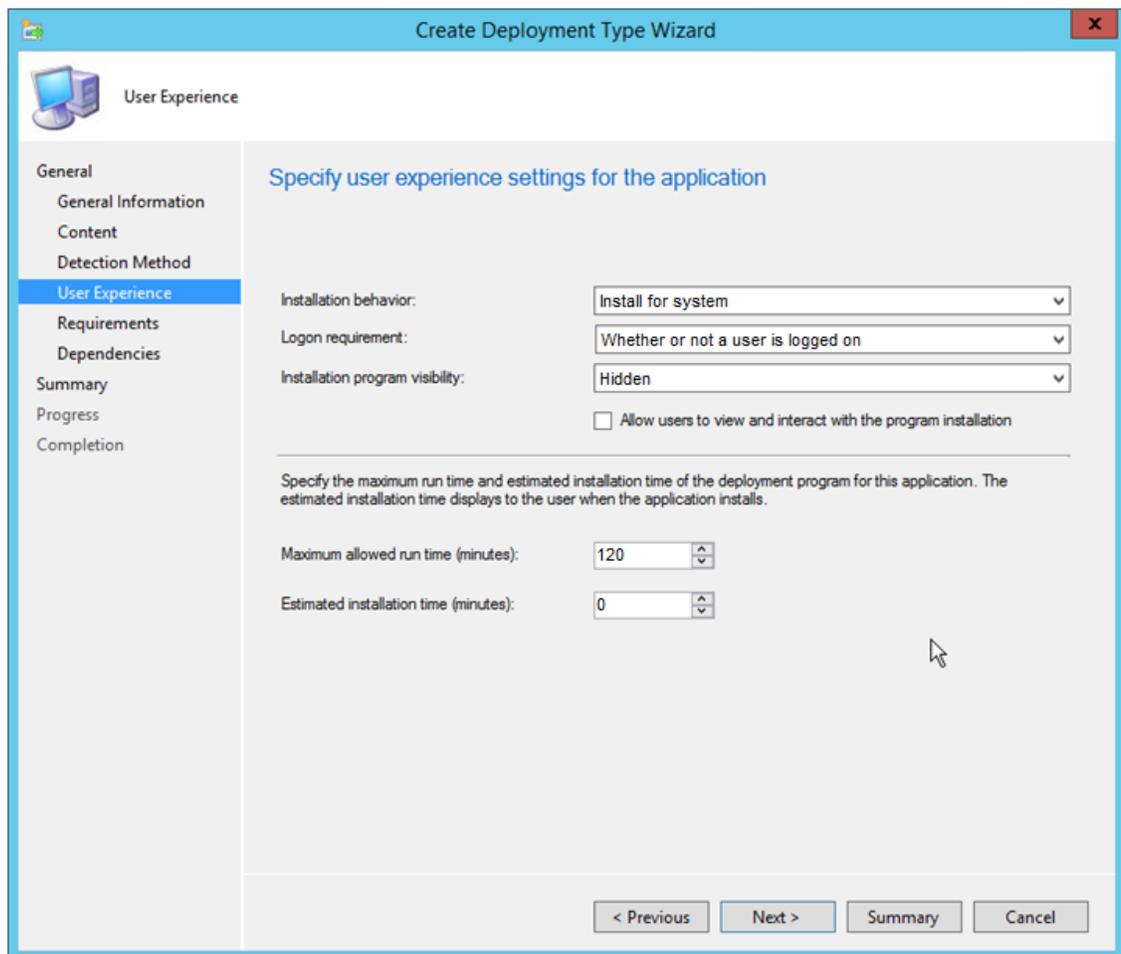
- 19 From the *Setting Type* drop-down menu, select *Registry*.
This populates other fields in the dialog box.
- 20 Verify that `HKEY_LOCAL_MACHINE` is displayed in the *Hive* field.
- 21 In the *Key* field enter:
`SOFTWARE\Novell\Storage Manager\Agent`
- 22 From the *Data Type* drop-down menu, select *Version*.
- 23 Verify that the *This registry setting must satisfy the following rule to indicate the presence of this application* option is selected.
- 24 From the *Operator* drop-down menu, select *Greater than or equal to*.
- 25 In the *Value* field, enter `4.1.25`.

