Installing FlexNet Manager Suite 2015 On Premises

Contents

Legal Information

Document Name: FlexNet Manager Suite 2015 Installation Guide (for on-premises delivery)

Part Number: FMS-10.3.0-IG01

Product Release Date: 15 April 2015

Copyright Notice

Copyright $^{©}$ 2015 Flexera Software LLC. All Rights Reserved.

This publication contains proprietary and confidential technology, information and creative works owned by Flexera Software LLC and its licensors, if any. Any use, copying, publication, distribution, display, modification, or transmission of such publication in whole or in part in any form or by any means without the prior express written permission of Flexera Software LLC is strictly prohibited. Except where expressly provided by Flexera Software LLC in writing, possession of this publication shall not be construed to confer any license or rights under any Flexera Software LLC intellectual property rights, whether by estoppel, implication, or otherwise.

All copies of the technology and related information, if allowed by Flexera Software LLC, must display this notice of copyright and ownership in full.

FlexNet Manager Suite incorporates software developed by others and redistributed according to license agreements. Copyright notices and licenses for this externally-developed software are provided in the link below.

Intellectual Property

For a list of trademarks and patents that are owned by Flexera Software, see *http://www.flexerasoftware.com/intellectual-property*. All other brand and product names mentioned in Flexera Software products, product documentation, and marketing materials are the trademarks and registered trademarks of their respective owners.

Restricted Rights Legend

The Software is commercial computer software. If the user or licensee of the Software is an agency, department, or other entity of the United States Government, the use, duplication, reproduction, release, modification, disclosure, or transfer of the Software, or any related documentation of any kind, including technical data and manuals, is restricted by a license agreement or by the terms of this Agreement in accordance with Federal Acquisition Regulation 12.212 for civilian purposes and Defense Federal Acquisition Regulation Supplement 227.7202 for military purposes. The Software was developed fully at private expense. All other use is prohibited.

1

Preparation

Topics:

- *Synopsis and Server Breakdown*
- *Prerequisites and Downloads*

This document describes installation of FlexNet Manager Suite 2015 on the central application server of an on premises implementation.

Note • Managed service providers should reference the separate documentation available for multi-tenant environments.

This document is intended for use by:

- System engineers responsible for implementing and maintaining the system
- Network and security personnel with responsibility for infrastructure that the system relies on
- Flexera Software consultants implementing your system.

Assumptions: Readers have completed at least the appropriate training course in FlexNet Manager Suite administration, and understand basic product concepts. Readers have a technical background and are experienced with product installations and configuration.

Synopsis and Server Breakdown

The major steps in the installation process are:

1. Verify all prerequisites, including the installing (administrator) account and operational services account.

2. Install all required databases.

3. Authorize the service account.

4. Install the web interface on the web application server.

5. In a medium-to-large system (collecting FlexNet inventory for 50,000 devices or more), install one or more inventory servers as required.

6. If you are implementing a large system, install a separate reconciliation server. (The order of server installation is important.)

Tip • *On very large systems, it is possible to further separate the reconciliation server into a batch scheduling server and a number of slave batch servers. If so, the additional batch servers are installed next, after the batch scheduling server.*

7. Optionally, install FlexNet Report Designer.

8. Use the provided PowerShell scripts to configure the system.

9. Product activation.

10. If using FlexNet Report Designer, importing the latest reporting package.

11. Downloading the current data libraries.

Thereafter, you can use the web interface to deploy inventory beacons, and establish rules for inventory collection. At each inventory beacon, you will also need to configure the beacon and populate the password store with credentials if you are allowing direct inventory gathering.

The following table summarizes which of the tasks in the installation details (from the following chapter) apply to which servers in a multi-server implementation (servers are identified and discussed in *Prerequisites and Downloads* on page 6). A blank means not required; a Y means required, and Y1, Y2, Y3 and Y4 mean required in that order. When the functionality of several of these columns is rolled up in smaller implementations, then a Y in any relevant column means to perform the task on the server covering that functionality. The breakdown of servers in the columns is:

• Web - web application server

• BSS - batch scheduling server

• Btch - batch server, controlled by the above (the batch scheduling server and batch serverfunctionality may be rolled up into a single reconciliation server)

• Inv - inventory server

• App svr - the application server (when all of the above are combined on a single server, in which case a **Y** in any of the four columns means perform the task on your single server)

- DBSvr - database server

- CSvr - Cognos server, if you choose to implement trend reporting

- IB - inventory beacon.

Tasks per server:

Tasks/Server:	App svr: Web	App svr: BSS	App svr: Btch	App svr: Inv	DBSvr	CSvr	IB
Admin acct	Y	Y	Y	Y			Y
Service acct	Y	Y	Y	Y	Y		Y
DBA acct					Y		
Patch .NET	Y	Y	Y	Y			
Configure IIS	Y	Y	Y	Y			
Disable WebDAV				Y			Y
MS ADE (for Excel imports)		Y	Y				Y
Create databases					Y		
Authorize Service acct	Y	Y	Y	Y			
Install web interface	Y						
Install inventory server				Y			
Install batch server		Y	Y				
Install Report Designer						Y	
PowerShell configuration scripts	Y1	Y2	Y3	Y4			
Product activation		Y					
Populate libraries		Y					
Import trend reporting package (Cognos)						Y	
Set up access rights	Y						
Deploy/configure inventory beacon(s)	Y						Y
Populate password store							Y

Prerequisites and Downloads

Design

Determine whether to implement a single server or multi-server solution, based on projected scaling. Please refer to the following diagram, where each blue box represents a potentially separate server, and where all are given the names referenced throughout this document.

Note • Both the inventory server (processing server, or application server in a single-server implementation) and the inventory beacon(s) are expected to be members of Active Directory domains. (For test environments, consultants may see article 000017145 How to run FlexNet Manager Suite processing server on a workgroup computer.) Where you have only a single batch server (also known as a reconciliation server), this is not required to be a member of an Active Directory domain (although it may be). If you split this server into a master batch scheduling server and additional, separate batch servers, the Microsoft messaging technology requires a common account which is much simpler to provide if all these servers are members of the Active Directory domain. For this reason, domain membership is recommended, and assumed in this document.

There are six different kinds of server functionality in FlexNet Manager Suite. Your implementation may merge all this functionality onto a few servers; or for very large implementations, you may need six or more separate (virtual or physical) servers. In all cases, it is important to understand the functionality of these separate components that make up a working system:

- At least one inventory beacon, and typically more for a complex infrastructure

  Tip • An inventory beacon should be installed on the same server as the batch scheduling server (defined shortly).

- An inventory server, which can also be duplicated across multiple servers if you are gathering FlexNet inventory for many tens of thousands of devices (see below)

- A batch server (also known as a reconciliation server) that imports third-party inventory, integrates FlexNet inventory, incorporates business-related information, and reconciles everything to calculate your license position

  Note • Massive implementations may spread this load across multiple batch servers, in which case exactly one is the 'parent' or batch scheduling server that controls the load sharing. Here, 'massive implementations' means those with over a million devices returning inventory, or with unusually high batch processing loads. Most likely you need only a single reconciliation server here.

- The database server (where the five underlying databases may also be split across separate database servers if required)

- The web application server that handles presentation of the interface

- A server for the business reporting option (powered by Cognos), where applicable. (This server may be shared between FlexNet Manager Suite and FlexNet Manager for Engineering Applications.)

  Tip • Currently the Cognos content store requires a SQL Server installation no later than 2012.

All system servers require a 64-bit operating system. The database server (alone) may have a 32-bit operating system, but a 64-bit operating system is recommended.

In more moderately-sized implementations (the vast majority), a typical implementation might have a separate database server and Cognos server, and combine the remaining three central functions as a single "application server", as shown

in the diagram. As scaling dictates, you can combine or separate the web application server, the batch server, and the inventory server in any combination required. The logical separation of presentation from processing need not drive hardware requirements. Scaling considerations may include the following:

- Typically the first candidate for replication is the inventory beacon. This is often driven by network considerations as much as by simple scaling considerations.

- If your system manages more than 50,000 devices reporting FlexNet inventory alone (ignoring for the moment inventory through other third-party tools), the inventory server should be separated onto its own device. You can expect to duplicate a separate inventory server for (roughly) every 50,000 devices reporting FlexNet inventory.

- If you manage inventory from more than 100,000 devices, the batch server (or reconciliation server) may be separated from the web application server and installed separately.

