



FlexNet Manager Suite 2024 R1

Installation Guide for SAP Applications

Legal Information

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Installation Guide for SAP Applications

FlexNet Manager for SAP Applications is designed for use with SAP® Business Suite applications. It integrates with FlexNet Manager Suite to offer enhanced processes for gathering user and consumption data from SAP servers, to provide transparency, and optimize your SAP license position.

This FlexNet Manager for SAP Applications Installation Guide guides you through the installation process for FlexNet Manager for SAP Applications. This includes initial setup steps, such as importing transports, as well as administrative tasks, such as, for example, maintaining RFC destinations. Tasks that are related to using FlexNet Manager for SAP Applications on a regular basis are described in the *FlexNet Manager for SAP Applications User Guide* PDF.

You need to install and set up FlexNet Manager Suite before installing FlexNet Manager for SAP Applications.

Components Terminology

The FlexNet Manager for SAP Applications documentation uses the following terminology:

- **FlexNet Manager Suite** provides hardware and software asset management functions. You use FlexNet Manager Suite to manage the SAP system landscape and configure license optimization rules.
- The **SAP Admin module** is a component of FlexNet Manager for SAP Applications which acts as a central access point in an SAP landscape. It includes a **staging database** that stages all the data collected from the dependent SAP systems. The SAP Inventory Agent connects to the staging database and transfers the collected data to the FlexNet Manager Suite database. FlexNet Manager Suite uses this data to optimize the license position and create license-type and user-data recommendations. The SAP administrator imports the recommendations via web services into the SAP Admin module and processes (that is, implements or rejects) the recommendations. In addition, the SAP Admin module is used to perform package measurements, activity checks, and LAW measurements. Usually, the SAP Admin module is installed by importing the AdminModule transport into the SAP system that receives services updates which it distributes to the managed dependent SAP systems.
If required, your implementation can contain several SAP Admin modules that are connected to FlexNet Manager Suite.
- All SAP systems that are connected to the system on which the SAP Admin module is installed are referred to as

dependent SAP systems. A dependent SAP system can be connected to only one SAP Admin module. During the processing of license type recommendations, user data changes are sent from the SAP Admin module to its dependent SAP systems.

- An **independent SAP system** is an SAP system that is connected to FlexNet Manager Suite, but not to an SAP Admin module. The license and user data of an independent system can be read by the SAP Inventory Agent for optimization.
- The **SAP Inventory Agent** (SAPReader.exe) accesses and collects the user primary record information from the SAP Admin module via Remote Function Call (RFC) and imports the data into FlexNet Manager Suite for analysis and optimization.
- The **Satellite transport** is an optional component. It must be installed if any of the following statements are true:
 - You want to collect SAP package data and you do not want to execute the USMM to collect user data and license data.
 - You do not want to use the RFC function RFC_READ_TABLE or its corresponding authorization, SDTX.
 - You want to collect activity check data.
 - You want to retrieve the module hierarchy from an independent SAP system. The module hierarchy is used to provide information on modules and sub-modules in the Module Usage report. The data from the Module Usage report can be used to create transaction profiles. For more information, see the *FlexNet Manager for SAP Applications User Guide*.

If any of the above statements apply to you, the Satellite transport must be installed on all SAP systems with SAP packages, to enable the optimization of the relevant package licenses and execution of activity checks.

- The **Role transport** contains the following roles:
 - /LICMAN/ADMIN_MODULE
 - /LICMAN/SATELLITE
 - /LICMAN/SATELLITE_CHARGEBACK

For more information about roles, see [Authorizations for FlexNet Manager for SAP Applications](#).

Technical Requirements

SAP Front-End

- The SAP GUI matching the SAP release must be installed.
- ActiveX must be installed.

SAP Admin Module

- The SAP Admin module can be installed on any SAP system with an SAP Basis release between 7.00 and 7.5.
- Recommended practice is to install the SAP Admin module on the system that contains the SAP Solution Manager, for

the following reasons:

- The SAP Solution Manager system is usually connected to most or all of the SAP systems whose user licenses should be managed by FlexNet Manager for SAP Applications.
- If the SAP Admin module is installed on the SAP Solution Manager system, it does not impact on other productive systems.

Dependent SAP Systems

- The dependent SAP systems that are connected to the SAP Admin module require an SAP Basis release between 4.6C and 7.5.

The SAP Inventory Agent can retrieve consumption data from the SAP systems only if the consumption data is available in the transaction ST03N. If ST03N is disabled or does not function properly, the SAP Inventory Agent might not work properly, because the agent uses the same standard SAP functionality as ST03N.

Upgrading from Previous Versions

To upgrade from a previous version of FlexNet Manager for SAP Applications, you need to import the transports for FlexNet Manager for SAP Applications 2024 R1. For information on the import procedure, see [Import of Transports](#).

All data originating from the previous version, such as consumption data, license rules, and measurements, will be preserved in their original tables.

Installation Workflow



FlexNet Manager for SAP Applications installation steps:

1. Set up the SAP landscape in FlexNet Manager Suite and on any inventory beacons, if using. This includes the following tasks:
 - a. Set up the SAP Admin module. See [Adding an SAP Admin Module System](#).
 - b. Add the dependent SAP systems that are connected to the SAP Admin module. See [Adding a Dependent SAP System](#).
 - c. If your setup is using beacons, create connections to your SAP systems on the inventory beacons. See [Creating SAP Connections](#).

For a general overview of the setup tasks and prerequisites, see [System Landscape Setup](#).

2. Install the transports:
 - Import the AdminModule transport into a suitable SAP system or SAP systems, if you want to have multiple SAP Admin modules.
 - Import the Roles transport into all SAP systems that you want to optimize using FlexNet Manager for SAP Applications.

For more information, see [Import of Transports](#).

3. Create the users for the SAP Admin module and the dependent SAP systems and assign the required roles. For more information, see [Creating Users](#).
4. Configure the web service on the FlexNet Manager Suite server and any inventory beacons, if using. For more information, see [Communication between FlexNet Manager Suite and the SAP Admin Module](#) and [Communication between the SAP Admin Module and an Inventory Beacon](#), respectively.
5. Configure the web service in the SAP Admin module in SOAMANAGER to facilitate communication between FlexNet Manager Suite and the SAP Admin module. For more information, see [Configuring the Web Service on the SAP Admin Module System for Communication with FlexNet Manager Suite](#). Use the Connection Monitor to verify if all connections are working properly. For more information, see [Testing Connections](#).
6. Import the system landscape from FlexNet Manager Suite into the SAP Admin module. For more information, see [Importing a System Landscape from FlexNet Manager Suite](#).
7. Set up the RFC destinations inside the SAP Admin module for the communication with the dependent SAP systems. For more information, see [Adding RFC Destinations](#).
8. Schedule the collection of data from the dependent SAP systems into the SAP Admin module. For more information, see [Collecting Data from Dependent SAP Systems](#).