In this example, you are specifying that you want this package to be detected and not installed if the value is greater than or equal to 4.1.25. This value can be found by right-clicking the Agent in Programs and Features and then selecting either the *Uninstall* or *Change* menu options.

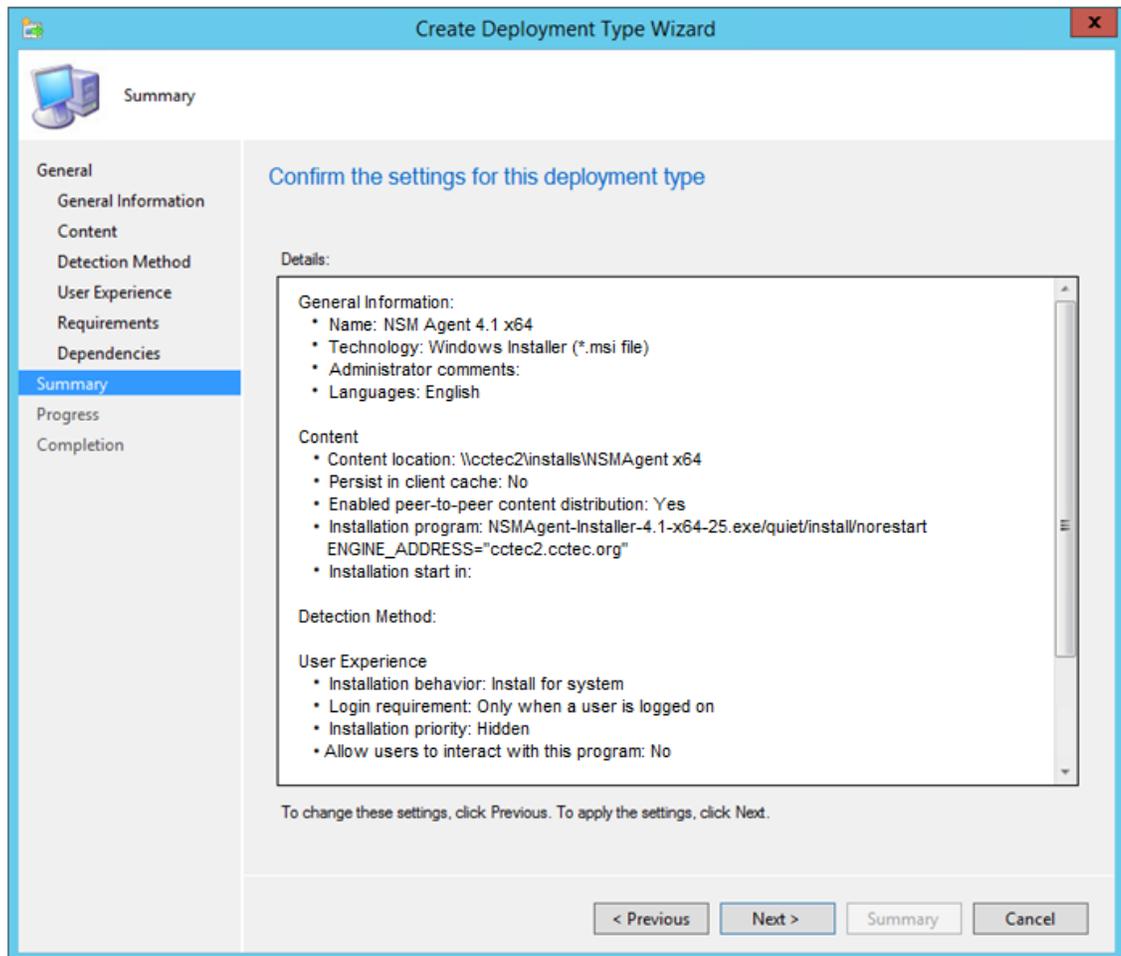


26 Click OK.

27 In the Specify user experience settings for the application page, make the following recommended settings:



- 28 Click *Next*.
- 29 Click *Next*.
- 30 Click *Next*.
- 31 Confirm the settings that are displayed.



32 Click *Next*.

33 When notified that the Create Deployment Type Wizard completed successfully, click *Close*.

C Documentation Updates

This section contains information about documentation content changes that were made in this *Novell Storage Manager 4.1 for Active Directory Installation Guide* after the initial release of Novell Storage Manager 3.0 for Active Directory. The changes are listed according to the date they were published.