- If you manage in the order of a million inventory devices, the batch server itself may be split into multiple batch servers, controlled by one batch scheduling server.
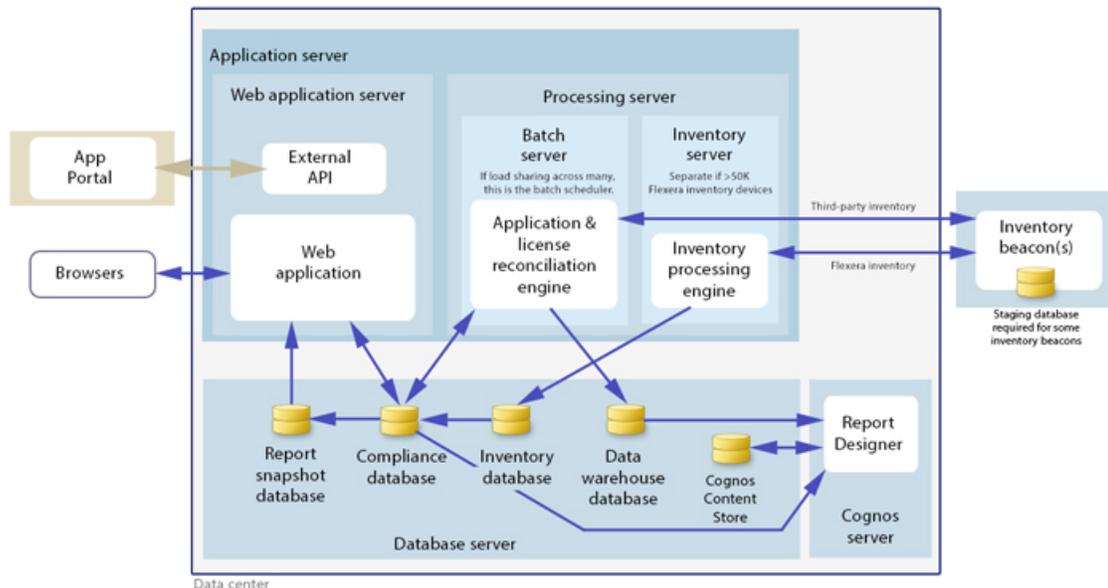
Some of the inventory adapters (such as the XenApp adapter, ADDM adapter, and HPUD adapter) require a staging database. This may be installed on any convenient SQL Server, with one of the options being your central database server hosting your compliance database. Another option is to install the staging database on an appropriate inventory beacon. Decide on the location of this staging database as part of your design.

Prepare a block diagram of the actual servers for your implementation. Don't forget the inventory beacons you intend to deploy. Label each block in your diagram with:

- The server type, either 'inventory beacon' or as named in the diagram above (for ease of reference in following instructions)

- The actual server name and IP address

- Which web server will be installed on each of these hosts.

License

Locate your FlexNet license key, emailed to you from Flexera Software as part of the order confirmation process, and have it ready for use in the following process.

Accounts

In Active Directory, set up (or choose) the following accounts. At least three separate accounts are recommended as best practice:

1. It is assumed that an existing database administrator (DBA) account will be used to set up and configure the databases as described below.

2. An administrator account (say, `FNMS-Admin`, or an existing administrator account) with full admin access to all servers used for the implementation (including inventory beacons). Account details must be passed to the DBA.

3. A network service account (say, `SVC-fnmsservice`) that will run the batch services and web services in normal operations.

   • Admin access for this account is convenient; otherwise read, write, and execute permissions are required on all folders containing FlexNet installations, FlexNet data, and FlexNet log files.

   • This account must have permission to log on as a service and as a batch job on the batch scheduling server (for details, see *Authorize the Service Account* on page 19).

   • The process below also includes setting up database permissions for this account, so account details are needed by the DBA.

   ⚠️

   Important • *In a multi-server implementation, the same service account must be used on the web application server, the inventory server(s), and the batch scheduling server (and where used, its child batch servers). This is required for proper functioning of Microsoft Message Queueing between the servers.*

   📋

   Note • *At implementation time, all services are configured with the correct password using the PowerShell scripts provided. If at any time the password on the service account is forced to change, the services will cease to operate. To ensure service continuity, you may either (a) allow the service account password to never expire (as normal for Windows service accounts), where permitted by your corporate policies; or (b) review the accounts listed in Password Maintenance on page 36.*

4. If you are collecting inventory from Citrix XenDesktop, you need an account with permission to execute remote PowerShell scripts on the XenDesktop server. (Typically this is an administrator account on the XenDesktop server. You may wish to register the `FNMS-Admin` described in 2. above for this purpose. Alternatively, a distinct account may be used, and must be registered in the password store on the applicable inventory beacon.)

5. Also for use with Citrix XenDesktop, you need to register (in the password store) a Citrix Readonly Administrator account, used for collecting data from the XenDesktop environment.

6. If you are collecting inventory from Citrix XenApp, you need an account with read permissions on the file system, and able to run a scheduled task, on the XenApp Delivery Controller. This account is required only on the XenApp Server

(Delivery Controller), and is not registered in the password store on the inventory beacon. For further requirements for this account, refer to the *FlexNet Manager Suite Help > Adapters Supplied by Default > XenApp Server Adapter > Setting Up the XenApp Server Adapter > Installing the XenApp Server Agent*.

Tip • *If you will be setting up an inventory beacon outside your central domain (such as an Internet-facing beacon to collect inventory from travelling laptops), consider creating an additional account that is recognized, but has minimal privileges, within your central domain. This account manages the transfer of information between your inventory/application server and the inventory beacon. It has only one requirement within the central domain: the ability to use the HTTP or HTTPS protocol to transfer data to/from your central inventory (or application) server. The name and password for this account are entered directly in the inventory beacon interface, along with the URI it will access.*

Database Instance(s)

All databases for this system, including `tempdb`, require the correct collation sequence, both case insensitive and accent sensitive. This means that they should be installed on one or more database instances that have this as the default collation sequence. For details about checking for a collation sequence ending with the codes `_CI_AS`, see *Create Databases* on page 15.

Patch

If you are running .NET 4.0, ensure that the following patches are installed on the application server (or on the web application server, batch scheduling server, and inventory server in a multi-server implementation):

• Update 4.0.3 for Microsoft .NET Framework 4 Runtime Update (KB2600211), from *http://www.microsoft.com/en-us/download/details.aspx?id=29053*

• Update for Microsoft .NET Framework 4 on Windows XP, Windows Server 2003, Windows Vista, Windows Server 2008, Windows 7, and Windows 2008 R2 - KB2836939, from *http://www.microsoft.com/en-us/download/details.aspx?id=39257*

Tip • *These patches are not required if you are running .NET 4.5, such as supplied with Microsoft Windows Server 2012.*

On all inventory beacons running .NET 4.0 , the same two updates are also required. In addition to those two, inventory beacons (including one optionally co-installed with your batch scheduling server) require this third patch: Update for the .NET Framework 4, from http://support.microsoft.com/kb/2468871, and downloadable from *http://www.microsoft.com/en-us/download/details.aspx?id=3556*.

Tip • *The installer for inventory beacons will not run until this patch has been applied on the beacon server running .NET Framework 4. (As before, the patch is not required if the version of .NET Framework is 4.5 or later.)*

Configure IIS

Wherever IIS is in use within this system, it must be ready to use ASP.NET 4.0.

Note • *Your IIS implementation must include both:*

- **ASP.NET** *in* **Application Development**

- **Windows Authentication** *in* **Security**.

The other requirements depend on the version of your Windows Server operating system:

- On Windows Server 2012, if ASP.NET 4.5 is already installed, the configuration change is not required and you can skip to the next section; but if not, follow steps under "To install IIS and ASP.NET modules on Windows Server 2012 using the UI" in *http://technet.microsoft.com/en-us/library/hh831475.aspx#InstallIIS*.

- On Windows Server 2008, if ASP.NET 4.5 is installed as an upgrade, complete the process in this section, using the 4.0 folder as described (this folder persists after the upgrade).

- On other versions of Windows Server, complete the following.

On your central server(s), IIS is required. On any inventory beacon that sends system landscape data to SAP, it is also required. On other inventory beacons, IIS is an option, with a built-in web service as an alternative (discussed later). Complete the following steps on applicable inventory beacons, and on the application server (or on all of the web application server, batch scheduling server, and inventory server in a multi-server implementation):

1. Open a command line window (for example, **Start** > search for `cmd` > run `cmd.exe`).

2. Enter `cd %SystemRoot%\Microsoft.NET\Framework\v4.0.30319` (this folder is available only after you have correctly installed Microsoft .NET Framework 4.0).

3. Install ASP.NET (which also registers ASP.NET with IIS), with the following command:

```
aspnet_regiis.exe -ir -enable
```

4. When the installation is completed, stop and restart IIS to ensure that it reads the ASP.NET registration:

```
iisreset
```

5. `Exit` to close the command line window.

Tip • *Further configuration of IIS is handled through the PowerShell scripts for configuration, described later.*

No WebDAV

On the inventory server (or application server in a single server implementation), and on all inventory beacons, WebDAV must be disabled (when IIS is in use). Example:

1. Find the IIS settings. For example:

- On Windows Server 2008 R2, open Server Manager (**Start** > **Administrative Tools** > **Server Manager**). In the hierarchy (on the left), expand **Roles**, then **Web Server (IIS)**, and select **Internet Information Services (IIS) Manager**.

- On Windows 7, navigate to **Control Panel** > **System and Security** > **Administrative Tools**, and double-click **Internet Information Services (IIS) Manager**.