Data flow in FlexNet Manager for SAP Applications

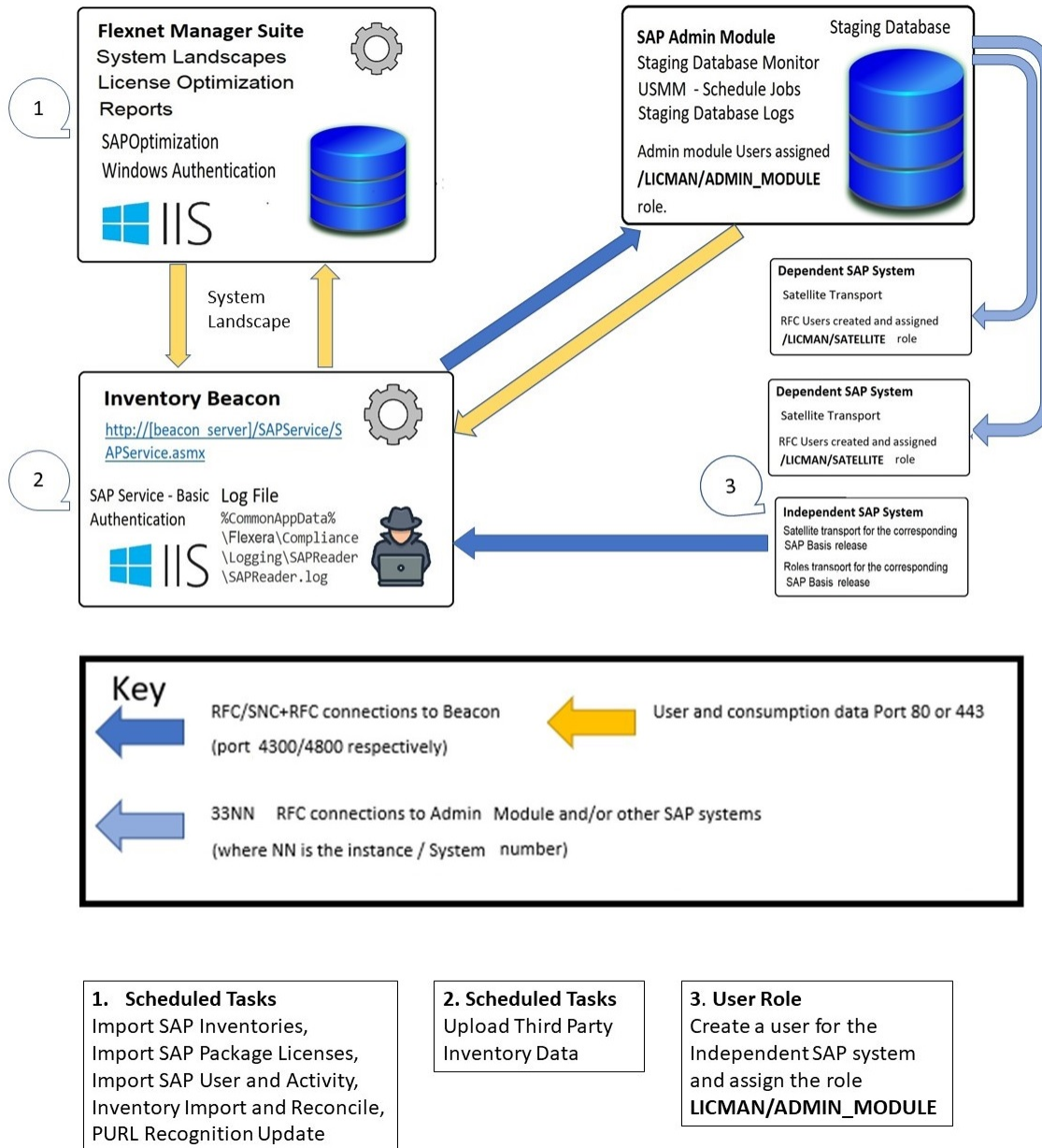
Communication between FlexNet Manager Suite and the SAP Admin module is facilitated using web services. Web services need to be configured on the SAP Admin module (see [Configuring the Web Service on the SAP Admin Module System for Communication with FlexNet Manager Suite](#)) and on the FlexNet Manager Suite web server (see [Communication between FlexNet Manager Suite and the SAP Admin Module](#)).

The SAP Admin module connects to its dependent SAP systems using RFC-enabled functions and collects user and consumption data. The collected data is held in a staging database. The SAP Inventory Agent reads the data and transfers it to the FlexNet Manager Suite database. The data is analyzed in FlexNet Manager Suite, and the resulting license-type and user recommendations are staged on the FlexNet Manager Suite server.

The SAP Admin module connects to the FlexNet Manager Suite server and retrieves the recommendations for processing. Any modifications of the user primary data are distributed to the dependent SAP systems.

Independent SAP systems are not connected to the SAP Admin module. The SAP Inventory Agent accesses and collects the user primary record information via Remote Function Call (RFC).

Figure 1: Data flow between the components in an on-premises implementation



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Initial Setup of FlexNet Manager Suite



Note: Before executing any of the tasks in this section, ensure that FlexNet Manager Suite has been installed and configured.

Typically, you would set up FlexNet Manager Suite before configuring the SAP Admin module.

The initial setup of FlexNet Manager Suite usually includes the following tasks:

- Setting up the system landscape—see [System Landscape Setup](#).
- Maintaining the collection of user and consumption data from SAP systems using the SAP Inventory Agent—see [Collection of User Details and Consumption Data from SAP Systems](#).

System Landscape Setup

In SAP mode of FlexNet Manager Suite, you use the System Landscape Editor to represent and manage all your SAP systems.

Your systems are organized in a landscape or multiple landscapes, according to your enterprise's requirements. You can group your systems into a hierarchical structure as needed. For example, you could create groups based on your organization's structure (per branch, business unit, and so on) or according to the systems' technical properties.

The System Landscape Editor provides an overview of all the SAP systems that are organized in a landscape. It is the primary area where you add, edit, and delete system landscapes. You can change the system landscape's status to enable and disable updating the dashboard with licensing data.

You use the System Landscape Editor to add SAP Admin module systems, dependent, and independent SAP systems to a landscape. In addition, you configure the RFC connection details for the systems that connect to FlexNet Manager Suite (SAP Admin module systems and independent SAP systems connect to FlexNet Manager Suite, but there is no direct connection between FlexNet Manager Suite and dependent SAP systems). It also enables you to edit existing systems and to remove systems from the landscape.

If you are using inventory beacons, the landscapes that you define in the System Landscape Editor are distributed to all

inventory beacons. You can then define the SAP systems for these landscapes on the inventory beacon.

For more information about defining an SAP system on an inventory beacon, see [Creating SAP Connections](#).

Accessing the System Landscape Editor



To access the System Landscape Editor:

1. In FlexNet Manager Suite, click **SAP** in the top modal menu.
2. In the navigation bar, click **Configuration**.
3. Select **System Landscapes**. The **SAP System Landscapes** page is the main page of the editor and contains a list of the system landscapes.
4. Use the **Advanced > Choose Fields** option to display all fields you require:

Field	Notes
Name	The name of the system landscape that was provided when the landscape was created.
Description	A description of the system landscape.
Status	The status of a landscape indicates the following: • Active — The dashboard will be updated with data on the optimal license position from the landscape. • Inactive — The dashboard will not be updated with data on the optimal license position from the landscape. • Archived — The landscape is no longer in use and has been archived. License information from an archived landscape will not be synchronized with the software licenses presented in FlexNet Manager Suite. • Simulation — The landscape is not a production landscape. Instead, it is used only for simulating the application of license rules and analyzing their effect on the compliance position.
Creation Date	The date and time when the landscape was created.
Creation User	The user who created the landscape.
Updated Date	The date and time when the landscape was last changed.
Updated User	The user who made the last change to the landscape.

