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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 Micro Focus Storage Manager 5.2 for Active Directory.

- Chapter 1, “Prerequisites,” on page 7
- Chapter 2, “Licensing the Product,” on page 13
- Chapter 3, “Installing and Configuring an SQL Server Instance,” on page 17
- Chapter 4, “Migrating from Storage Manager 3.1.1,” on page 35
- Chapter 5, “Upgrading from Storage Manager 4.x for Active Directory to 5.2,” on page 61
- Chapter 6, “Upgrading from Storage Manager 5.x for Active Directory to 5.2,” on page 75
- Chapter 7, “Installing Storage Manager 5.2 for Active Directory,” on page 89
- Appendix A, “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 Micro Focus Storage Manager 5.2 for Active Directory Installation Guide, visit the Micro Focus Storage Manager Web site (http://www.novell.com/documentation/storagemanager5/index.html).

Additional Documentation

For additional Micro Focus Storage Manager documentation, see the following guide at the Micro Focus Storage Manager Documentation Web site (http://www.novell.com/documentation/storagemanager5/index.html):

- Micro Focus Storage Manager 5.2 for Active Directory Administration Guide
1 Prerequisites

This section provides procedures that you must do before installing the Micro Focus Storage Manager 5.2 for Active Directory components.

- Section 1.1, “Folder Redirection and DNS Names,” on page 7
- Section 1.2, “File Server Resource Manager,” on page 7
- Section 1.3, “Active Directory Schema,” on page 9
- Section 1.4, “Verifying Proper Configurations and Rights,” on page 10
- Section 1.5, “What’s Next,” on page 10

1.1 Folder Redirection and DNS Names

Storage Manager 5.2 exclusively uses DNS Fully Distinguished Names (FDNs) for server names in all UNC paths set in and by Storage Manager. This is a change from Storage Manager 3.x and earlier, where NetBIOS names were used (although a config file-only option to use DNS names existed in 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](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 Storage Manager issue per se, Storage Manager'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 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. Storage Manager uses File Server Resource Manager to enable quota management.
Prerequisites

NOTE: You must install FSRM on all servers where Storage Manager will be managing quotas, including the server that will host the Engine. Even if the Engine host does not contain shares that will be managed, FSRM is still required 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 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.
7. Select the File Server Resource Manager check box.
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, Storage Manager extends the Active Directory schema to enable Storage Manager attributes. These attributes are specified in “Active Directory Schema Extensions” in the Micro Focus Storage Manager 5.2 for Active Directory Administration Guide.

NOTE: If your 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 `SM-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.

   ![Windows console application]

   4. Type `Y` to extend the schema.

### 1.4 Verifying Proper Configurations and Rights

In some cases, you might find that you are unable to install a Storage Manager component because of an improper configuration or rights setting. Micro Focus recommends that you review the following sections in the *Micro Focus Storage Manager 5.2 for Active Directory Administration Guide* and make any needed adjustments before proceeding:

- “Windows Firewall Requirements”
- “LSA Rights and Privileges”
- “ProxyRights Group Permissions”

### 1.5 What’s Next

If you are upgrading your Storage Manager 3.x for Active Directory environment to Storage Manager 5.2 for Active Directory:

1. Proceed with Chapter 4, “Migrating from Storage Manager 3.1.1,” on page 35.

2. Then conclude with Chapter 5, “Upgrading from Storage Manager 4.x for Active Directory to 5.2,” on page 61.
If you are upgrading from Storage Manager 4.x to 5.2:

2. Follow the procedures in Chapter 5, “Upgrading from Storage Manager 4.x for Active Directory to 5.2,” on page 61.

If you are upgrading from Storage Manager 5.x to 5.2:

1. Follow the procedures in Chapter 6, “Upgrading from Storage Manager 5.x for Active Directory to 5.2,” on page 75.

If you are installing Storage Manager:

2. Follow the procedures in Chapter 3, “Installing and Configuring an SQL Server Instance,” on page 17 to install an SQL Server instance that Storage Manager supports.
3. Complete the installation by following the procedures in Chapter 7, “Installing Storage Manager 5.2 for Active Directory,” on page 89.
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 16

2.1 Licensing Overview

Micro Focus Storage Manager has four license types:

<table>
<thead>
<tr>
<th>License Type</th>
<th>Target Consumer</th>
<th>Intended Use</th>
</tr>
</thead>
<tbody>
<tr>
<td>Evaluation</td>
<td>Customers</td>
<td>Allows customers to develop and understand the power of the product.</td>
</tr>
<tr>
<td>Production</td>
<td>Customers</td>
<td>Allows customers to create and run a policy-based infrastructure in production in their environment.</td>
</tr>
<tr>
<td>Production + eDirectory to AD Cross-Empire Data Migration</td>
<td>Customers</td>
<td>Allows for the migration of data from a Micro Focus (formerly Novell) file system to a Windows file system and then create and run a policy-based infrastructure in production in their Windows network environment.</td>
</tr>
<tr>
<td>Production + AD to AD Cross-Empire Data Migration</td>
<td>Customers</td>
<td>Allows for the migration of data from one Active Directory forest to another and then create and run a policy-based infrastructure in production in their Windows network environment.</td>
</tr>
</tbody>
</table>