2. In the work pane that opens, expand **Sites**, and select **Default Web Site**.

3. In the **Home** pane for this site, in the **IIS** group, locate **WebDAV Authoring Rules**.

Tip • *If it is not present, it is likely that WebDAV is not installed on this server, and your mission is complete.*

4. Right-click the icon, and select **Open Feature**. A pane opens for **WebDAV Authoring Rules**.

5. On the right, in the **Actions** group, there is an option to enable or disable WebDAV.

- If the link currently says **Enable WebDAV**, do nothing, because your mission is complete.

- If the link current says **Disable WebDAV**, click the link.

6. Click **OK** to close all applicable dialogs.

Browser

When Internet Explorer is used on a server-based operating system to access FlexNet Manager Suite after setup is complete (for example, if you are testing from your central application server, or your inventory beacon has a server operating system), the IE enhanced security provisions must be turned off on that server. Detailed instructions are included in the first help topic available after setup. (Alternatively, use a different browser.)

Drivers

If you will ever import other data from an Excel spreadsheet in `.xslx` format (whether using provided templates or adapters built in theBusiness Adapter Studio), you must install a 32-bit version of Microsoft Access Database Engine both on every batch server including the batch scheduling server (or whichever server hosts this functionality), and on every inventory beacon that will perform these spreadsheet imports. The particular release is not important: for example, Microsoft Access Database Engine 2010-32 is adequate. Drivers are supplied within the Microsoft Access Database Engine. (*Export* of data from the system into spreadsheets does not require this: only import has this prerequisite.)

Tip • *This installation is not required if you import spreadsheets exclusively in the earlier `.xsl` format; but be aware that this older format limits each spreadsheet to about 65,000 records/rows. CSV (comma-separated values) file imports also do not require the installation of this specific driver.*

Important • *Only the 32-bit version is supported by the Business Importer mechanism, and this version is incompatible with the 64-bit version of Microsoft Office products installed on the same machine. This means that, when you need imports in `.xslx` format, 64-bit Office cannot be installed on the central batch server (or application server), or on applicable inventory beacons. Naturally, Office documents including spreadsheets prepared on other machines running 64-bit Office can successfully be imported. The limitation is only on co-installation on the same computers.*

Log in

On the application server, and using the account details emailed to you with your order confirmation from Flexera Software, login to the Product and License Center at *https://flexerasoftware.subscribenet.com*. From the list of products, select <u>FlexNet Manager Platform</u>, and again in the following page to differentiate elements of the Suite, if applicable. Finally, click through the link for <u>FlexNet Manager Suite 2015</u> to access the downloads.

Check

Download and check the release notes for the requirements for the Windows Server computer(s) on which you will install FlexNet Manager Suite 2015. For example, the minimum database release is Microsoft SQL Server 2008.

Download

Download the installer through the <u>FlexNet Manager Suite 2015.zip</u> link, saving the archive to a convenient location accessible across your network from all the servers (web application server, batch scheduling server, and inventory server; or as combined) in your design.

Report Designer

If your design includes FlexNet Report Designer (powered by Cognos), also download:

- Report Designer Package - Single Tenant (`FlexNetManagerPlatformReportsAndDashboard.zip`) - required even if you already have Report Designer implemented with FlexNet Manager for Engineering Applications.

- Report Designer Installer (`ReportDesigner.exe`)

- ReportDesignerProductDocumentation (`ReportDesigner152_FullDocumentationSet.zip`)

- FlexNet Manager Platform Product Documentation (`FNMP92_FullDocumentationSet.zip`) - this is needed for detailed guidance on installing Report Designer, including manually creating its database.

2

Installation Details

Topics:

Please work through the following sections *in order*. The database must be installed first, and thereafter for a multi-server installation, the order is important: the reconciliation server (or, where this is split into multiples, the batch scheduling server followed by its dependent batch servers) must be installed last in this set, as the scripts here finalize account details across all the servers:

1. The web application server

2. The inventory server(s)

3. The reconciliation server/batch scheduling server.

Important • It is critical that you have attended to all the matters raised in Prerequisites and Downloads on page 6 before attempting installation.

Create Databases

FlexNet Manager Suite uses a number of separate databases. For smaller implementations, these may be implemented on the application server; or they may be installed on one or more database servers. While scripts are provided, it is typical that these will be inspected and executed by a database administrator (DBA).

Before you start, decide whether to include FlexNet inventory data in the same operations database as compliance information (suitable for small implementations). If so, use the same database name for the `-d` parameter in steps *5* on page 16 and *8* on page 17 below. As written below, these steps suggest different database names and separate these two databases. (With previous releases, it was recommended and common practice to install a single database combining inventory and compliance data. With FlexNet Manager Suite 2015, it is now generally recommended to install these as separate databases, and particularly so if you manage FlexNet inventory from 20,000 devices or more.)

Important • *If you choose to combine inventory and compliance data in a single operations database, you MUST create the databases in the order shown below: first the compliance operations database, and then add the inventory collection database to it.*

If you collect inventory from Citrix XenApp, the adapter requires a staging database (with the schema updated in this release).

The staging database can be installed in any convenient Microsoft SQL Server 2008 (or later) database:

- If your inventory beacon is located on a SQL server, the staging database can be on the inventory beacon.

- If your central operations database for FlexNet Manager Suite is accessible from the XenApp Server, you can install the staging database on your central SQL Server.

- Where there is an inventory beacon with network access to your XenApp Server (and XenApp is running its database in SQL Server), the staging database can be installed into the same database as used by XenApp.

- If none of these suit, any other SQL Server instance that allows network access both from the XenApp server agent on the XenApp Server and from the inventory beacon.

You must decide now whether to install this XenApp staging database on your central SQL Server. Instructions are included below for this option.

Take note of all the database names you create with the `-d` parameter in the following steps. You need the names later (if database setup is done by a separate DBA, the database names must be handed off to the installing administrator).

Note • *All accounts that will log in directly to (any part of) the application server to use FlexNet Manager Suite (excluding access through the web interface) must have* `db_owner` *permissions on all its databases: compliance data, warehouse data, snapshot data, and inventory data. A suggested method is to create either a local or Active Directory security group (such as* `FNMSUsers`*) and add all such accounts to this group. Then you can, for example, set these permissions by opening each database in Microsoft SQL Server Management Studio, and granting* `db_owner` *privileges to the security group. Accounts to list in the security group minimally include:*

- *The operational service account (suggested:* `SVC-fnmsservice`*)*

- *The installing administrator account (suggested:* `FNMS-Admin`*)*

- *Any operational account needing to log in to a central inventory beacon installed on your batch scheduling server (remember that since the inventory beacon requires administrator privileges to run, this account is both a local administrator on the batch scheduling server and a* `db_owner`*)*

- *Any future back-up administrator accounts needed for the application server.*

After the first step, the rest of this procedure (creating the databases) must be completed using a database administrator account. As is usually the case for DB administrators, the account must also be a member of the built-in role called **SQLAgentUserRole**, since the scripts also create SQL jobs.

1. Create a security group (suggested: `FNMSUsers`), and (optionally) add to it all accounts directly logging into the central application server (or you can add accounts later).

2. Optionally, validate that the logged-in DBA account is a member of the **SQLAgentUserRole**:

   a) In SQL Server Management Studio, connect to the database server.

   b) On the left, browse to **Security** > **Logins**.

   c) Right-click the account name, and select **Properties**.
   The **Login Properties** dialog for this account appears.

   d) Under **Select a page** on the left, select **User Mapping**.

   e) In the list of **Users mapped to this login**, select your DBA account for the **msdb** database.

   f) In the **Database role membership for *account*** list at the bottom of the dialog, scroll down to reveal the **SQLAgentUserRole**:

      - If its check box is selected, everything is ready, and you can click **Cancel**.

      - If its check box is clear, select the check box and click **OK**.

3. Ensure that the target database instance is set for case-insensitive and accent-sensitive collations (as required by all databases in this system, including the tempdb). To check the collation settings:

   a) In SQL Server Management Studio, locate the database instance in the **Object Explorer** pane.

   b) Right-click the database, and select **Properties** from the context menu.

   c) On the database **Properties** dialog, select the **General** tab, and in the **Maintenance** section, check the current collation sequence.

   If the collation sequence ends with the codes `_CI_AS`, you may proceed with the installation. Otherwise discuss the collation requirements with your database authorities.

4. Ensure that the SQL Server Agent service is installed and can be run on your database server(s).

   📄

   Note • By default, SQL Server Agent service is disabled on SQL Server. For on-going operation of FlexNet Manager Suite, please ask your database administrator to ensure that SQL Server Agent is up and running. During creation of the database, a script creates SQL jobs that require SQL Server Agent running in production.

5. Create the operations database for compliance data (a two-part creation process):

   a) On the database server (or the application server for a single-server implementation), open a command prompt.

b) Navigate in the unzipped archive to the `FlexNet Manager Suite\Database\Normal\FlexNet Manager Platform` folder.

c) Execute:

```
mgsDatabaseCreate -a WindowsNT -s DBserver-name\instance name -d FNMP -i
  ManageSoftDatabaseCreation.xml
```

(and wait for completion).

d) Execute:

```
mgsDatabaseCreate -a WindowsNT -s DBserver-name\instance name -d FNMP -i
  ComplianceDatabaseCreation.xml
```

a) Open this database in Microsoft SQL Server Management Studio, and grant `db_owner` privileges to the security group (suggested: `FNMSUsers`).