5. Drill down into a system landscape by double-clicking on it.

The corresponding **System Landscape: *name*** page shows the systems (SAP systems and non-SAP systems) and system groups that are included in the landscape in the **SAP Systems** list.

The System Landscape Details Page

When you access a system landscape via the System Landscape Editor, the corresponding **System Landscape: *name*** page shows information pertaining to the selected landscape.

For information on how to display the **System Landscape: *name*** page, see [Accessing the System Landscape Editor](#).

Details Section

The **Details** section of the **System Landscape: *name*** page shows the following information.

Option	Description
Name	The name of the system landscape that was provided when the landscape was created.
Description	A description of the system landscape.
Status	The status of a landscape indicates the following: • Active — The dashboard will be updated with data on the optimal license position from the landscape. • Inactive — The dashboard will not be updated with data on the optimal license position from the landscape. • Archived — The landscape is no longer in use and has been archived. License information from an archived landscape will not be synchronized with the software licenses presented in FlexNet Manager Suite. • Simulation — The landscape is not a production landscape. Instead, it is used only for simulating the application of license rules and analyzing their effect on the compliance position.
Handling over-consumption of license types	This option indicates how FlexNet Manager for SAP Applications should calculate the license position for license types that are over-consumed. • Recommend promoting users to spare superior licenses—Over-consumed licenses can be covered by spare licenses of a superior license type of which the over-consumed license is a sub-type. This is the default setting. • Show deficits against assigned license (license is at risk)—Spare superior licenses are not used to cover licenses that are <i>over-utilized</i>. Instead, the over-consumed license is shown as <i>over-utilized</i>, and the resulting license deficit can be viewed on the License Position page.
Location	The location to which the landscape is allocated.
Cost Center	The cost center to which the landscape is allocated.
Business Unit	The business unit to which the landscape is allocated.

Option	Description
Category	The category to which the landscape is allocated.
Created by	The user who created the landscape.
Created at	The date and time when the landscape was created.
Last updated by	The user who made the last change to the landscape.
Last updated at	The date and time when the landscape was last changed.

SAP Systems Section

On the **System Landscape: *name*** page, use the check box **Show outline view of landscape** to select between two display modes. When the check box is selected, the system tree on the left provides a structural overview of the system landscape and its systems and system groups. The list on the right provides information about the system or system group that is currently selected in the system tree. You would usually work in this outline view when setting up your landscape.

When the check box **Show outline view of landscape** is cleared, all systems and system groups of the landscape are shown in a grid view. You would usually work in this view when you want to view the details of several systems at a glance or if you are searching or filtering systems.

The setting of the check box **Show outline view of landscape** will be remembered; that is, the next time you open a system landscape, the check box will have the same setting as when you last left it.

The **SAP Systems** grid contains the following columns (listed alphabetically). By default, some are shown in the column chooser. Select **Advanced > Choose Fields** to display additional fields.

Column	Description
Active Price List	The active price list is imported from the relevant SAP system (via the USMM transaction).
Client ID	The client ID of the SAP system.
Database System	The database technology that the SAP server is using.
Default License Type	The default license type that is used if no license type is specified for a user. This data is automatically imported when the system is inserted. For technical reasons, the default license type for non-SAP systems is set to 91.
Dependent On	If the system type is Dependent SAP system , this column shows the name of the SAP Admin module system to which the dependent system is connected. Otherwise, this column is blank.
FNM-SAP Version	Shows the FlexNet Manager for SAP Applications release that is currently installed. This data is automatically imported when the system is created. For offline systems, this field is blank.
Group Path	Contains the path of the system within the landscape. (This column is available only in grid view.)

Column	Description
Hardware Key	The hardware key that is assigned to the SAP system. This data is automatically imported when the system is created. This field is blank for portals, non-SAP systems, and system groups.
Installation No.	The system's installation number that is registered with SAP. This data is automatically imported when the system is created.
Inventoried By	The application server (the text <code>Application server</code> displays) that was used to collect the SAP inventory.
Inventory Date	The date when the SAP system inventory was collected.
Last Changed On	The date when the system was last changed. This data is automatically imported when the system is created.
LAW Version	The version of the SAP LAW. This data is automatically imported when the system is created.
Migration Status	Displays one of: - Blank if no migration status has been set for this system, or if the SAP suite type is S/4HANA. - Not planned - Planned - In progress - Completed.
Parent Group	The name of the parent group of which the system is a child. If the system does not belong to a parent group, this field is empty. (This column is available only in grid view.)
SAP BASIS Patch	The version of the SAP Basis patch that is installed.
SAP BASIS Release	The version of the SAP Basis release that is installed.
SAP Suite Type	Shows one of: - Classic Business Suite - S/4HANA — This choice requires that the SAP System Type is set to Independent SAP system or Dependent SAP system.  Tip: SAP Admin module is not supported if the SAP Suite Type is set to S/4HANA.
Server	The name of the SAP server.
ST-PI Release	The version of the ST-PI release that is installed.

Column	Description
System Environment Type	The type of the system environment: • Production • Test • Customizing • Demo • Training/Education • SAP Reference.
System ID	Three-character identifier that identifies the SAP system.
System Number	The system number of the SAP system.
System Type	The type of SAP. The following options are available: • Dependent SAP system — A system that is connected to an SAP Admin module. • Independent SAP system — A system that is not connected to an SAP Admin module. • Non-SAP system — A system that communicates with one of your SAP systems, but that is not an SAP system itself. • SAP Admin module — A system that collects data from its dependent SAP systems for analysis in FlexNet Manager Suite.

Managing Your System Landscape

Organize your landscape in the structure that best meets your organization's requirements.

Managing your system landscape will usually involve the following tasks:

- [Editing a System Landscape](#)
- [Adding a System Landscape](#)
- [Deleting a System Landscape](#)
- [Adding a Dependent SAP System](#)
- [Editing an Independent SAP System or SAP Admin Module System](#)
- [Deleting an SAP System](#)
- [Adding an SAP System Group](#)
- [Editing an SAP System Group](#)

- [Deleting an SAP System Group](#)

For information on non-SAP systems, see [Managing Evidence Using Non-SAP Systems](#). For information on non-SAP systems, see *Managing Evidence Using Non-SAP Systems* in the *FlexNet Manager for SAP Applications User Guide* PDF.

For information about defining, editing, and deleting SAP systems on an inventory beacon, see [Managing Inventory Beacon Connections](#) and its subtopics.



Important: For inventory beacons which run on the central application server, the collection of SAP inventory data is **not** supported. In this scenario, the connections to the SAP systems must be configured directly in SAP mode using the web interface of FlexNet Manager Suite. For procedural information, see [Adding an SAP Admin Module System](#), [Adding a Dependent SAP System](#), and [Adding an Independent SAP System](#).

Managing your system landscape will usually involve the following tasks:

Editing a System Landscape

When you access the **SAP System Landscapes** page for the first time, FlexNet Manager for SAP Applications contains one inactive system landscape, named *Default System Landscape*. Some fields can be populated by clicking the **Select** button . This requires that the corresponding values have been added in FlexNet Manager Suite beforehand (using the options under **Management > Enterprise**).