The following table includes a comparison of features enabled in evaluation and production license types:

<table>
<thead>
<tr>
<th>Feature</th>
<th>Evaluation License</th>
<th>Production License</th>
</tr>
</thead>
<tbody>
<tr>
<td>Consistency Check Reports</td>
<td>Limited to 100 objects in a report</td>
<td>Yes</td>
</tr>
<tr>
<td>Anomaly Reports</td>
<td>Limited to 100 rows in a report</td>
<td>Yes</td>
</tr>
<tr>
<td>Trustee Reports</td>
<td>No</td>
<td>Yes</td>
</tr>
<tr>
<td>Policy Path Reporter (integrated with Micro Focus File Reporter)</td>
<td>Limited to 100 rows in a report</td>
<td>Yes</td>
</tr>
<tr>
<td>Data Migration</td>
<td>No</td>
<td>Yes</td>
</tr>
<tr>
<td>Redistribution</td>
<td>No</td>
<td>Yes</td>
</tr>
<tr>
<td>Managed Objects</td>
<td>Limited to 100 concurrent objects</td>
<td>Yes</td>
</tr>
</tbody>
</table>
### 2.2 Obtaining a License File

Micro Focus Storage Manager requires a production license file or evaluation license file that you obtain from Micro Focus.

1. In a web browser, go to [www.storagemanagersupport.com](http://www.storagemanagersupport.com).
2. On the top banner of the web page, click **License**.

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

<table>
<thead>
<tr>
<th>Feature</th>
<th>Evaluation License</th>
<th>Production License</th>
</tr>
</thead>
<tbody>
<tr>
<td>Manage Operations</td>
<td>Check mode can be run for multiple objects simultaneously, but management action can be taken for only one object at a time.</td>
<td>Yes</td>
</tr>
<tr>
<td>Action Object Support</td>
<td>No</td>
<td>Yes</td>
</tr>
</tbody>
</table>
Complete the fields and click **Submit**.

An e-mail from Storage Manager Support is automatically sent to you with an embedded link for accessing the license.
4 In the email, click Download License File. A new Access web page is opened.

5 From the Access page, select the listed license file and click the arrow icon to download the license.

6 Note where the license file is saved. You need the license file to complete Engine setup wizard.

### 2.3 Updating a License File

After you have installed Micro Focus Storage Manager 5.2 for Active Directory, you can update your evaluation license or production license by simply replacing the old license file with the new one. You must first rename the new license file to SM.LIC. For more information, see Section 7.4, “Installing the License,” on page 91.
3 Installing and Configuring an SQL Server Instance

This section provides procedures for installing a Microsoft SQL Server instance with the settings needed to support Micro Focus Storage Manager 5.2 for Active Directory.

Storage Manager 5.2 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 Storage Manager 3.x for Active Directory to Version 5.2, in Chapter 4 the Database Configuration Wizard will guide you through the migration of your database content from SQLite to SQL Server.

**IMPORTANT:** SQL Server is a fully-featured database service, and as such requires installation and maintenance planning before deployment. While a complete analysis of this maintenance is beyond the scope of this product's documentation, we strongly recommend that you review Microsoft's SQL Server documentation to plan for separation of data and transaction logs, regular database backups, and transaction log and data growth.

**NOTE:** Storage Manager 5.2 for Active Directory supports all versions of SQL Server 2012, 2014, and 2016, 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 18
- Section 3.3, “Install a New Instance of SQL Server,” on page 25
- Section 3.4, “SQL Server Post Configuration Considerations,” on page 32

### 3.1 Determine Which Version of SQL Server to Use


**IMPORTANT:** We do not recommend that you install the 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 server. You can download Express from Microsoft (SQL Express 2012), (SQL Express 2014). (We recommend SQLEXPRWT_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.

![SQL Server Installation Center](image)

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. In the Feature Selection page, select the appropriate instance features and the location for the instance data and click Next.
On 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 Engine is installed.

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

12 Click OK.

13 Click Next.

14 In the Database Engine Configuration page, select the Mixed Mode (SQL Server authentication and Windows authentication) option, enter and confirm a SQL Server administrator password, then click Add Current User.