6. Create a data warehouse database (used for trend analysis, some product reports, and Cognos-based reporting):

a) In the same archive folder, execute:

```
mgsDatabaseCreate -a WindowsNT -s DBserver-name\instance name -d FNMPDataWarehouse -i
  DataWarehouseCreation.xml
```

b) Open this database in Microsoft SQL Server Management Studio, and grant `db_owner` privileges to the security group (suggested: `FNMSUsers`).

7. Create a snapshot database (used for performance optimization):

a) In the same archive folder, execute:

```
mgsDatabaseCreate -a WindowsNT -s DBserver-name\instance name -d FNMPSnapshot -i
  SnapshotDatabaseCreation.xml
```

b) Open this database in Microsoft SQL Server Management Studio, and grant `db_owner` privileges to the security group (suggested: `FNMSUsers`).

8. Create the database for FlexNet native inventory collection.

☞

Remember • *If you plan to collect both inventory data and compliance data in a single database, use the same* `-d FNMP` *parameter as described earlier; or for a separate inventory database (recommended), use a different name as shown below)*

a) Still in the Command Prompt window on the database server, using the administrative account (`FNMS-Admin`), and in the same folder of the unzipped archive, execute:

```
mgsDatabaseCreate -a WindowsNT -s DBserver-name\instance name -d IM -i
  InventoryManagerDatabaseCreation.xml
```

b) Open this database in Microsoft SQL Server Management Studio, and grant `db_owner` privileges to the security group (suggested: `FNMSUsers`).

9. Are you collecting inventory from Citrix XenApp, and are you locating the staging database on this SQL Server? If so:

a) Locate your downloaded archive `Tier 1 Adapter Tools.zip`, and in your unzipped archive, navigate into the `\Citrix XenApp Server Agent` subdirectory.

b) Further navigate into the appropriate sub-folder for your version of XenApp:

- `XenAppAgent6`

- `XenAppAgent65`

- `XenAppAgent75`.

c) From your chosen folder, collect a copy of the database creation/update script `SetupXenAppAgentStagingDatabase.sql`.

d) Drop this SQL script on your central database server, and execute it in SQL Server Administration Studio against your chosen database instance.

10. Close the command window.

11. 🔅

Tip • *Keep in mind that currently Cognos support for the version supplied is limited to SQL Server 2008. This is expected to change by late 2015.*

If you are also implementing Flexera Report Designer, you need to create the content store database. The content store is a Microsoft SQL Server database used to store information about reporting models, folders, reports, and saved results, which are required by Flexnet Report Designer. If required, create the content store database now:

a) If your content store is on a separate database server, ensure that (like all the other databases for this system) it uses UTF-8 or UTF-16 encoding, a case insensitive collation sequence, and mixed authentication (Windows and SQL Server) instead of Windows-only authentication. In addition, enable the TCP/IP protocol, which is required by Cognos to access the data it needs to populate reports.

b) Open Microsoft SQL Server Management Studio, right-click **Databases** and select **New Database...**.

c) Provide an appropriate name for your database (such as `contentstore`).

d) Configure the initial database settings (file size, location, and the like) as appropriate.

This database is typically very small, in the order of 12 MB, with potential growth depending on how many reports you store.

e) Expand **Security**, right-click **Schemas** and select **New Schema...**.

f) Specify the **Schema name**, and click **OK**.

Suggestion: `FlexNetReportDesignerSchema`

g) Under **Security**, right-click **Logins** and select **New Login...**.

h) Specify the login name for Report Designer to access the content store.

Suggestion: `FlexNetReportDesigner`

i) Select **SQL Server authentication** and enter the appropriate password in the **Password** and **Confirm password** fields.

j) Clear **Enforce password policy**.

While saving the password, this clears all three password policy check boxes.

k) Click **OK**.

l) With the same database selected, under **Security**, right-click **Users** and select **New User...**.

m) Specify a name for the database user in the **User name** field.

n) Use the **Login name** field to browse and select the account that you created in step *11.g* on page 18 above.

o) Use the **Default schema** field to browse and select the schema that you created in step *11.f* on page 18.

p) In the **Owned Schemas** list, select the same schema as specified in **Default schema**.

q) In the **Role Members** list, select db_datareader, db_datawriter, and db_ddladmin.

r) Click **OK**.

Finally, if you have not already done so, don't forget the add the necessary accounts to the same FNMSUsers security group.

Authorize the Service Account

The account used to run processing services requires permission to run as a service. Prior to installing anything, perform this process on:

- Your batch scheduling server/reconciliation server (in a large-scale implementation with three or more servers)

- Your processing server (in a two server application implementation)

- Your application server (in a single server implementation)

- Any independent batch servers.

Tip • *You should use a singe account (that is, the same Active Directory user) for communications between the batch scheduling server and any child batch servers. If you do not do this, you instead need to modify permissions on the Microsoft Message Queuing configuration on the batch scheduling server (which modifications are beyond the scope of this document). Assuming use of a single account, it is most convenient if this is the same service account used on all your central server(s).*

1. On the appropriate server, log in as an administrator (suggested: FNMS-Admin).

2. Go to:

   - On Windows Server 2012, **Start** > **Administrative Tools** > **Local Security Policy**

   - On earlier releases of Windows Server, **Start** > **All Programs** > **Administrative Tools** > **Local Security Policy**.

3. Select the **Local Policies** node, and choose **User Rights Assignment**.

4. Open the policy Log on as a service, and add the service account (example: SVC-fnmsservice).

5. Open the policy Log on as a batch job, and add the service account (example: SVC-fnmsservice).

6. Click **OK**.

Tip • A Microsoft error dialog `Security Templates - An extended error has occurred. Failed to save Local Policy Database.` *may appear. This error is described at* http://support.microsoft.com/kb/2411938, *and may safely be ignored.*

Install the Web Interface

The web interface provides the user interface to manage your inventory and license position. Continue this process as administrator (`FNMS-Admin`) on either your

• application server (for a single server installation) or

• web application server (in a multi-server installation).

1. On the (web) application server, open Windows Explorer.

2. Copy the downloaded archive `FlexNet Manager Suite 2015 Installer.zip` from your staging location to a convenient location on this server (such as `C:\temp`), and unzip it.

Tip • Unzipping the archive locally on each of your servers simplifies running the configuration scripts later in the process. Notice that the entire archive must be present, as scripts reference other elements from the archive.

3. Navigate in the unzipped archive to the `FlexNet Manager Suite\Installers\FlexNet Manager Suite` folder.

4. Start (double-click) `setup.exe`.

5. Step through the installer until asked for the **Setup Type**, and do one of the following:

   • For a small, single server installation combining the web application, the inventory collection, and the batch processing functionality in one server, select the **Complete** option, and follow the instructions in the installation wizard to complete the standard installation.

   • For a multi-server installation, select the **Custom** installation path, and select the **Web Application Server** for this installation. (If this is the *only* functionality on this server, also ensure that **Inventory Server**, **Reconciliation Server**, and **Batch Processor** are all deselected; but in fact you can combine the servers in the way that best suits your enterprise, so make the selection that matches your server plan.)

   Take note of the installation location for future reference.

6. If this server includes the batch scheduling server (or reconciliation server) functionality, you are prompted for the credentials used for batch processes. Be sure that the account you enter already has `Logon as a service` permission (see *Authorize the Service Account* on page 19).

7. When successful, close the installation wizard.

Install the Inventory Server

The inventory server processes all inventory collected (or augmented) by the FlexNet inventory agent.

In a single server implementation, this step is already completed and you should skip ahead to *Configure the System* on page 26.

For a multi-server implementation, continue this process as administrator (`FNMS-Admin`) on either your

- processing server (in a two server application installation)

- inventory server (in a three or more server application installation).

1. On the inventory (or processing) server, open Windows Explorer.

2. Copy the downloaded archive `FlexNet Manager Suite 2015 Installer.zip` from your staging location to a convenient location on this server (such as `C:\temp`), and unzip it.

3. Navigate in the unzipped archive to the `FlexNet Manager Suite\Installers\FlexNet Manager Suite` folder.

4. Start (double-click) `setup.exe`.

5. Select the **Custom** installation path, and do one of the following:

   - For a two server installation, now installing your processing server, select all of the **Inventory Server**, the **Reconciliation Server**, and the **Batch Processor** for this installation, and ensure that the **Web Application Server** is deselected (displaying a cross).

   - For an installation using three or more servers, now separately installing your inventory server, select only the **Inventory Server** for this installation, ensuring that the other options are deselected.

   Take note of the installation location for future reference.

6. If this server includes the batch scheduling server (or reconciliation server) functionality, you are prompted for the credentials used for batch processes. Be sure that the account you enter already has `Logon as a service` permission (see *Authorize the Service Account* on page 19).

7. When successful, close the installation wizard.

Install the Batch Processors

💡

Tip • Massive implementations may spread the batch processing load across multiple batch servers, whose processing is controlled by the batch scheduling server (which itself also contributes to the batch processing effort). Installation of any batch server is identical; and for the batch scheduling server, the only difference is the choice selected in the custom installation as described below. You may follow this process for either the batch scheduling server or for any batch server.