To edit a system landscape:

1. In FlexNet Manager Suite, open the System Landscape Editor by clicking **SAP**, pointing to **Configuration** and then selecting **System Landscapes**.
2. On the **SAP System Landscapes** page, double-click the system landscape that you want to modify. Alternatively, select the system landscape and click **View**.

The **System Landscape: name** page opens.

3. In the **Details** pane, click **Edit**.

The **System Landscape: name** page opens in edit mode.

4. Make your changes, and click **Save**.

Adding a System Landscape

You require sufficient access rights to add new landscapes. If you do not have sufficient rights, the **Add** button on the **System Landscapes** page will not be available. For more information, see *Access Rights to SAP Functionality* in the *FlexNet Manager for SAP Applications User Guide* PDF. For more information, see [Access Rights to SAP Functionality](#).

In some scenarios, for example, if your company merged with another organization and is required to true-up its SAP systems separately, you might have to create multiple system landscapes to facilitate one true-up per system landscape. In scenarios with multiple system landscapes, each landscape requires its own license type hierarchy and user consolidation. For more information, see [License-Type Hierarchy](#) and [User Consolidation](#), respectively. For more information, see the sections *License-Type Hierarchy* and *User Consolidation*, respectively, in the *FlexNet Manager for SAP Applications User Guide* PDF.

**To add a system landscape:**

1. In FlexNet Manager Suite, open the System Landscape Editor by clicking **SAP**, pointing to **Configuration** and then selecting **System Landscapes**.

The **SAP System Landscapes** page displays. It contains a grid with a list of all existing system landscapes.

2. Click **Add**.
3. On the **Create New SAP System Landscape** page, enter a name, a description (optional), and the status of the new landscape.
4. Under **Compliance**, select how over-consumed license types should be handled, and populate the fields under **Ownership**.

For information about field values, see [The System Landscape Details Page](#). Some fields can be populated by clicking the **Select** button . This requires that the corresponding values have been added in FlexNet Manager Suite beforehand (using the options under **Management > Enterprise**).

5. Click **Create**.

The new landscape is created and the **System Landscape: name** page displays.

Deleting a System Landscape

If you no longer need a system landscape, you can delete it.

**To delete a system landscape:**

1. In FlexNet Manager Suite, open the System Landscape Editor by clicking **SAP**, pointing to **Configuration** and then selecting **System Landscapes**.
2. On the **SAP System Landscapes** page, select the landscape or landscapes that you want to delete and click **Delete**.
3. In the **Delete System Landscape** dialog, click **Delete** to delete the landscape or landscapes.

Adding an SAP Admin Module System

You need to set up an SAP Admin module system in FlexNet Manager Suite before you can add SAP systems that are connected to this SAP Admin module.

This topic is relevant only if you are using FlexNet Manager for SAP Applications in an on-premises implementation. For adding an SAP Admin module in a Cloud implementation, see [Creating SAP Connections](#).

**To add an SAP Admin module to a system landscape in FlexNet Manager Suite:**

1. In FlexNet Manager Suite, open the System Landscape Editor by clicking **SAP**, pointing to **Configuration** and then selecting **System Landscapes**.

The **SAP System Landscapes** page displays.

2. Double-click the landscape to which you want to add a system. If you are setting up your landscape for the first

time, you would usually select the predefined Default System Landscape.

The **System Landscape: name** page displays.

3. Go to the **SAP Systems** section and click **Add**.

The **Select system type** dialog display with the **SAP** option selected by default.

4. Click **OK**.

The **Create New SAP System** page displays.

5. Go to the **Connectivity** section and select **SAP Admin Module**.

6. Complete as much of the following system information as possible.

Required fields are highlighted in yellow.

Field Name	Description
System ID	The unique identifier of the SAP system to which you want to connect.
Client ID	The client ID of the SAP system to which you want to connect.
Description	The description of the SAP system to which you want to connect (optional).
Parent group	Click the ellipsis button  to assign the system to a parent group.
SAP Admin Module	You selected this option above because you are adding an SAP Admin module system.
Server name	The DNS name of the SAP system. This value will be used by the RFC connection. This field can also store the SAP system's IP address.
System number	The SAP system number. This value will be used by the RFC connection.
User name	The user name that is to be used when connecting to the SAP system and making RFC calls.
Password	The password that is to be used when connecting to the SAP system and making RFC calls.
	 Important: The password should not contain any backward slashes (\). Otherwise, the connection to the SAP system cannot be established.
Repeat password	Re-enter the password.
Test Connection	Click this button to test whether the connection details you entered are correct.
First name	The first name of the owner of the system.
Last name	The last name of the owner of the system.
Business phone number	The business phone number of the owner of the system.

Field Name	Description
Mobile phone number	The mobile phone number of the owner of the system.
Email	The email address of the owner of the system.
Location	The location of the owner of the system.

- Click **Create** to save the information.

The SAP Admin module system is added to the system landscape, and the **SAP System: *name*** page displays the system details, as well as the lists of **Dependent SAP Systems** and **Users**. For information about the **Users** table, see [Displaying the SAP System Users](#).

Adding a Dependent SAP System

Before you can add dependent SAP systems, you must have added the SAP Admin module that these dependent SAP systems connect to. For more information, see [Adding an SAP Admin Module System](#).

Use the System Landscape Editor to add dependent SAP systems that are connected to an SAP Admin module system to the system landscape. Dependent SAP systems can be CUA systems or non-CUA systems.

This topic is relevant only if you are using FlexNet Manager for SAP Applications in an on-premises implementation. For adding a dependent SAP system in a Cloud implementation, see [Creating SAP Connections](#).

To add a dependent SAP system, you initially create an *independent* SAP system that you add to an SAP Admin module. When you add this system to an SAP Admin module, the system becomes a *dependent* SAP system.



Tip: You can also use this procedure to change an independent SAP system into a dependent SAP system.



To add a dependent SAP system to an SAP Admin module:

- In FlexNet Manager Suite, open the System Landscape Editor by clicking **SAP**, pointing to **Configuration** and then selecting **System Landscapes**.
- On the **SAP System Landscapes** page, double-click the landscape that contains the SAP Admin module to which the system that you want to add is connected.

The **System Landscape: *name*** page displays.

- Go to the **SAP Systems** section and click **Add**.

The **Select system type** dialog displays with the **SAP** option pre-selected.

- Click **OK**.

The **Create New System** page displays with the **Independent SAP system** option pre-selected in the **Connectivity** section.

- Complete as many of the following field as possible with the system information that you have available.

Field Name	Description
System ID	The unique identifier of the SAP system to which you want to connect.
Client ID	The client ID of the SAP system to which you want to connect.
Description	The description of the SAP system to which you want to connect (optional).
System landscape	The name of the system landscape to which you are adding a system. This information is non-editable.
Parent group	Click the ellipsis button  to assign the system to a parent group.
Independent SAP System	This option which is selected by default indicates that the new system is an independent SAP system. This system will be changed to a dependent SAP system at a later stage when you add it to an SAP Admin module.
Server name	The DNS name of the SAP system. This value will be used by the RFC connection. This field can also store the SAP system's IP address.
System number	The SAP system number. This value will be used by the RFC connection.
User name	The user name that is to be used when connecting to the SAP system and making RFC calls.
Password	The password that is to be used when connecting to the SAP system and making RFC calls.  Important: The password should not contain any backward slashes (\). Otherwise, the connection to the SAP system cannot be established.
Repeat password	Re-enter the password.
Test Connection	Click this button to test whether the connection details you entered are correct.
First name	The first name of the owner of the system.
Last name	The last name of the owner of the system.
Business phone number	The business phone number of the owner of the system.
Mobile phone number	The mobile phone number of the owner of the system.
Email	The email address of the owner of the system.
Location	The location of the owner of the system.