Storage Manager does not support Windows authentication mode (also known as Integrated Security).
15 Click Next.
16 In the Error Reporting page, click Next.
17 In the Complete page, click Close.
18 Launch SQL Server Configuration Manager.
19 In the left pane, expand SQL Server Network Configuration.
20 Click Protocols for SQLEXPRESS.
21 In the right pane, right-click TCP/IP and select Enable.
22 In the warning dialog box, click OK.
23 Right-click TCP/IP again and select Properties.
24 In the TCP/IP Properties dialog box, click the IP Addresses tab.

25 Select TCP Dynamic Ports and clear the field so there is no number associated to it.
26 Select TCP Port and enter 1433.
27 Click Apply.
28 When the warning dialog box appears, click OK.
29 Click OK to close the TCP/IP Properties page.
30 In the SQL Server Configuration Manager, click SQL Server Services.
31 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. Launch the Microsoft SQL Server installation file, `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.
7 If there are any errors, address them accordingly, then click **Next**.

8 In the Setup Role page, select **SQL Server Feature Installation** and click **Next**.
9 In the Feature Selection page, select the appropriate instance features and the location for the instance data and click Next.
The Feature Rules operation is run. If there are any errors, address them accordingly.

10 In the Instance Configuration page, specify a named instance and click Next.
11 In the Server Configuration page, click the Collation tab.
12 Click Customize.

13 Click the Windows collation designator and sort order option.
14 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 Engine is installed.

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

15 Click **OK**.

16 Click **Next**.

17 In the Database Engine Configuration page, select the **Mixed Mode (SQL Server authentication and Windows authentication)** option, enter and confirm a SQL Server administrator password, then click **Add Current User**.

   Storage Manager does not support Windows authentication mode (also known as Integrated Security).
18 Click Next.
19 In the Ready to Install page, click Install.
20 When the installation has completed, click Close to close the wizard.
21 See Section 3.4, "SQL Server Post Configuration Considerations," on page 32 or possible adjustments to the newly created SQL Server instance.

3.4 SQL Server Post Configuration Considerations

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

- The SQL Server service must be listening via TCP/IP v4, because the Engine requires TCP/IP via port number 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 Storage Manager 3.1.1

- Section 4.1, “Prerequisites,” on page 35
- Section 4.2, “Understanding the Migration Process,” on page 35
- 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 NSMAdmin,” on page 57
- Section 4.12, “Review Migrated Policies,” on page 59
- Section 4.13, “Upgrading to Storage Manager 5.2,” on page 59

IMPORTANT: There is no direct upgrade path from Storage Manager 3.1.1 to 5.2. You must upgrade in two phases 1) From 3.1.1 to 4.1 and 2) From 4.1 to 5.2.

You will need a Storage Manager 4 license. Since only an evaluation one is needed, you can request one at http://www.storagemanagersupport.com.

Once you have completed this section, you should proceed with Chapter 5, “Upgrading from Storage Manager 4.x for Active Directory to 5.2,” on page 61.

Use the procedures in this section to migrate your deployment of Novell Storage Manager 3.1.1 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 Storage Manager 4 for Active Directory license, and installed an SQL Server instance as specified in Chapter 3: Chapter 3, “Installing and Configuring an SQL Server Instance,” on page 17.

4.1 Prerequisites

If your 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 4.x Engine
- Installing the license
Your options for migration can be either installing the components on the same server where the 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 Engine, copy to a directory the NSM-AD_4.1.iso file that was made available to you following your purchase of Storage Manager 4.1 for Active Directory.
3. Note the location of the mounted ISO.
   This is the installation source you will use to install Storage Manager 4.1 for Active Directory components.

4.4 Stopping and Disabling Components

Since Storage Manager 4.1 components use the same port settings as the 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

2. Right-click Novell Storage Manager Event Monitor and select Stop.
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 7.
- 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.
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.
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.
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.
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 NSMAdmin,” on page 57.

### 4.11 Installing NSMAdmin

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

- Windows 8
- Windows 7
- Windows Vista
IMPORTANT: Novell Storage Manager 4.x introduces new database requirements for NSMAdmin. For details and requirements, see SMAdmin 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.


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.

4.12 **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.

4.13 **Upgrading to Storage Manager 5.2**

Now that you have upgraded to Storage Manager 4.0, you can upgrade to Storage Manager 5.2. For procedures, see Chapter 5, "Upgrading from Storage Manager 4.x for Active Directory to 5.2," on page 61.
5 Upgrading from Storage Manager 4.x for Active Directory to 5.2

IMPORTANT: With the release of Storage Manager 5.0, Micro Focus began providing the eDirectory to Active Directory Cross-Empire Data Migration and the new Active Directory to Active Directory Cross-Empire Data Migration subsystems only as additive support pack purchases to Storage Manager.

For example, if you want to migrate user data from OES to Microsoft, you need to purchase licenses for Storage Manager 5.2 for Active Directory + the eDirectory to Active Directory Cross-Empire Data Migration support pack.