The batch scheduling server is the integration point that correlates all your entitlement records and your consumption revealed in inventory to work out your reconciled license position. Particularly when there is no further subdivision of this functionality across multiple servers, this server is also known as the reconciliation server.

You do *not* need this process if you have either of:

- A single-server implementation combining the web application server, the batch scheduling server, and the inventory server in one; or

- A two-server application implementation where you have combined the batch server and inventory server functionality on one computer and kept the web application server as a second server.

In these two cases, this step is already completed and you should skip ahead to *Configure the System* on page 26.

For a three server implementation (or larger), continue this process as administrator (FNMS-Admin) on your batch scheduling server/reconciliation server.

1. On the rbatch scheduling server (or, where applicable, a separate child batch server), open Windows Explorer.

2. Copy the downloaded archive FlexNet Manager Suite 2015 Installer.zip from your staging location to a convenient location on this server (such as C:\temp), and unzip it.

3. Navigate in the unzipped archive to the FlexNet Manager Suite\Installers\FlexNet Manager Suite folder.

4. Start (double-click) setup.exe.

5. Select the **Custom** installation path, and make one of the following choices:

For a combined reconciliation server that performs all your batch calculations and does not manage any further 'child' batch servers	Select only the **Reconciliation Server** for this installation (ensuring that the other options are deselected).
For a batch scheduling server that performs some batch calculations, and also manages further batch processing on 'child' batch servers	As above, select only the **Reconciliation Server** for this installation (ensuring that the other options are deselected).
For a child batch server	Select only the **Batch Processor** (ensuring that the other options are deselected).

Take note of the installation location for future reference.

6. When asked to enter the credentials to be used for running batch processes, be sure that the account you enter already has Logon as a service permission (see *Authorize the Service Account* on page 19).

7. When successful, close the installation wizard.

Install FlexNet Report Designer

This section applies only if:

- Your implementation design includes trend-based reporting, and

- You do not already have FlexNet Report Designer installed with another product.

The Flexnet Report Designer installer installs the Cognos server and the Apache HTTP server to the designated host. The FlexNet Report Designer server is installed as a service. Therefore, the account used to install this component must have administrator permissions.

Tip • *This instance of Flexnet Report Designer can be shared with FlexNet Manager for Engineering Applications, and you can use this installer to configure a connection to both servers. See the FlexNet Manager for Engineering Applications documentation for more information.*

Make sure of the following points:

• The installing account must have administrative privileges.

• The server hosting Flexnet Report Designer must be accessible by its host name, rather than just its IP address. Do not use IP addresses anywhere in the Flexnet Report Designer settings.

1. Copy your downloaded `ReportDesigner.exe` installer to the server where you will run Cognos and FlexNet Report Designer.

2. Double-click the executable to launch it.
   The **Introduction** panel appears.

3. Read through the introduction, then click **Next** to continue.
   The **License Agreement** panel is displayed.

4. Read the license agreement.

   • If you agree to be bound by its terms, select the **I accept the terms of the license agreement** radio button.

   • If you do not accept the terms of the license, you must stop the installation process. Do not proceed further in this case.

5. Click **Next**.
   The **Installation Folder** panel is displayed.

6. Specify the installation folder for the Flexnet Report Designer in the **Installation Folder** field.

   You can enter a path manually, or browse for a location using the **Choose...** button. If you make a mistake and wish to return the initial folder suggested by the installer, click the **Restore Default Folder** button.

7. Click **Next**.
   The **Apache Installer** panel is displayed.

8. Specify whether you want to install a new Apache server, or just use an existing installation. You can choose from the following options:

   • **Install Apache with default settings** —Apache will be installed with the default settings for use with Cognos. Click **Next** to move to the **Cognos Settings: Dispatcher Port** panel (step *14* on page 24).

   • **Install Apache with specified settings** —The installer will install Apache, but allows you to specify the gateway host name and port for the Apache instance. Click **Next** to display the **Apache Settings: Host Name and Port** panel (step *9* on page 23).

   • **Use existing Apache installation with settings unchanged** —Flexnet Report Designer will use an existing Apache installation, along with its existing settings. Click **Next** to display the **Apache Settings: Location** panel (step *12* on page 24).

   • **Use existing Apache installation with specified settings** —Flexnet Report Designer will use an existing Apache installation, but will allow you to specify the gateway host name and port. Click **Next** to move to the **Apache Settings: Host Name and Port** panel (step *9* on page 23).

9. In the **Apache Settings: Host Name and Port** panel, enter the name of your gateway server in the **Gateway hostname** field.

The gateway server is the machine that will pass all requests from the people using the business reporting portal feature to Apache. If you want Apache to listen for requests at the specified port from any host, leave this field blank.

10. Enter the port you wish Apache to use in the **Gateway port** field.

The default port is `8889`.

11. Click **Next**:

- If at step *8* on page 23 you chose the **Install Apache with default settings** option, the **Cognos Settings: Dispatcher Port** panel appears. Proceed to step *14* on page 24.

- Otherwise, if you chose the **Use existing Apache installation with specified settings** option, the **Apache Settings: Location** panel appears to allow you to configure your Apache server.

12. In the **Apache Settings: Location** panel, if you already have an Apache installation present which you wish Flexnet Report Designer to use, use this panel to specify its location.

You can enter a path manually, or browse for a location using the **Choose...** button. If you make a mistake and wish to return the initial folder suggested by the installer, click the **Restore Default Folder** button.

13. Click **Next**.

The **Cognos Settings: Dispatcher Port** panel is displayed.

14. In the **Cognos Settings: Dispatcher Port** panel, specify the port that you want Cognos to use to communicate with FlexNet Manager Suite (and, optionally, FlexNet Manager for Engineering Applications).

It is recommended that you use the default port (`9300`), unless already in use by some other application.

15. Click **Next**.

The **Cognos Settings: Select Database Type** panel is displayed.

16. Choose `SQL Server`, and click **Next**.

The content store database stores report metadata required by Cognos. Because FlexNet Report Designer communicates with FlexNet Manager Suite, SQL Server is required. The **Cognos Settings: Content Store Settings** panel appears.

17. Specify the location of, and *login credentials* for, your content store database.

🔲

*Important • It is critical that, for the **Content Store user name** field, you enter the **Login name** you created for database access, and not the database user name associated with that login. If you use the incorrect user name, the Cognos installer will silently fail in some of its tasks while reporting success.*

18. Click **Next**.

The **Mail Server Settings** panel appears.

19. Specify the details of the mail server to be used with Cognos.

A mail server will be required if you initiate the emailing of a report. Email is sent using SMTP.

20. Click **Next**.

If the installer cannot establish a connection to the mail server, a warning is displayed. Revisit your mail server settings and try again. Otherwise, the **Product Authentication Information** panel appears.

21. This screen allows you to decide which FlexNet Manager applications will be used with this instance of Flexnet Report Designer. Select the **FlexNet Manager Platform** check box. Optionally, also select the **FlexNet Manager for Engineering Applications** check box, if you have an installation of that product as well.

The Flexnet Report Designer will communicate with these products to determine whether operators have the right to view or modify associated reports.

> 💡
> ___
>
> *Tip •* *Selecting the* ***FlexNet Manager Platform*** *option causes the installer to configure Apache to use Windows authentication. This means that when you access the business reporting portal, Apache will automatically check whether your domain account has the right to view or modify the reports and dashboard, without you needing to enter login details.*

22. Click **Next**.

The **FlexNet Manager Platform Location** panel is displayed.

23. Provide the host name for your enterprise's FlexNet Manager Platform server, prefixed with the `http://` protocol.

Example: `http://ExampleServerName`. The FlexNet Report Designer communicates with this server to authenticate operators attempting to access reports related to FlexNet Manager Suite.

24. Click **Next**.

- If you selected the **FlexNet Manager for Engineering Applications** check box, the **FlexNet Product Location** panel is displayed (next step).

- Otherwise, the **Pre-Installation Summary** panel appears (proceed to).

25. Provide the host name and port number for your enterprise's FlexNet Manager for Engineering Applications server. The FlexNet Report Designer communicates with this server to authenticate operators attempting to access reports related to FlexNet Manager for Engineering Applications.

The FlexNet Report Designer communicates with this server to authenticate operators attempting to access reports related to FlexNet Manager for Engineering Applications.

26. Click **Next**.

The **Pre-Installation Summary** panel appears.

27. Review the choices you made, and click **Previous** to move back through the wizard and make any amendments. Once all seems correct, click **Install** to begin the installation process.

A progress bar will appear to illustrate the status of the installation. Once the installation is complete, click **Done** to close the wizard.