Field Name	Description
SAP suite type	Choose one of: • Classic Business Suite • S/4Hana.  Note: <i>Dependent SAP systems set to S/4HANA will not be imported into the SAP Admin module for SAP transport requests that run based on FlexNet Manager Suite version 2018 R2 or earlier. We recommend that you upgrade to the FlexNet Manager Suite version 2019 R1 or later if your SAP landscape does include S/4HANA dependent SAP system as this will allow you to view your complete SAP system.</i>
Migration status	This control is only available when the SAP suite type is set to Classic Business Suite. You may then choose one of: • Not planned • Planned • In progress • Completed.

- Click **Create** to save the information.
- Open the landscape that contains the SAP Admin module to which the system that you want to add is connected. Do one of the following:
 - Open the System Landscape Editor by clicking **SAP**, pointing to **Configuration** and then selecting **System Landscapes**. On the **SAP System Landscapes** page, double-click the landscape that contains the SAP Admin module to which the system that you want to add is connected.
 - In the breadcrumbs, click **System Landscape: name**.
- Open the details page of the SAP Admin module to which the dependent SAP system is connected. To do so, on the **System Landscape: name** page, under **SAP Systems**, select the SAP Admin module and click **View**.
- On the **SAP System: name** page, scroll down to the **Dependent SAP Systems** grid.
- In the **Dependent SAP Systems** grid, click **Add**.
The **Select SAP Systems** dialog displays.
- Select the system that you created in steps 1 to 6. You can also add multiple systems in one step by selecting the respective check boxes.
- Click **OK**.

The system type is changed to *dependent SAP system*, and the system is added to the system landscape. The **SAP System: name** page displays the system details as well as the **Users** grid. For information about the **Users** grid, see [Displaying the SAP System Users](#).

Adding an Independent SAP System

This topic is relevant only if you are using FlexNet Manager for SAP Applications in an on-premises implementation. Independent SAP systems are not connected to an SAP Admin module. For information on adding an independent SAP system in a Cloud implementation, see [Creating SAP Connections](#).



To add an independent SAP system:

1. In FlexNet Manager Suite, open the System Landscape Editor by clicking **SAP**, pointing to **Configuration** and then selecting **System Landscapes**.
2. On the **SAP System Landscapes** page, double-click the landscape to which you want to add an independent SAP system.

The **System Landscape: *name*** page displays.

3. Go to the **SAP Systems** section and click **Add**.

The **Select system type** dialog displays with the **SAP** option pre-selected.

4. Click **OK**.

The **Create New System** page displays with the **Independent SAP system** option pre-selected in the **Connectivity** section.

5. Complete as many of the following field as possible with the system information that you have available.

Required fields are highlighted in yellow.

Field Name	Description
System ID	The unique identifier of the SAP system to which you want to connect.
Client ID	The client ID of the SAP system to which you want to connect.
Description	The description of the SAP system to which you want to connect.
System landscape	The name of the system landscape to which you are adding a system. This information is non-editable.
Parent group	Click the ellipsis button  to assign the system to a parent group.
Independent SAP system	This option which is selected by default (as detailed in Step 4 above) indicates that the new system is an independent SAP system.
Server name	The DNS name of the SAP system. This value will be used by the RFC connection. This field can also store the SAP system's IP address.
System number	The SAP system number. This value will be used by the RFC connection.
User name	The user name that is to be used when connecting to the SAP system and making RFC calls.

Field Name	Description
Password	The password that is to be used when connecting to the SAP system and making RFC calls.  Important: The password should not contain any backward slashes (\). Otherwise, the connection to the SAP system cannot be established.  Important: On some configurations, a logon error can occur when connecting an independent SAP system. The issue may affect SAP systems up to SAP Basis release 6.4, but primarily affects systems running SAP Basis 4.6. It is recommended that you test the connection using the Test connection button. If the test returns an error saying that the connection to the system was established, but that credentials were incorrect, enter the password in uppercase letters. For more information, see SAP Note 792850.
Repeat password	Re-enter the password.
Test Connection	Click this button to test whether the connection details you entered are correct.
First name	The first name of the owner of the system.
Last name	The last name of the owner of the system.
Business phone number	The business phone number of the owner of the system.
Mobile phone number	The mobile phone number of the owner of the system.
Email	The email address of the owner of the system.
Location	The location of the owner of the system.
SAP suite type	Choose one of: • Classic Business Suite • S/4HANA.
Migration status	This control is only available when the SAP suite type is set to Classic Business Suite. You may then choose one of: • Not planned • Planned • In progress • Completed.

6. Click **Create** to save the information.

The independent SAP system is added to the system landscape, and the **SAP System: name** page displays the system details as well as the **Users** list. For information about the **Users** table, see [Displaying the SAP System Users](#).

Editing an Independent SAP System or SAP Admin Module System



To edit an independent SAP system or an SAP Admin module system:

1. In FlexNet Manager Suite, open the System Landscape Editor by clicking **SAP**, pointing to **Configuration** and then selecting **System Landscapes**.
2. On the **SAP System Landscapes** page, double-click the system landscape that contains the system you want to edit. Alternatively, select the desired landscape and click **View**.
3. On the **System Landscape: name** page, under **SAP Systems**, double-click the system that you want to edit. Alternatively, select the desired system and click **View**.
4. On the **SAP System: name** page, click **Edit** to switch into edit mode. You can adjust the following fields.

Field Name	Description
System ID	The unique identifier of the SAP system to which you want to connect.
Client ID	The client ID of the SAP system to which you want to connect.
Description	The description of the SAP system to which you want to connect (optional).
Parent group	Click the ellipsis button  to assign the system to a different parent group.
SAP Admin module	Select this option if the system is an SAP Admin module system.
Independent SAP system	Select this option if the system is an independent SAP system.
Server name	The DNS name of the SAP system. This value will be used by the RFC connection. This field can also store the SAP system's IP address.
User name	The user name that is to be used when connecting to the SAP system. This field is editable only for independent SAP systems.
System number	The SAP system number. This value will be used by the RFC connection.
Password	The password that is to be used when connecting to the SAP system. This field is editable only for independent SAP systems.
Repeat password	Re-enter the password. This field is editable only for independent SAP systems.
First name	The first name of the owner of the system.
Last name	The last name of the owner of the system.

Field Name	Description
Business phone number	The business phone number of the owner of the system.
Mobile phone number	The mobile phone number of the owner of the system.
Email	The email address of the owner of the system.
Location	The location of the owner of the system.
SAP suite type	This control is not available for an SAP Admin module. For an Independent SAP System, choose one of: • Classic Business Suite • S/4HANA.
Migration status	This control is not available for an SAP Admin module. For an Independent SAP System, this control is only available when the SAP suite type is set to Classic Business Suite. You may then choose one of: • Not planned • Planned • In progress • Completed.