If you are in the process of migrating data from a Novell network to a Microsoft network using Cross-Empire Data Migration (which was included in Storage Manager 4.x for Active Directory), do not upgrade to version 5.2 until you have completed your migration to Microsoft.

The upgrade from Storage Manager 4.x for Active Directory to Storage Manager 5.2 for Active Directory should be performed as an in-place upgrade.

By following the procedures in this chapter, you will be installing the new Micro Focus Engine, Event Monitor, and Agent paths while deleting the old Novell paths. Additionally, you will be installing the new SMAdmin management application.

NOTE: The Storage Manager 4.x and 5.0 Agents are not compatible with the Storage Manager 5.2 Engine. If you’d like to take advantage of the faster data copying feature in Agents, you will need to upgrade them.

Storage Manager 5.2 requires that you replace NSMAdmin 4.x with SMAdmin 5.2.

- Section 5.1, “Upgrading the Engine,” on page 61
- Section 5.2, “Configuring the Database,” on page 63
- Section 5.3, “Configuring the Engine,” on page 66
- Section 5.4, “Upgrading the Event Monitor,” on page 69
- Section 5.5, “Upgrading an Agent,” on page 71
- Section 5.6, “Installing SMAdmin,” on page 72
- Section 5.7, “Removing NSMAdmin,” on page 73
- Section 5.8, “(Conditional) Install CouchDB,” on page 73
- Section 5.9, “Administering Storage Manager,” on page 74

5.1 Upgrading the Engine

1. At the root of the SM-AD_5_2_0.iso image, double-click SMEngine-Installer-5.2-x64-xx.exe.
2. When asked if you want to run this file, click Run.
3. Agree to the licensing terms and conditions, then click Install.
4 When you are notified that the setup was successful, click Run Setup Utility. The Engine Configuration Wizard is launched.

5 Click Next.

6 In the next page, select the Migrate Existing NSM Engine configuration data check box.

7 Leave the Delete existing NSM Engine configuration data check box selected.
8 Click Next.

9 When notified that the Engine configuration data migration is complete, click Finish.

   The Storage Manager Configuration Utility is launched.

10 Click Install or Update License.

11 When prompted, load the Storage Manager 5.x license.

### 5.2 Configuring the Database

As part of the upgrade process, you must configure the database to extend the database schema.

1 In the Configuration Utility, click Configure Database.

2 If you are asked if you want to stop the Engine, click Yes.

   The following page appears:
3 From the wizard page, read the overview of what will be configured, then click Next.
4 In the **Password** field of the **Database Admin Credentials** region, specify the SQL Server administrator password, then click **Next**.
5 Click Finish.

5.3 Configuring the Engine

1 In the Configuration Utility, click Configure Engine.
2 From the wizard page, read the overview of what will be configured, then click Next.
3 In the Basic Options page of the wizard, edit any needed parameters settings and click Next.
Storage Manager 5.2 utilizes the existing proxy account and proxy rights group.

4. Click Next.
Storage Manager 5.2 utilizes the existing admins group.

5 Click Next.
Upgrading from Storage Manager 4.x for Active Directory to 5.2

5.4 Upgrading the Event Monitor

1. At the root of the SM-AD_5_2_0.iso image, double-click SMEventMonitor-Installer-5.2-x64-xx.exe.
2. When asked if you want to run this file, click Run.
3. Agree to the licensing terms and conditions, then click Install.
4. When you are notified that the setup was successful, click Run Setup Utility.
   The Event Monitor Configuration Wizard is launched.
5. Read the overview and click Next.
6. In the next page, select the Migrate Existing NSM Event Monitor configuration data check box.
7. Leave the Delete existing NSM Event Monitor configuration data check box selected.

Storage Manager 5.2 utilizes the existing Proxy Home share.
6. Click Next.
7. Click Finish.
8 Click Next.
9 Accept the default path for the data folder by clicking Next.
10 Accept the Engine connection parameters by clicking Next.
11 Click Finish.

5.5 Upgrading an Agent

1 At the root of the SM-AD_5_2_0.iso image, double-click SMAgent-Installer-5.2-x64-xx.exe.
2 When asked if you want to run this file, click Run.
3 Agree to the licensing terms and conditions, then click Install.
4 When you are notified that the setup was successful, click Run Setup Utility.
   The Agent Configuration Wizard is launched.
5 Read the overview and click Next.
6 In the next page, select the Migrate Existing NSM Agent configuration data check box.
7 Leave the Delete existing NSM Agent configuration data check box selected.
8 Click Next.
9 Accept the configuration HTTP listener and SSL certificate settings and click Next.
10 Accept the Engine connection parameters by clicking Next.
11 Click Finish.