28. Configure the account under which the IBM Cognos web service will run.

This account must have access rights to the `FNMPDatawarehouse` database, and also to the FlexNet Manager Suite compliance database (default database name: `ManageSoft`). (This account is configurable so that you do not need to change access controls on a Microsoft SQL database that is using Windows Authentication.) To configure this account:

a) Open the Run dialog for your Windows system, and enter `services.msc` in the text field.

b) Scroll through the list that appears, and check that the IBM Cognos service displays a **Status** of `Started`. (If not, check the log files `cogconfig_response.csv` and `cognserver.xml` (located in the folder *ReportDesigner-install-dir*`\c10\logs`) for more information.)

c) Right-click the `IBM Cognos` service, and select **Properties**.

d) Select the **Log On** tab.

e) Click **This account**.

f) Either browse for the account name from Active Directory, or enter the name and password for the account with access to both databases, as described above, and click **OK**.

g) Right-click the `IBM Cognos` service, and select **Restart** .

Wait patiently while the service restarts (it may take several minutes, and you may need to dismiss a time-out message in the meantime; and in that case also manually refresh the Services list with `F5`). Eventually the **Services** dialog should display that it has started successfully.

Details about accounts and URLs to access Report Designer and any reports you develop in it are included in *Import the Sample Reporting Package* on page 29.

Configure the System

PowerShell scripts are provided to complete configuration of the central application server(s), including the connections to the databases, and then store appropriate values in the database.

🔲

Important • For a single server implementation, run the PowerShell scripts on the application server (if you have a separate database server, you do not run the PowerShell scripts on that.) If the logical application server has been separated into multiple servers, the PowerShell scripts must be run on each of these servers, and MUST be run in the following order:

1. *web application server*

2. *batch scheduling server (or processing server, for a two-server application implementation)*

3. *Any separate batch servers*

4. *inventory server(s).*

On each applicable server in turn, as administrator (`FNMS-Admin`), complete all the following steps (noticing that on different servers, different dialogs may be presented). You should first ensure that these scripts have sufficient authorization to execute, as described in this process.

1. On your web application server, batch server, or inventory server, ensure that Microsoft IIS is running again:

   a) Ensure that your **Server Manager** dialog is still open.

   b) In the left-hand navigation bar, expand **Roles** > **Web Servers (IIS)**, and select **Internet Information Services**. The IIS page is displayed.

   c) In the **Actions** panel on the right, select **Start**. A message like `Attempting to start...` appears. Note that it can take some time before the service is started. When the service is running, the PowerShell scripts can update the IIS configuration as required.

2. Run PowerShell as administrator (use the 64-bit version where available):

   a) Locate PowerShell. For example:

      • On Windows Server 2012, **Start** > **Windows PowerShell**

      • On earlier releases, in the Windows Start menu, find **All Programs** > **Accessories** > **Windows PowerShell** > **Windows PowerShell** (this is the 64-bit version; the 32-bit version is `Windows PowerShell (x86).`).

   b) Right-click, and choose **Run as Administrator**.

3. In the PowerShell command window, execute:

```
set-executionpolicy AllSigned
```

Respond to the warning text with the default `Y`.

4. In the PowerShell command window, navigate through the unzipped downloaded archive to the **Support** folder.

5. On each server, execute:

```
.\Config.ps1 "Config\FNMS Windows Authentication Config.xml"
```

(This script determines the type of server installation, and applies appropriate configuration. See also server-specific comments below.)

On each server, on first run PowerShell asks whether to trust the publisher of this script. You may allow **Run always** for a certificate signed by Flexera Software LLC.

6. In each case, allow the script to run once, completing the requested details.

🔅

Tip • *Helpful notes:*

- *Use the service account details you created earlier (example: SVC-fnmsservice).*

- *Separately on each dialog, the check box* **Use the same credentials for all identities** *copies the account details from the upper section to the lower section of the dialog.*

- *For externally visible URLs, you can specify either HTTP or HTTPS protocol, and either the flat server name or the fully qualified domain name is supported. Any port number is optional. Valid examples:*

  ```
  http://servername
  https://www.servername.mydomain:8080
  ```

- *The PowerShell script asks for appropriate database connection details, depending on the configuration of the current server (for example, if the current server includes inventory server functionality, the script asks for the Inventory Management database). In each case, supply the host server name (and, if the database instance is not the default instance, the instance name, separated by a backslash character); and the database name for each kind of database. In a small-to-medium implementation, all the databases may be on the same host and instance combination; but in larger implementations may be separated onto distinct servers. In either case, each database has a distinct database name, for which the defaults are:*

  - *The main compliance database: FNMP*

  - *The database for inventory collected by the FlexNet inventory agent: IM*

  - *The data warehouse for trend reporting: FNMPDataWarehouse*

  - *The snapshot database for performance improvement: FNMPSnapshot.*

7. Close the PowerShell command window.

8. If this is your batch scheduling server (or the server hosting that functionality), ensure that the services for FlexNet Manager Suite Batch Process Scheduler are running:

a) Navigate to Start > **Control Panel** > **Administrative Tools** > `View local services`.

The **Services** dialog opens.

b) In the list of services, ensure that both `FlexNet Manager Suite Batch Process Scheduler` and `FlexNet Manager Suite Batch Processor` are both running. If not, right-click each stopped service in turn, and from the context menu, select **Start**.

Note • These services are critical to the operation of FlexNet Manager Suite. It is best practice to set up your service monitoring to alert you any time either of these services is stopped.

9. As required for a multi-server implementation, loop back to step 1 and repeat across a multi-server implementation.

Tip • On the application server (or on each component server in a multi-server implementation), the PowerShell scripts configure Microsoft IIS with an application pool for FlexNet Manager Platform. This pool requires authentication, and the scripts save the current logged-in account on each server in the IIS configuration for the application pool. When the user account on any server requires a password update, you must also update the password recorded in the IIS configuration for this application pool. For more information, see Password Maintenance on page 36.

Product Activation

Details of your license were emailed to you as part of the order confirmation process. Continue this process as administrator (`FNMS-Admin`), on the appropriate server (the one that includes the batch scheduling server):

- The application server (in a single server implementation)

- The processing server (in a two server application implementation)

- The batch scheduling server (in a three server application implementation).

1. On the appropriate server, save a copy of your license in a convenient folder (such as your installation folder), where it is accessible for this activation process.

2. In Windows Explorer, navigate to the `Installation-Dir\Dotnet\bin` folder.

3. Execute (double-click) `ManageSoft.Activation.Wizard.exe`.

4. Import your license to use FlexNet Manager Suite.

Populate the Downloadable Libraries

FlexNet Manager Suite comes with an Application Recognition Library, a SKU (stock keeping unit) Library, and several Product Use Rights Libraries (the latter depending on which options you have purchased for the product). These are updated regularly by Flexera Software and normally downloaded automatically. At installation time, however, you need to download the libraries to create a baseline ready for product use.

Tip • *New functionality in this release, including the recognition of Microsoft Server applications, relies on the latest updates of the downloadable libraries.*

Complete this procedure as administrator (`FNMS-Admin`), having database rights as described in earlier sections.

1. On the processing server (or application server for a single-server implementation), open a Command Window and navigate to `installation-folder\DotNet\bin\`.

2. Execute `MgsImportRecognition.exe`.

   The utility downloads all libraries according to the terms of your license, and imports them into FlexNet Manager Suite.

On this server, the Windows scheduled task **Recognition data import** updates these libraries, by default at 1am daily.

Import the Sample Reporting Package

This section is only for those using FlexNet Report Designer (powered by Cognos). Even if the installation of FlexNet Report Designer (and Cognos) is shared with (say) FlexNet Manager for Engineering Applications, you must still complete this process.

If you wish to proceed with custom reporting through FlexNet Report Designer, use this process to update your reports package for the new release.

1. Log in to your Report Designer (Cognos) server, and navigate to `reportDesignerInstallationDirectory\c10\deployment`.

   Tip • *If this folder does not already exist, create it.*

2. Copy your Report Designer Package - Single Tenant (`FlexNetManagerPlatformReportsAndDashboard.zip`) to this folder.

   You downloaded this package as you worked through *Download the Materials*.

   Important • *Do not change the file name. This file name and location are both requirements.*

3. You may log out of the Report Designer (Cognos) server now.

   Shortly you will log into your batch scheduling server, but first there are permissions to set.

4. In the web interface for FlexNet Manager Suite 2015, add your current account (suggested: `FNMS-Admin`) as a Web Administrator for the business reporting portal as follows:

   a) Navigate through the system menu (⚙ ▼ in the top right corner) > **Accounts**.
   The **Accounts** page opens.

   b) Select the **Roles** tab, and check for the existence of the `Business Reporting Portal Admin` role.

   If the role does not already exist, you can create it.

   c) Click the edit (pencil) icon at the right-hand end of the card for this role.
   The properties page for this role appears.

d) Expand the **Business reporting portal** tab of the accordion, and from the **Privileges** option list, ensure the **Web Administrator** role has **Allow** permissions.

e) Switch to the **All Accounts** tab, locate your current account (suggested: `FNMS-Admin`) in the list, and click the account name hyperlink.
The page switches to show **Account Properties** for your account.

f) Under the **Permissions** section, check whether your `Business Reporting Portal Admin` role is already listed against the **Role**. If so, you are set for permissions, and should continue with step *6*.

g) Click the + button to the right of your current **Role** (typically, `Administrator`) to add your account to another role.
A duplicate line appears with another option list of all the roles defines so far.