5. Click **Save** to update the SAP system details.

Editing a Dependent SAP System



To edit a dependent SAP system:

1. In FlexNet Manager Suite, open the System Landscape Editor by clicking **SAP**, pointing to **Configuration** and then selecting **System Landscapes**.
2. On the **SAP System Landscapes** page, double-click the landscape that contains the SAP Admin module to which the system that you want to edit is connected.
3. On the **System Landscape: name** page, under **SAP Systems**, double-click the SAP Admin module to which the system that you want to edit is connected. Alternatively, select the desired system and click **View**.
4. On the **SAP System: name** page, scroll down to the **Dependent SAP Systems** list.
5. Double-click the desired dependent SAP system.
6. On the **SAP System: name** page, click **Edit** to switch into edit mode. You can adjust the following fields.

Field Name	Description
System ID	The unique identifier of the SAP system to which you want to connect.
Client ID	The client ID of the SAP system to which you want to connect.
Description	The description of the SAP system to which you want to connect (optional).
First name	The first name of the owner of the system.
Last name	The last name of the owner of the system.
Business phone number	The business phone number of the owner of the system.
Mobile phone number	The mobile phone number of the owner of the system.
Email	The email address of the owner of the system.
Location	The location of the owner of the system.
SAP suite type	Choose one of: • Classic Business Suite • S/4HANA
Migration status	This control is only available when the SAP suite type is set to Classic Business Suite. You may then choose one of: • Not planned • Planned • In progress • Completed.

7. Click **Save** to update the details for the dependent SAP system.

Deleting an SAP System



To delete an SAP system:

1. In FlexNet Manager Suite, open the System Landscape Editor by clicking **SAP**, pointing to **Configuration** and then selecting **System Landscapes**.
2. Double-click the system landscape that contains the system that you want to delete. The **System Landscape: name** page is displayed.
3. In the **SAP Systems** grid, ensure that no filter is active so that all systems are displayed. Then, select the system that you want to delete and click **Delete**.

4. In the **Delete System** dialog, click **Delete** to confirm.

Displaying the SAP System Users

An SAP system's users list is available for SAP Admin module systems, dependent SAP systems, and independent SAP systems. It shows the user data, roles, and consumption data of the system's users.

The **Users** grid is populated after the SAP Inventory Agent has been executed. It is located on the **SAP System: name** page and contains the following details (use the **Advanced > Choose Fields** option to display the fields you require).

Column Name	Description
User Name	The user ID of the user on the remote system.
First Name	The first name of the user on the remote system.
Last Name	The last name of the user on the remote system.
License Type	The license type that is currently assigned to the user.
Number of Roles	The number of roles that are currently allocated to the user. If the number is blue, you can click on it to see which roles are allocated to the user.
Valid From	The start date of the user's validity period.
Valid To	The end date of the user's validity period.
User Type	The user type of the user.
User Group	The group to which the user belongs.
Last Logon Date	The date when the user last logged on to the SAP system.
Developer	Indicates whether the user currently has a developer license.
	 Note: This field is currently not supported for S/4HANA systems.
Created On	The user's creation date.
Account No.	The accounting number of the user.
Assign. To Special Version	The user's special version, if the user has been assigned one.
Chargeable Client	The two-character ID of the chargeable user's system client.
Chargeable System ID	The three-character ID of the chargeable user's system.
Chargeable User Name	The user name of another user who is representing this user.
Company Name 1	The company name 1 of the user.
Company Name 2	The company name 2 of the user.
Cost Center	The user's cost center.

Column Name	Description
Country Surcharge	The user's country surcharge, if the user has been assigned one.
Division	The user's division.
Email	The email address of the user on the system on which the user was identified.
Locked Status	Indicates whether the user is currently locked. Possible values: • 0: Not locked • 32: Locked by CUA administrator • 64: Locked by administrator • 128: Locked after failed logon
Max. Multiple Logon	The maximum number of simultaneous multiple logons that the user had in the specified period.
No. Multiple Logon	Displays how often the user was logged on multiple times in the specified period.
Representative From Date	The start date of the period during which this user is representing another user.
Representative To Date	The end date of the period during which this user is representing another user.
Tel. Extension	The user's phone extension.
Tel. Number	The user's phone number.

Adding an SAP System Group

You can group systems on multiple levels within a system landscape. This enables you to easily model your enterprise structure. In addition, SAP administrators can target entire system groups for administration purposes, to implement security features, or to assign rules.

A system group can contain both CUA systems and non-CUA systems.



To add an SAP system group:

1. In FlexNet Manager Suite, open the System Landscape Editor by clicking **SAP**, pointing to **Configuration** and then selecting **System Landscapes**.
2. On the **SAP System Landscapes** page, double-click the landscape to which you want to add a system group. Alternatively, select the desired landscape and click **View**.
3. On the **System Landscape: name** page, select the **Show outline view of landscape** check box to switch to the outline view (if not already selected).
4. In the system tree, select the element to which you want to add a group and click **Add system group** .
5. The **Create SAP System Group** dialog opens. Enter a name and a description (optional) for the new system

group.

6. Click **Create** to add the new SAP system group to the landscape.

Editing an SAP System Group



To edit an SAP system group:

1. Perform steps 1 to 3 as described in the procedure under [Adding an SAP System Group](#).
2. In the system tree, select the system group that you want to edit, and click **Edit system group** .
3. In the **Edit SAP System Group** dialog, make your changes (edit the name or the description) and click **Save**.

Deleting an SAP System Group



To delete an SAP system group:

1. In FlexNet Manager Suite, open the System Landscape Editor by clicking **SAP**, pointing to **Configuration** and then selecting **System Landscapes**.
2. Double-click the system landscape that contains the system group that you want to delete. The **System Landscape: name** page is displayed.
3. Select the **Show outline view of landscape** check box to switch into outline view. In the system tree, select the system group that you want to delete and click **Delete system group**  below the system tree.
4. In the **Delete SAP System Group** dialog, click **Delete** to confirm.

Collection of User Details and Consumption Data from SAP Systems

FlexNet Manager Suite automatically imports inventory data from the SAP Admin module and its connected SAP systems and generates a new optimal license position on a regular basis.

The data collection includes the following steps:

1. **Collecting data from the dependent SAP systems into the staging database on the SAP Admin module.** Each SAP Admin module collects data from its dependent SAP systems using RFC-enabled functions. The collected data is stored in a staging database on the SAP Admin module system. For more information, see [Data Collection Using the Staging Database Monitor](#). For more information, see *Data Collection Using the Staging Database Monitor* in the *FlexNet Manager for SAP Applications User Guide* PDF.
2. **Collecting data from the staging database on the SAP Admin module into FlexNet Manager Suite using the SAP Inventory Agent.** The SAP Inventory Agent connects to the staging database and loads the data into the FlexNet Manager Suite database. For more information, see *SAP Inventory Agent* in the *FlexNet Manager for SAP Applications User Guide* PDF. For more information, see [SAP Inventory Agent](#).

If your landscape contains independent SAP systems, the SAP Inventory Agent connects to these systems and collects the available data. It then loads the data into the FlexNet Manager Suite database. Package measurement data can be collected only from independent systems that have the Satellite transport installed. Activity check data cannot be collected from independent systems.