5.6 Installing SMAdmin

1 On the Windows server or workstation where you will run SMAdmin, copy to a directory the SM-AD_5_2_0.iso.
2 Mount the SM-AD_5_2_0.iso file.
3 At the root of the SM-AD_5_2_0.iso image, double-click SMAdmin-AD-Installer-5.2-xxx.exe.
4 When 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 Admin Client.
   The SMAdmin login dialog box appears.
7 In the **Engine** field, specify the DNS name or IP address.

8 In the **Port** field, specify the secure port number.
   The default setting is 3009.

9 Specify the username and password.
   The user must be a member of the nsmadms group to be able to log in.

10 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**.

5.7 **Removing NSMAdmin**

With SMAdmin installed, you should remove NSMAdmin 4.x, as you will not be able to use it to manage Storage Manager 5.2.

5.8 **(Conditional) Install CouchDB**

Storage Manager 5.2 includes an optional Work Log that when enabled, maintains a history of Storage Manager policy-enacted events. Data from the Work Log can be used for tracking historical events. For an expanded discussion of the Work Log, see Work Log Reports in the *Micro Focus Storage Manager 5.2 Administration Guide*.

The Work Log exclusively utilizes Apache CouchDB, an open source NoSQL database. You can deploy CouchDB on the Engine host, a separate server within the on-premises network, or in the cloud.

You can download CouchDB at: [http://couchdb.apache.org/](http://couchdb.apache.org/), which also includes product documentation.
5.9 Administering Storage Manager

You have now completed the upgrade to Storage Manager 5.2 for Active Directory. For administration procedures, refer to the *Micro Focus Storage Manager 5.2 for Active Directory Administration Guide*. 
Upgrading from Storage Manager 5.x for Active Directory to 5.2

The upgrade from Storage Manager 5.x for Active Directory to Storage Manager 5.2 for Active Directory is performed as an in-place upgrade.

By following the procedures in this chapter, you will configure the database, configure the Engine, upgrade the Event Monitor, upgrade the Agents, and update SMAdmin.

**NOTE:** The Storage Manager 4.x and 5.2 Agents are not compatible with the Storage Manager 5.2 Engine. If you’d like to take advantage of the faster data copying feature in Agents, you will need to upgrade them.

Storage Manager 5.2 requires that you replace SMAdmin 5.x with SMAdmin 5.2.

- Section 6.1, “Configuring the Database,” on page 75
- Section 6.2, “Configuring the Engine,” on page 79
- Section 6.3, “Upgrading the Event Monitor,” on page 82
- Section 6.4, “Upgrading an Agent,” on page 84
- Section 6.5, “Update SMAdmin,” on page 86
- Section 6.6, “(Conditional) Install CouchDB,” on page 87
- Section 6.7, “Administering Storage Manager,” on page 87

### 6.1 Configuring the Database

1. At the root of the SM-AD_5_2_0.iso image, double-click SMEngine-Installer-5.2-x64-xx.exe.
2. When asked if you want to run this file, click Run.
3. Agree to the licensing terms and conditions, then click Install.
4. When you are notified that the setup was successful, click Run Setup Utility.
   The Configuration Utility is launched.
5 Click **Configure Database**.

6 When asked if you want to stop the Engine, click **Yes**.

The following page appears:
7 From the wizard page, read the overview of what will be configured, then click Next. The following page appears:
8 In the Password field of the Database Admin Credentials region, specify the SQL Server administrator password, then click Next.
6.2 Configuring the Engine

1. In the Configuration Utility, click Configure Engine.
2. From the wizard page, read the overview of what will be configured, then click Next.
3. In the Basic Options page of the wizard, edit any needed parameters settings and click Next.

9 Click Finish.
Storage Manager 5.2 utilizes the existing proxy account and proxy rights group.

4. Click Next.
Storage Manager 5.2 utilizes the existing admins group.

5 Click Next.
Storage Manager 5.2 utilizes the existing Proxy Home share.

6. Click Next.
7. Click Finish.

6.3 Upgrading the Event Monitor

1. At the root of the SM-AD_5_2_0.iso image, double-click SMEventMonitor-Installer-5.2-x64-xx.exe.
2. When asked if you want to run this file, click Run.
3. Agree to the licensing terms and conditions, then click Install.
4. When you are notified that the setup was successful, click Run Setup Utility.
5. The Event Monitor Configuration Wizard is launched.
6. Read the overview and click Next.
6 The default path of the Data Folder is displayed, which you can edit. The Data folder contains application data needed by Storage Manager.

7 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.

8. Enter the Engine connection settings and click Next.

9. Click Finish.

### 6.4 Upgrading an Agent

1. At the root of the SM-AD_5_2_0.iso image, double-click SMAgent-Installer-5.2-x64-xx.exe.

2. When asked if you want to run this file, click Run.

3. Agree to the licensing terms and conditions, then click Install.

4. When you are notified that the setup was successful, click **Run Setup Utility**.

   The Agent Configuration Wizard is launched.