The documentation for this product is provided on the Web in two formats: HTML and PDF. The HTML and PDF documentation are both kept up-to-date with the changes listed in this section.

If you need to know whether a copy of the PDF documentation that you are using is the most recent, the PDF document includes a publication date on the title page.

The documentation was updated on the following dates:

C.1 September 10, 2015

Updates were made to the following sections:

Location	Update Description
Section 1.2, "File Server Resource Manager," on page 8.	Inserted a new Note.
Section 4.13, "Installing NSMAdmin," on page 65.	Inserted a new Important message about the new database requirements detailed in NSMAdmin Database User Setup of the <i>Novell Storage Manager 4.1 for Active Directory Administration Guide</i> .
Section 5.10, "Installing NSMAdmin," on page 95.	Inserted a new Important message about the new database requirements detailed in NSMAdmin Database User Setup of the <i>Novell Storage Manager 4.1 for Active Directory Administration Guide</i> .
Installation requirements for the NSM Engine, Event Monitor, and Agents.	Deleted references to DC Servers being capable of hosting these components.

C.2 October 7, 2014

Updates were made to the following sections:

Location	Update Description
Chapter 3, "Installing and Configuring SQL Server," on page 17.	New section.
Chapter 4, "Migrating from Novell Storage Manager 3.x for Active Directory," on page 35.	New section.
Chapter 5, "Installing Novell Storage Manager 4.1 for Active Directory," on page 69.	Updated procedures.

Location	Update Description
Appendix A, "Deploying Event Monitors and NSM Agents Remotely by Using the DeployAgents Tool," on page 99.	Updated procedures.
Appendix B, "Deploying Windows Agents Remotely Using Microsoft System Center Configuration Manager," on page 103.	New section.

C.3 October 17, 2013

Updates were made to the following sections:

Location	Update Description
Section 1.4, "Verifying Proper Configurations and Rights," on page 11.	New section.
Section 5.3, "Installing the NSM Engine," on page 70.	Removed bullet specifying Windows hotfix needed for Windows Server 2008 R2.
Chapter 5, "Installing Novell Storage Manager 4.1 for Active Directory," on page 69.	Removed bullet specifying Windows hotfix needed for Windows Server 2008 R2.

C.4 June 12, 2013

Updates were made to the following sections:

Location	Update Description
Section 1.2.1, "Installing File Server Resource Manager," on page 8.	Added support for Windows Server 2012.
Chapter 4, "Migrating from Novell Storage Manager 3.x for Active Directory," on page 35.	New chapter.
Appendix A, "Deploying Event Monitors and NSM Agents Remotely by Using the DeployAgents Tool," on page 99.	New section.

C.5 February 13, 2013

Updates were made to the following sections:

Location	Update Description
Chapter 5, "Installing Novell Storage Manager 4.1 for Active Directory," on page 69.	Added a requirement for the .NET 4.0 (Full) Framework for the NSM Engine, Event Monitor, NSM Agent, and NSMAdmin.
Section 5.3, "Installing the NSM Engine," on page 70.	Removed a reference to the NSM Engine being supported on a server with an x86 processor.

C.6 January 18, 2013

Updates were made to the following sections:

Location	Update Description
Multiple locations throughout the manual.	Changed references of 3.0.x to 3.1.
Appendix A, "Deploying Event Monitors and NSM Agents Remotely by Using the DeployAgents Tool," on page 99	New appendix.

C.7 May 18, 2012

Updates were made to the following sections:

Location	Update Description
Section 5.3, "Installing the NSM Engine," on page 70.	New steps.
Chapter 5, "Installing Novell Storage Manager 4.1 for Active Directory," on page 69.	New steps.

C.8 February 2, 2012

Updates were made to the following section:

Location	Update Description
Throughout the manual.	Changed 3.0.2 to 3.0.x.

C.9 March 16, 2011

Updates were made to the following section:

Location	Update Description
Chapter 5, "Installing Novell Storage Manager 4.1 for Active Directory," on page 69.	The step requiring that Full Control security privileges to the FSFProxyRights group for each share that File System Factory for AD will manage, was removed because this step is now automated.

C.10 February 14, 2011

Updates were made to the following section:

Location	Update Description
Section 2.1, "Licensing Overview," on page 13	Overview of license types and the features and capabilities enabled in each.