SAP Inventory Agent

The SAP Inventory Agent (SAPReader.exe) accesses and collects the user primary record information from SAP Admin module systems and independent SAP systems via Remote Function Call (RFC).

The SAP Inventory Agent collects the data that is staged on the database in the SAP Admin module and uploads it to the FlexNet Manager Suite database. The data was collected from the dependent SAP systems that are connected to the SAP Admin module; it usually includes user information (user name, first and last name, validity dates, user type, user group, accounting number, cost center, and login times), transactions, CPU and memory consumption, roles and sub-roles, and license types and their hierarchy. After the SAP Inventory Agent has uploaded the data to FlexNet Manager Suite, it is cached in the FlexNet Manager Suite database and can be used to optimize your organization's license position.

The SAP Inventory Agent is run using the Windows scheduled task `Import SAP user and activity information`. You can adjust the timing of the automated data collection from the SAP Admin module. The default setting for the SAP Inventory Agent is to run weekly. However, you can configure the SAP Inventory Agent to run more often or less often. To change the scheduling of the SAP Inventory Agent, open the Microsoft Windows Task Scheduler and configure the task `Import SAP user and activity information`. For information about the Task Scheduler, see [http://technet.microsoft.com/en-us/library/dd363654\(v=ws.10\)](http://technet.microsoft.com/en-us/library/dd363654(v=ws.10)).

In a default installation, SAPReader.exe is located in the folder `C:\Program Files (x86)\Flexera Software\FlexNet Manager Platform\DotNet\bin`. The SAP Inventory Agent is installed automatically during installation of FlexNet Manager Suite.

SAP Inventory Agent Options

You can control the SAP Inventory Agent via the command line using a number of options.

Table 1: SAP Inventory Agent options

Parameter	Description
<code>-c <configuration_file></code>	Specifies the XML file that contains the SAP RFC connection details for gathering SAP inventory. This XML file can be exported from the System Landscape: name page in FlexNet Manager Suite (.).
<code>-e</code>	Encrypts passwords inside the file specified by the <code>-c</code> option. Example: <code>"SAPReader.exe -c <configuration_file> -e"</code>
<code>-o <output_folder></code>	Outputs SAP inventory to a specified folder.

Parameter	Description
-s <server_name>	Reads data from a specified system. To specify multiple systems, separate the systems with a comma, using the following format: <ServerName>/<SystemNumber>/<SystemID>/<ClientID>, <ServerName>/<SystemNumber>/<SystemID>/<ClientID> This option supports any string matching.
-t	Reads SAP information in a single thread.
-a	Tests the connection to all SAP Admin module and independent systems. To test the connection to a specific system, use the -a option in combination with the -s option. Example: "SAPReader.exe -a -s <ServerName>"
-i <input_file_or_folder>	Imports the SAP inventory from a specified folder or file, into FlexNet Manager Suite.
-b	For use with inventory beacons: uncompresses an intermediate package file and resolves its content into the FlexNet Manager Suite database.
-p <consumption-enddate>	Specifies the end date of the consumption period, using the format yyyy-mm. When importing consumption data from an SAP Admin module, the available consumption data is dependent on the import of relevant data from its dependent SAP systems.
-m <m-months>	Specifies the number of months that SAP consumption data should be read, ending today or as specified by the -p option. When importing consumption data from an SAP Admin module, the available consumption data is dependent on the import of relevant data from its dependent SAP systems.
-f <configuration_file>	Specifies the XML file that contains the list of SAP tables to import.
-l	Calculates the SAP license position.
-n <TenantUID>	Specifies the tenant unique identifier for retrieving the SAP RFC connection.
-help	Displays this help text.

SAP Inventory Agent Logging

By default, the SAP Inventory Agent generates a log file when it runs on the application server or on an inventory beacon server.

Log files are created in the folder %CommonAppData%\Flexera\Compliance\Logging\SAPReader\SAPReader.log. (The location varies across versions of Microsoft Windows. For example, on Windows Server 2008 R2 Standard, this path is normally C:\ProgramData\Flexera\Compliance\Logging\SAPReader\SAPReader.log.)

Log files are usually created daily. The current log file has the name SAPReader.log. The names of older log files receive a suffix with the date, in the format yyyy-mm-dd, for example, SAPReader.log2014-01-14.

Log files are kept for 30 days; log files that are older than that are automatically deleted.

3

Inventory Beacons

Collection of user data and package measurement results from SAP systems is facilitated using an inventory beacon. Inventory beacons are distribution and collection components that are installed within the company network to enable the dynamic collection of inventory data.

Usually, inventory beacons are located in remote sites where direct connection to the data can be difficult to maintain.



Important: Because you are using FlexNet Manager Suite in an on-premises installation, SAP data can be collected either using inventory beacons or using the SAP Inventory Agent. For information on collecting data using the SAP Inventory Agent, see [Collection of User Details and Consumption Data from SAP Systems](#).

This section provides a short introduction to inventory beacons for their usage in an SAP context. For detailed information on installing and configuring inventory beacons, see [What Is an Inventory Beacon?](#) and its subtopics. For help using the inventory beacon interface, see [Inventory Beacons](#) and subtopics. For detailed information on installing and configuring inventory beacons, see *What Is an Inventory Beacon?* and its subtopics in the FlexNet Manager Suite online help. For help using the inventory beacon interface, see *Inventory Beacons* and subtopics in the FlexNet Manager Suite online help.

Concept

Inventory beacons act like relay stations. They collect inventory data from the staging database on the SAP Admin module systems or from independent SAP systems by running the SAP Inventory Agent and transfer the data to the FlexNet Manager Suite processing server for analysis and optimization.

The workflow usually comprises the following steps:

1. You register the inventory beacon to enable it to communicate with FlexNet Manager Suite. For more information, see [Register an Inventory Beacon](#).
2. You register the inventory beacon to enable it to communicate with FlexNet Manager Suite. For more information, see *Register an Inventory Beacon* in the online help.
3. On the inventory beacon, you create a connection to an SAP Admin module or an independent SAP system for the SAP inventory collection.
4. You schedule the collection of SAP data on the beacon or trigger an immediate import. The SAP Inventory Agent is executed and collects SAP data. For information on scheduling connections, see the section *Scheduling Page* in the

FlexNet Manager Suite online help.



Note: It is recommended to import SAP inventory (user and consumption data) once every month. In addition, the task for collecting SAP inventory should be scheduled to occur on different dates for different SAP Admin module and independent SAP systems.

5. You schedule the collection of SAP data on the beacon or trigger an immediate import. The SAP Inventory Agent is executed and collects SAP data. For information on scheduling connections, see [Scheduling Tab](#).



Note: It is recommended to import SAP inventory (user and consumption data) once every month. In addition, the task for collecting SAP inventory should be scheduled to occur on different dates for different SAP Admin module and independent SAP systems.