5. Read the overview and click Next.
6 Edit any needed parameters settings and click Next.
7 Click Next.
8 Click Finish.

6.5 Update SMAdmin

1 On the Windows server or workstation where you will run SMAdmin, copy to a directory the SM-AD_5_2_0.iso.
2 Mount the SM-AD_5_2_0.iso file.
3 At the root of the SM-AD_5_2_0.iso image, double-click SMAdmin-AD-Installer-5.2-xx.exe.
4 When 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 Admin Client.
   The SMAdmin login dialog box appears.
7 In the Engine field, specify the DNS name or IP address.
8 In the Port field, specify the secure port number.
   The default setting is 3009.
9 Specify the username and password.
   The user must be a member of the nsmadmins group to be able to log in.
10 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.

6.6 (Conditional) Install CouchDB

Storage Manager 5.2 includes an optional Work Log that when enabled, maintains a history of Storage Manager policy-enacted events. Data from the Work Log can be used for tracking historical events. For an expanded discussion of the Work Log, see Work Log Reports in the Micro Focus Storage Manager 5.2 Administration Guide.

The Work Log exclusively utilizes Apache CouchDB, an open source NoSQL database. You can deploy CouchDB on the Engine host, a separate server within the on-premises network, or in the cloud.

You can download CouchDB at: http://couchdb.apache.org/, which also includes product documentation.

6.7 Administering Storage Manager

You have now completed the upgrade to Storage Manager 5.2 for Active Directory. For administration procedures, refer to the Micro Focus Storage Manager 5.2 for Active Directory Administration Guide.
Installing Storage Manager 5.2 for Active Directory

This section provides procedures for installing and configuring the Engine, database, Event Monitor, Agents, and the SMAdmin administrative utility. For information on how these components work in a Storage Manager deployment, see Chapter 2 “Overview” in the Micro Focus Storage Manager 5.2 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, obtained a Storage Manager 5.x for Active Directory product license as indicated in Chapter 2, “Licensing the Product,” on page 13, and installed an SQL Server instance as specified in Chapter 3, “Installing and Configuring an SQL Server Instance,” on page 17.

- Section 7.1, “Performing Installation Tasks as a Domain Administrator,” on page 89
- Section 7.2, “Accessing the Product Contents,” on page 90
- Section 7.3, “Installing the Engine,” on page 90
- Section 7.4, “Installing the License,” on page 91
- Section 7.5, “Configuring the Database,” on page 92
- Section 7.6, “Configuring the Engine,” on page 95
- Section 7.7, “Setting Rights and Privileges on Managed Storage,” on page 101
- Section 7.8, “Installing and Configuring the Event Monitor,” on page 105
- Section 7.9, “Installing and Configuring the Agents,” on page 109
- Section 7.10, “Installing SMAdmin,” on page 113
- Section 7.11, “Authorizing the Event Monitor,” on page 114
- Section 7.12, “Authorizing the Agents,” on page 114
- Section 7.13, “(Conditional) Install CouchDB,” on page 115
- Section 7.14, “Administering Storage Manager,” on page 115

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

7.1 Performing Installation Tasks as a Domain Administrator

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

1. On the Windows server that will host the Engine, copy to a directory the SM-AD_5_2_0.iso file that was made available to you following your purchase of Micro Focus Storage Manager 5.2 for Active Directory.

2. Mount the SM-AD_5_2_0.iso file.

3. Note the location of the mounted ISO.
   This is the location of the mounted ISO.
   This is the installation source you will use to install Storage Manager 5.2 for Active Directory components.

7.3 Installing the Engine

Storage Manager uses only one Engine per forest. The Engine can be installed on host server that meets the following minimum requirements:

- Microsoft Windows Server 2016 (Member Server)
- 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 7.
- Forest functional level of Windows Server 2003 or later

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
- The firewall inbound rule is added during the Engine installation

1. At the root of the SM-AD_5_2_0.iso image, double-click SMEngine-Installer-5.2-x64-xxx.exe.

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

3. Agree to the licensing terms and conditions and click Install.

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

5. Accept the installation path or indicate a new path by using the Browse button.
7.4 Installing the License

1 In the Configuration Utility, click **Install or Update License**.

   The License dialog box appears.

   If no license is found, the license properties will be empty.
2 Click Load License, then browse to and select the license file.
3 When the confirmation prompt appears, click Yes.
4 Examine the license properties to ensure that the license is valid.
5 Click Close.

### 7.5 Configuring the Database

1 In the Configuration Utility, 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:
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 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.

### 7.6 Configuring the Engine

1. In the Configuration Utility, 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.

3 Edit any needed parameters settings and click Next.
This page lets you establish a name for the proxy account and proxy rights group. 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. 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.