💡

Tip • *Each enterprise is licensed for only a single operator in the web administrator role. If one has already been defined, you need to move that account out before you can add yourself.*

h) From the duplicate option list, select your `Business Reporting Portal Admin` role.
The **Business reporting portal** tab of your resulting list of privileges is updated. If you expand this tab of the accordion, you see that **Web Administrator** now displays `Allowed access`.

i) Scroll to the bottom of this page, and click **Save**.
Your account is now the (only) web administrator for use of the Report Designer.

💡

Tip • *Report Designer also requires that this account is valid in Active Directory.*

5. Using the same account, log into your batch scheduling server directly.

   Refer to your block diagram of servers to identify this machine. If you have combined servers, this may be your processing server, or your application server.

6. Navigate in Windows Explorer to *installation-folder*\Cognos
   \BusinessReportingAuthenticationService\bin.
   Example:

   ```
   C:\Program Files (x86)\Flexera Software\FlexNet Manager Platform\Cognos
   \BusinessReportingAuthenticationService\bin
   ```

7. Right-click `CognosPackageImport.exe` and **Run as Administrator**.
   A window appears for the **Flexera Report Designer Package Import Utility**.

8. Click **Update...**.
   An **Update Value** dialog appears.

9. In the **Value** field, enter the value for Report Designer's Dispatch URL.

   In a typical installation, this has the following form:

   ```
   http://RD-Server:9300/p2pd/servlet/dispatch
   ```

   where you should replace *RD-Server* with the name of your server hosting Report Designer (powered by Cognos).

10. Click **Update**.

The value entered is written into the registry on this server, and the additional dialog disappears.

Tip • *If you run this import utility on the same machine in future, it displays the value stored in the registry in its read-only **Dispatch URL** field.*

11. Click **Install Reports Package**.

Progress is logged in the text window of this dialog as the package is imported into the Cognos database. When successfully completed, the last line displays `Finished publishing the Report Designer package.`

Important • *Do not close the utility until it has finished the import! This process may take several minutes.*

The Reports Designer reports are now available as baselines for your own customization and extension as required. The reports can be accessed in a web browser at `http://Cognos-webserver:port/cognos10/cgi-bin/cognos.cgi`? (A typical port number is 8889, but check the value in your implementation.)

Configure Web Browsers

Efficient use of FlexNet Manager Suite may required adjusting your web browser settings (especially for Microsoft Internet Explorer).

Assumption: Microsoft IIS is running on your central web application server.

1. In your preferred web browser, navigate to the URL *server-name-or-IP-address***/Suite/Help/webhelp/index.html**.

2. Expand the table of contents on the left by clicking the book icon to the left of the title.

3. Click **Configuring Your Web Browser**, and follow the guidelines in the column for your preferred web browser.

Link to Flexera Service Gateway

Flexera Service Gateway allows interaction between separate products from Flexera Software.

The ability to link FlexNet Manager Suite to the Flexera Service Gateway is subject to a separate license option. If you have licensed this option (you can check using the process below), you need to configure the connection as part of your configuration process.

To complete this process, you must know credentials that can log into your Flexera Service Gateway server with administrator privileges.

1. Log into the web interface for FlexNet Manager Suite.

2. Optionally, check that you have licensed the option to link to Flexera Service Gateway:

a) Navigate to the system menu (☼ ▼ in the top right corner) > **FlexNet Manager Suite License**.
The **Your FlexNet Manager Suite License** page appears.

b) Check the **Subscription details** on the left-hand side.

If you have licensed this option, `FNMP API integration enabled: Yes` appears in the list. If it is not visible, you cannot continue with this procedure.

3. Navigate to the system menu ⚙▼ > **System Settings**, and select the **Web API** tab.

Note • *This tab is available only if your enterprise has licensed the FNMP API integration option.*

4. Click each of the links in turn to download the two files, and save them to a convenient location (such as `C:\temp`).

There must be network access to your Gateway server from the location where you save the files.

5. Either, in your web browser's list of recent downloads, click the registration tool to open it; or

a) Open a Command Window, and navigate to the location where you downloaded the files.

b) Run `RegisterFlexeraServiceGateway.exe`.

The **Flexera Service Gateway Registration** dialog appears.

6. Identify the **Flexera Service Gateway host**, the server in your enterprise where the Gateway is installed, and the **Port** number.

You may use an IP address, a fully qualified domain name, or (if your DNS is correctly configured and accessible) the server's host name. The default port number is 9443.

7. Provide the credentials for administrator access to the Gateway account.

8. Us the **Import** button to browse to the other downloaded file, `FlexNet Manager Suite Web API configuration`, and import it into the registration tool.

9. Click **OK**.

Registration is complete. (You do not need to repeat this registration on others of your central servers.)

Set Up Initial Access Rights

The installing account (example: `FNMS-Admin`) defaults to having administrator privileges in your new implementation.

An account (such as that installing account) with administrator rights to FlexNet Manager Suite must set up access rights for other operators.

To do this:

1. Open the web interface to FlexNet Manager Suite 2015.

2. Navigate through the system menu (⚙▼ in the top right corner) > **Accounts**, and ensure that the **Roles** tab is selected.

3. For each unique set of access rights, ensure that there is (or create) a distinct role, and set its rights by expanding the various headings in the accordion and using the controls inside. (For unusual combinations, start by selecting `Custom` from the option list in each section.) Remember to scroll down and click **Save** (or **Create**) when you make any changes.

4. When appropriate roles are defined, switch to the **All Accounts** tab.

5. Find each account in the list in turn, and click the hyperlinked account name to open its properties.

6. Change the roles assigned, or add additional roles, to each account as required.

The net effect of all roles on permissions for this account is displayed in read-only mode in the accordion below as you make changes. (Remember that a 'deny' in one role over-rides an 'allow' in another role when the same account is assigned to both roles.)

7. Remember to **Save** each changed account.

Configure Beacon Connections

Inventory beacons are the data-gathering arms of your compliance system.

The process for installing and configuring inventory beacons starts from the web UI for FlexNet Manager Suite.

Note • Any computer on which you will install an inventory beacon must have at least version 3.0 of PowerShell installed. For more information, see Upgrade PowerShell on Inventory Beacons.

1. Use a web browser on another computer to access the URL ***server-name-or-IP-address*/Suite/**.

2. In the **Discovery & Inventory** menu, under the **Network** group, select **Beacons**.

3. Click **Deploy a beacon**.
   The **Deploy a Beacon** page appears. Ensure that the default **Download beacon** section of the accordion is open.

4. Click **Download beacon**.

5. Use the web browser dialog to save the installer to a convenient directory on the inventory beacon computer (such as `C:\temp`).

6. In Windows Explorer, navigate to the saved file, and double-click it to run the installer.

7. In the web interface for FlexNet Manager Suite, expand the accordion sections (and see the related help) for guidance on how to deploy and configure your inventory beacon(s).

8. With your inventory beacon(s) configured, in the web interface for FlexNet Manager Suite, navigate to **Discovery & Inventory** > **Discovery** > **Discovery and Inventory Rules** to set up FlexNet inventory collection rules.

9. Refer to the online help for details about configuring your inventory beacon(s) to connect to other data sources to import third-party inventory.
   For example, in the section *FlexNet Manager Suite Help > Inventory Beacons*, see (amongst others) the following topics:

   • *Inventory Systems Page*

   • *SAP Systems Page*

   • *Engineering Apps Agent Page*.

When the inventory collections rules are established, and the connections set up on the inventory beacon(s), FlexNet Manager Suite is ready to import data and start calculating your license position.

Install the Inventory Server

The inventory server processes all inventory collected (or augmented) by the FlexNet inventory agent.

In a single server implementation, this step is already completed and you should skip ahead to *Configure the System* on page 26.

For a multi-server implementation, continue this process as administrator (`FNMS-Admin`) on either your

- processing server (in a two server application installation)

- inventory server (in a three or more server application installation).

1. On the inventory (or processing) server, open Windows Explorer.

2. Copy the downloaded archive `FlexNet Manager Suite 2015 Installer.zip` from your staging location to a convenient location on this server (such as `C:\temp`), and unzip it.

3. Navigate in the unzipped archive to the `FlexNet Manager Suite\Installers\FlexNet Manager Suite` folder.

4. Start (double-click) `setup.exe`.

5. Select the **Custom** installation path, and do one of the following:

   - For a two server installation, now installing your processing server, select all of the **Inventory Server**, the **Reconciliation Server**, and the **Batch Processor** for this installation, and ensure that the **Web Application Server** is deselected (displaying a cross).

   - For an installation using three or more servers, now separately installing your inventory server, select only the **Inventory Server** for this installation, ensuring that the other options are deselected.

   Take note of the installation location for future reference.

6. If this server includes the batch scheduling server (or reconciliation server) functionality, you are prompted for the credentials used for batch processes. Be sure that the account you enter already has `Logon as a service` permission (see *Authorize the Service Account* on page 19).

7. When successful, close the installation wizard.

3

Notes on Issues

Topics:

- *Password Maintenance*
- *Identifying IIS Application Pool Credential Issues*
- *IIS Roles/Services*

This chapter includes a few brief guidelines for dealing with common issues. If you discover additional issues not described here, please contact Flexera Software Support for assistance.