7.7 Setting Rights and Privileges on Managed Storage

Micro Focus 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 Storage Manager on each server where storage will be managed.
7.7.1 Granting Rights

Every share to be managed by Storage Manager must have proper rights assigned to the smproxyrights 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 smproxyrights group for each share that Storage Manager will manage.
3. Do one of the following:
   - If you are proxying storage on a member server, go to Section 7.7.2, “Granting Privileges on a Member Server,” on page 102.
   - If you are proxying storage on a domain controller, go to Section 7.7.3, “Granting Privileges on a Domain Controller,” on page 103.

7.7.2 Granting Privileges on a Member Server

Every server that has storage managed by Storage Manager must have certain privileges granted to the smproxyrights 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.
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\smproxyrights.
10 Click OK to save the setting.
11 Proceed with Section 7.8, “Installing and Configuring the Event Monitor,” on page 105.

7.7.3 Granting Privileges on a Domain Controller

Every server that has storage managed by Storage Manager must have certain privileges granted to the smproxyrights 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: smproxyrights
8 Click Check Names.

9 Click OK.

10 Click OK.
7.8 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 2016 (Member Server)
- 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 SM-AD_5_2_0.iso.
2. Mount the SM-AD_5_2_0.iso file.
3. At the root of the SM-AD_5_2_0.iso image, double-click SMEventMonitor-Installer-5.2-x64-xxx.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.
7 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 Storage Manager.

8 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.

9 Enter the Engine connection settings and click Next.
10 Click Finish.
The Event Monitor is now installed and running. You must still authorize it using SMAdmin. For procedures, see Section 7.11, “Authorizing the Event Monitor,” on page 114.

11 Proceed with Section 7.9, “Installing and Configuring the Agents,” on page 109.

7.9 Installing and Configuring the Agents
An Agent can be installed on a Windows Server machine that meets the following minimum requirements:

- Microsoft Windows Server 2016 (Member Server)
- 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 SM-AD_5_2_0.iso.
2 Mount the SM-AD_5_2_0.iso file.
3 At the root of the SM-AD_5_2_0.iso image, double-click SMAgent-Installer-5.2-x64-xxx.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.

7 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.

8 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.

9 Enter the Engine connection settings and click **Next**.
10 Click Finish.

11 The Agent is now installed, configured, and running. You must still authorize it using SMAdmin. For procedures, see Section 7.12, “Authorizing the Agents,” on page 114.

12 Proceed with Section 7.10, “Installing SMAdmin,” on page 113.

7.10 Installing SMAdmin

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

- Windows 10, 8, or 7

1 On the Windows server or workstation where you will run SMAdmin, copy to a directory the SM-AD_5_2_0.iso.

2 Mount the SM-AD_5_2_0.iso file.

3 At the root of the SM-AD_5_2_0.iso image, double-click SMAdmin-AD-Installer-5.2-xxx.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 Admin Client.

The SMAdmin login dialog box appears.
7 In the **Engine** field, specify the DNS name or IP address.

8 In the **Port** field, specify the secure port number.
   The default setting is 3009.

9 Specify the username and password.
   The user must be a member of the smadmins group to be able to log in.

10 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**.

11 Proceed with Section 7.11, “Authorizing the Event Monitor,” on page 114.

### 7.11 Authorizing the Event Monitor

1 In SMAadmin, click **Event Monitors**.
2 Select the listed Event Monitor.
3 Click **Authorize**.
4 When you are asked if you want to authorize the selected Event Monitor, click **Yes**.
5 When the Results page appears, click **Close**.
6 Proceed with Section 7.12, “Authorizing the Agents,” on page 114.

### 7.12 Authorizing the Agents

1 Click **Agent Servers**.
2 Select a listed Agent.
3 Click **Authorize**.
4 When you are asked if you want to authorize the selected Agent click **Yes**.
You can select multiple Agents and authorize them at the same time.

5. When the Results page appears, click Close.

7.13  **(Conditional) Install CouchDB**

Storage Manager 5.2 includes an optional Work Log that when enabled, maintains a history of Storage Manager policy-enacted events. Data from the Work Log can be used for tracking historical events. For an expanded discussion of the Work Log, see Work Log Reports in the *Micro Focus Storage Manager 5.2 Administration Guide*.

The Work Log exclusively utilizes Apache CouchDB, an open source NoSQL database. You can deploy CouchDB on the Engine host, a separate server within the on-premises network, or in the cloud.

You can download CouchDB at: [http://couchdb.apache.org/](http://couchdb.apache.org/), which also includes product documentation.

7.14  **Administering Storage Manager**

You have now completed the installation of Storage Manager 5.2 for Active Directory. For administration procedures, refer to the *Micro Focus Storage Manager 5.2 for Active Directory Administration Guide*. 
Documentation Updates

This section contains information about documentation content changes that were made in this *Micro Focus Storage Manager 5.2 for Active Directory Installation Guide* after the initial release of 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:

**A.1 May 16, 2017**

Updates were made to the following sections:

<table>
<thead>
<tr>
<th>Location</th>
<th>Update Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Section 5.8, &quot;(Conditional) Install CouchDB,&quot; on page 73.</td>
<td>New section.</td>
</tr>
<tr>
<td>Section 6.6, &quot;(Conditional) Install CouchDB,&quot; on page 87.</td>
<td>New section.</td>
</tr>
</tbody>
</table>

**A.2 December 13, 2016**

Updates were made to the following sections:

<table>
<thead>
<tr>
<th>Location</th>
<th>Update Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chapter 6, &quot;Upgrading from Storage Manager 5.x for Active Directory to 5.2,&quot; on page 75.</td>
<td>New section.</td>
</tr>
</tbody>
</table>

**A.3 August 16, 2016**

Updates were made to the following sections:

<table>
<thead>
<tr>
<th>Location</th>
<th>Update Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chapter 4, &quot;Migrating from Storage Manager 3.1.1,&quot; on page 35.</td>
<td>Procedures throughout this chapter were corrected.</td>
</tr>
</tbody>
</table>
## A.4 July 19, 2016
Updates were made to the following sections:

<table>
<thead>
<tr>
<th>Location</th>
<th>Update Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chapter 5, “Upgrading from Storage Manager 4.x for Active Directory to 5.2,” on page 61.</td>
<td>New section.</td>
</tr>
</tbody>
</table>

## A.5 October 7, 2014
Updates were made to the following sections:

<table>
<thead>
<tr>
<th>Location</th>
<th>Update Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chapter 7, “Installing Storage Manager 5.2 for Active Directory,” on page 89.</td>
<td>Updated procedures.</td>
</tr>
</tbody>
</table>

## A.6 October 17, 2013
Updates were made to the following sections:

<table>
<thead>
<tr>
<th>Location</th>
<th>Update Description</th>
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</thead>
<tbody>
<tr>
<td>Section 1.4, &quot;Verifying Proper Configurations and Rights,&quot; on page 10.</td>
<td>New section.</td>
</tr>
</tbody>
</table>

## A.7 June 12, 2013
Updates were made to the following sections:

<table>
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<tr>
<th>Location</th>
<th>Update Description</th>
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</thead>
</table>

## A.8 February 13, 2013
Updates were made to the following sections:
A.9 January 18, 2013

Updates were made to the following sections:

<table>
<thead>
<tr>
<th>Location</th>
<th>Update Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chapter 7, &quot;Installing Storage Manager 5.2 for Active Directory,&quot; on page 89.</td>
<td>Added a requirement for the .NET 4.0 (Full) Framework for the NSM Engine, Event Monitor, NSM Agent, and NSMAdmin.</td>
</tr>
<tr>
<td>Section 7.3, &quot;Installing the Engine,&quot; on page 90.</td>
<td>Removed a reference to the NSM Engine being supported on a server with an x86 processor.</td>
</tr>
</tbody>
</table>

A.10 May 18, 2012

Updates were made to the following sections:

<table>
<thead>
<tr>
<th>Location</th>
<th>Update Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Multiple locations throughout the manual.</td>
<td>Changed references of 3.0.x to 3.1.</td>
</tr>
<tr>
<td>Section 7.3, &quot;Installing the Engine,&quot; on page 90.</td>
<td>New steps.</td>
</tr>
<tr>
<td>Chapter 7, &quot;Installing Storage Manager 5.2 for Active Directory,&quot; on page 89.</td>
<td>New steps.</td>
</tr>
</tbody>
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A.11 February 2, 2012

Updates were made to the following section:

<table>
<thead>
<tr>
<th>Location</th>
<th>Update Description</th>
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<tbody>
<tr>
<td>Throughout the manual.</td>
<td>Changed 3.0.2 to 3.0.x.</td>
</tr>
</tbody>
</table>

A.12 March 16, 2011

Updates were made to the following section:

<table>
<thead>
<tr>
<th>Location</th>
<th>Update Description</th>
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</thead>
<tbody>
<tr>
<td>Chapter 7, &quot;Installing Storage Manager 5.2 for Active Directory,&quot; on page 89.</td>
<td>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.</td>
</tr>
</tbody>
</table>
A.13 February 14, 2011

Updates were made to the following section:

<table>
<thead>
<tr>
<th>Location</th>
<th>Update Description</th>
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</thead>
<tbody>
<tr>
<td>Section 2.1, &quot;Licensing Overview,&quot; on page 13</td>
<td>Overview of license types and the features and capabilities enabled in each.</td>
</tr>
</tbody>
</table>