For help on problems uploading inventory data, access the online help through the web interface for FlexNet Manager Suite, and navigate to **FlexNet Manager Suite Help** > **Inventory Beacons** > **Inventory Beacon Reference** > **Troubleshooting: Inventory Not Uploading**.

Password Maintenance

When a password on the service account expires, services cease to operate. At password refresh time, ensure that the password is updated for all the following services (in a single server implementation, all these are on the application server):

• On the web application server, in the IIS Application Pool:

  • **FlexNet Manager Platform**

  • **ManageSoftWebServiceAppPool**

  • **SAP Optimization**

  • **SAPServiceAppPool**

• On the processing server, in the IIS Application Pool: **Flexera Beacon**

• On the processing server, in the **FlexNet Manager Platform** folder for Microsoft Scheduled Tasks:

  • Data warehouse export

  • Export to ServiceNow

  • Import Active Directory

  • Import application usage logs

  • Import discovery information

  • Import installation logs

  • Import inventories

  • Import Inventory Beacon activity status

  • Import Inventory Beacon status

  • Import remote task status information

  • Import security event information

  • Import SAP inventories

  • Import SAP package license

  • Import system status information

  • Import VDI access data

  • Inventory import and license reconcile

  • Recognition data import

  • Regenerate Business Import config

  • Send contract notifications.

- On the batch scheduling server, in Services, **FlexNet Manager Suite Batch Process Scheduler** and **FlexNet Manager Suite Batch Processor** (if you have separated out to multiple batch servers, only the second of these is found on each batch server)

- On the server where the inventory processing engine runs (typically also the processing server), in the IIS Application Pool:

  - **Flexera Importers**

  - **Flexera Package Repository**

Note that the configuration scripts cannot be run simply to update passwords. The scripts support the following (space separated) flags and use cases:

- Use without a flag to add a configuration file to a new installation; or on an existing implementation, to remove all customizations and replace the `web.config` file with the default version:

  ```
  .\Config.ps1 "Config\FNMS Windows Authentication Config.xml"
  ```

- Add the `updateConfig` flag to insert any new parameters added by Flexera Software, leaving all settings (including customizations) unchanged for existing parameters:

  ```
  .\Config.ps1 "Config\FNMS Window Authentication Config.xml" updateConfig
  ```

- Add the `forceUpdateConfig` flag to insert any new parameters added by Flexera Software, and restore the default values for all factory-supplied settings, but leaving any custom parameters unchanged:

  ```
  .\Config.ps1 "Config\FNMS Windows Authentication Config.xml" forceUpdateConfig
  ```

- Add the `removeConfig` flag to remove the `web.config` file before using Windows Programs and Features to uninstall FlexNet Manager Suite:

  ```
  .\Config.ps1 "Config\FNMS Windows Authentication Config.xml" removeConfig
  ```

Identifying IIS Application Pool Credential Issues

A password change on (any of the) application server(s) may require an update of the IIS configuration.

Background

During installation of an on-premises implementation, PowerShell scripts run on the application server (or, in a multi-server implementation, on each of the component servers in turn) ask you to provide credentials for the application pools used within IIS for FlexNet Manager Suite. The scripts save these as part of the IIS configuration.

Note • If, as recommended, you have used a Network Service account for this purpose, it is very unusual to require a password change for such an account. If you used a normal user account, you require this additional maintenance each time that the password on that account is changed.

If, at any time after installation, the password for this user account is updated, the IIS configuration is now out of date, and IIS will refuse to run the application pools for FlexNet Manager Suite.

Tip • In this case, as well as IIS configuration, you may also need to update passwords on scheduled tasks and on services. For a complete list, see Password Maintenance on page 36.

Diagnosis

First symptom: The web interface for FlexNet Manager Suite will not load, producing the following error:

```
HTTP Error 503 - Service unavailable
```

Investigation: If you examine the Microsoft IIS application pools, you will find that the application pool for FlexNet Manager Platform is disabled after any attempt to run the web interface. An examination of the IIS log file shows entries like the following:

```
server-name  5057  Warning Microsoft-Windows-WAS  System  date time
Application pool FlexNet Manager Platform has been disabled. Windows Process Activation
Service (WAS)did not create a worker process to serve the application pool because the
application pool identity is invalid.

server-name  5059  Error  Microsoft-Windows-WAS  System  date time
Application pool FlexNet Manager Platform has been disabled. Windows Process Activation
Service (WAS) encountered a failure when it started a worker process to serve the
application pool.

server-name  5021  Warning Microsoft-Windows-WAS  System  date time
The identity of application pool FlexNet Manager Platform is invalid. The user name or
password that is specified for the identity may be incorrect, or the user may not have
batch logon rights. If the identity is not corrected, the application pool will be
disabled when the application pool receives its first request.  If batch logon rights
are causing the problem, the identity in the IIS configuration store must be changed
after rights have been granted before Windows Process Activation Service (WAS) can
retry the logon. If the identity remains invalid after the first request for the
application pool is processed, the application pool will be disabled. The data field
contains the error number.
```

Repair

Update the credentials for the applications pool on each of your application servers, using the process in *Update Credentials in IIS Application Pools* on page 38.

Update Credentials in IIS Application Pools

To update the password for the FlexNet Manager Suite application pools within Microsoft IIS, complete the following process on each of your servers in turn:

Tip • Servers are here named in a series from most specific (in large scale implementations) to most general (for small scale implementations). Use the first-listed server type that applies to you. For example, if the list item says "on the inventory server/processing server/application serve"r, and you have a separate inventory server, make the change there. If you do not have a separate inventory server, but you have scaled to a separate processing server (that combines your inventory

server and your batch server), make the change on your processing server. For a single-server implementation, you make this change on your application server.

1. Open IIS Manager (**Start** > **Administrative Tools** > **Internet Information Service (IIS) Manager**).

2. In the navigation area on the left, expand the *SERVER-NAME* (*account-name*) node, and select **Application Pools**. Any application pool accessed since the user account password was changed displays a status of `Stopped`. On each server type, the relevant application pools are:

   - **Flexera Beacon** on the batch scheduling server/processing server/application server

   - **Flexera Importers** on the inventory server/processing server/application server

   - **Flexera Package Repository** on the inventory server/processing server/application server

   - **FlexNet Manager Platform** on the web application server/application server

   - **ManageSoftWebServiceAppPool** on the web application server/application server

   - **SAP Optimization** on the web application server/application server

   - **SAPServiceAppPool** on the web application server/application server.

3. Select the appropriate application pool, and in the **Actions** list on the right, click **Advanced Settings**. The **Advanced Settings** dialog appears.

4. In the **Process Model** section, select **Identity**, and click the ellipsis button next to the account name.

5. Next to **Custom Account**, click **Set**. The **Set Credentials** dialog appears.

6. Enter the full **User name** for the account and enter the updated password in the two required fields.

7. Click **OK** to close all the open dialogs and save the new settings.

8. With the appropriate application pool still selected, in the **Actions** list on the right, click **Start**.

IIS Roles/Services

Below are the Microsoft Internet Information Services (IIS) roles and services utilized by FlexNet Manager Suite. In the event of misbehavior, it is often helpful to validate that all of the following are enabled on all your central servers (depending on the scale of your implementation, the ones that you have implemented from the application server, the web application server, the processing server, the batch scheduling server, and the inventory server). The process for checking whether the services are enabled is summarized below the list.

- `Web Server > Application Development > .NET Extensibility`

- `Web Server > Application Development > ASP.NET`

- `Web Server > Application Development > CGI`

- `Web Server > Application Development > ISAPI Extensions`

- `Web Server > Application Development > ISAPI Filters`

- `Web Server > Common HTTP Features > Default Document`

- `Web Server` > `Common HTTP Features` > `Directory Browsing`

- `Web Server` > `Common HTTP Features` > `HTTP Errors`

- `Web Server` > `Common HTTP Features` > `HTTP Redirection`

- `Web Server` > `Common HTTP Features` > `Static Content`

- `Web Server` > `Health and Diagnostics` > `HTTP Logging`

- `Web Server` > `Performance` > `Dynamic Content Compression`

- `Web Server` > `Performance` > `Static Content Compression`

- `Web Server` > `Security` > `Basic Authentication`

- `Web Server` > `Security` > `Request Filtering`

- `Web Server` > `Security` > `Windows Authentication`

To check whether these services are enabled in the Windows Server operating system:

1. Starting from the Windows start menu, navigate to **Control Panel** > **Administrative Tools** > **Server Manager**.

2. In the navigation bar on the left, under the **Server Manager** node, select the **Roles** node.

3. Locate the **Web Server (IIS)** section, and within that, identify the **Role Services** section.
   This section lists the status for each service. All of those in the list above should be both installed and enabled on all your central servers.

4

Additional Information

Details about installing, configuring and operating the inventory beacon are summarized directly in the web interface for FlexNet Manager Suite, and are detailed in the online help available through those pages.

Additional documentation for FlexNet Manager for SAP Applications is available through the Customer Community portal.