6. The extracted data is stored in a package of data files, in an intermediate format. The packages are located in %AppData%\Flexera Software\Beacon\IntermediateData\ (for example, on Windows Server 2008 R2, %AppData% is ProgramData). The file naming convention is S[T=Tenant ID][S=SAP System IDSAP Client ID]_Inventory Timestamp.zip.
7. If the inventory beacon is online, the inventory packages are uploaded to the FlexNet Manager Suite processing server immediately after data collection has been completed. This upload is triggered by the Microsoft scheduled task Upload third-party inventory data.
8. On the FlexNet Manager Suite processing server, the Microsoft scheduled task Import SAP inventories resolves the intermediate data packages into the operations database. The data is now ready for analysis in FlexNet Manager for SAP Applications.
9. After the analysis and optimization of the license data, you release license recommendations to the SAP Admin module or the independent SAP system. These recommendations are automatically uploaded from FlexNet Manager Suite to the inventory beacon. The SAP Admin module or the independent SAP system connects to the inventory beacon via a web service to retrieve the recommendations. You can then process the recommendations on the SAP Admin module or the independent SAP system (that is, change user and/or license data as required and update the user primary data).

The collected data usually comprises the following: user names, user roles, the transaction codes that are included in user roles, user consumption (CPU time), module names, transaction codes of the system, the license-type hierarchy, and evidence of indirect access.

Package measurement data includes the package name, package ID, and package consumption data.

For more information about the data that is collected by the SAP Inventory agent, see the section *Tables Read and Data Collected by the SAP Inventory Agent* in the *FlexNet Manager for SAP Applications User Guide* PDF. For details of the scheduled tasks controlling these processes on the inventory beacon, see [Scheduled Tasks for Inventory Beacon](#).

For more information about the data that is collected by the SAP Inventory agent, see [Tables Read and Data Collected by the SAP Inventory Agent](#).

For details of the scheduled tasks controlling these processes on the inventory beacon, see *Scheduled Tasks for Inventory Beacon* in the FlexNet Manager Suite online help.



Important: Package-measurement and activity-checks data can be collected only after a package measurement or activity checks analysis has been executed on the dependent SAP system. Package-measurement or activity-checks data is available in the staging database of the SAP Admin module after the Staging Database Monitor has launched

the USMM remotely, or after the Package Analysis and Activity Checks have been run.



Important: Package-measurement and activity-checks data can be collected only after a package measurement or activity checks analysis has been executed on the dependent SAP system. Package-measurement or activity-checks data is available in the staging database of the SAP Admin module after the Staging Database Monitor has launched the USMM remotely, or after the Package Analysis and Activity Checks have been run.

Register an Inventory Beacon

Running the inventory beacon requires an account with administrator privileges.

Registering the beacon sets up its communications to FlexNet Manager Suite.

Complete this process after installing the inventory beacon software.

If you are installing a hierarchy of inventory beacons, so that some 'child' beacons report to 'parent' beacons rather than to the central application server(s), you must register them top down through the hierarchy. Parent beacons must be registered before their children.



To register an inventory beacon:

1. Run the inventory beacon interface (for example, **Start > FlexNet Beacon**).

By default, the interface should first display the **Parent connection** page (linked from the **Beacon configuration** group in the navigation bar). Ensure that this page displays.

2. Ensure the **Enable parent connection** check box is selected.

This enables the controls in this page.

3. Click **Download configuration**.

A new window opens in your web browser, pre-populated with the unique identification (GUID) of this inventory beacon in the **Unique ID** field. (This means that each inventory beacon must download its own configuration file, and you cannot share configuration files between inventory beacons.)



Tip: The URL used by the web browser is the one registered as part of the installation of the inventory beacon.

4. Does this inventory beacon connect directly to the central application server(s)?

- If this beacon reports to the central application server(s), skip the **Parent beacon** field, ensuring that it is empty.
 - a. If you already know its name, enter (part of) the name in the field; but if you are not sure, leave the field blank.
 - b. Click **Search**.

A fly-down lists the available inventory beacons (matching your text entry, if you used one).
 - c. Ensure that the appropriate parent beacon is selected (with the check box on its left end), and click **Select**.

The beacon name appears in the **Parent beacon** control.

5. In the **Name** field, add a friendly name by which you would like to identify this new beacon in future lists in FlexNet Manager Suite.
6. Choose an **Upgrade mode** for this beacon. You can manage the future upgrade behavior of each inventory beacon individually by choosing from:

- **Always use the latest version (currently *versionNumber*)** — Future upgrades (after 2014 R2) to the central application server(s) also deliver updated inventory beacon software to match. With this option, that updated FlexNet Beacon software is automatically deployed to this beacon (wherever it may be in the hierarchy), and it will automatically update itself at that time. (Notice that this setting overrides any global limit, for which see the next option.)
- **Always use the approved version (currently *versionNumber*)** — A global limit to the version of the inventory beacons for production use can be set in the web interface at **Discovery & Inventory > Settings**, in the **Beacon settings** section, by choosing an option for **Beacon version approved for use**. (Notice that this global preference can also be set to **Always use the latest version (currently *versionNumber*)**. When that is selected in the web interface, on inventory beacons, the first two of these choices are identical in effect.)
- **Do not upgrade automatically** — This inventory beacon will sit at its current installed version until you return to this page and change this option.
- **Choose a specific version** — When you select this, an additional **Specific version** control appears. Use this to choose from the versions available on the central application server.

7. For **Configuration status**, select **Enabled** for normal operation.

With this control, selecting **Disabled** stops the inventory beacon executing the centrally-determined rules for discovery and inventory gathering by remote execution or with installed FlexNet inventory agents. Other beacon functionality, such as downloading updated rules and settings, collecting and uploading third-party inventory, Active Directory data, or business information (in short, any connections defined on the beacon itself), continue unchanged.

8. Click **Download configuration**.

9. Use the web browser dialogs to save the configuration file to a convenient directory on the inventory beacon computer (such as C : \temp or the installation folder for the inventory beacon software).

10. Switch to the inventory beacon interface, and in the same tab, click **Import configuration**.

11. Browse to the file you saved in step 9, and click **Open**.

The configuration file is loaded, and populates the connection details in the **Parent connection** page. Do not under any circumstances modify these values. Should the values become corrupted, you can repeat this process, being certain to import the new configuration file (which will contain a different password).

12. When the configuration details are changed, the inventory beacon runs a background check on the connection, and displays the results on the page. If there are problems listed, you can address these and (if required) click **Test connection** to retry.

This testing validates the downloaded credentials and the communication channel. When the connection test displays success, your beacon is registered and this process is completed.

13. If there are errors:

- a. Check that your web browser on the inventory beacon can still access your central application server, to

validate that the network has not gone down.

- b. If the network connection is still good, repeat the **Test connection** in the inventory beacon interface. If the error persists, we have established that it was not a momentary intermittent problem.
- c. Validate that you did not edit the GUID in steps 2-3, and that the inventory beacon name you created contains only alphanumeric characters. If either of these problems is possible, repeat this process from step 2 to create a different configuration file, with new credentials.
- d. Have a system administrator review the beacon log file located in C:\ProgramData\Flexera Software\Compliance\Logging to look for further information about the failure. Ask the system administrator whether there are any network settings (such as proxies) that prevent a web service accessing a website that a browser is allowed to access.
- e. If the problem is still not resolved, contact Support at Flexera.

After this registration process, your inventory beacon knows how to communicate with FlexNet Manager Suite.

To make the inventory beacon operational, you must now:

- Add the downstream connections from which data is to be collected (as described under [Managing Inventory Beacon Connections](#)).
- Ensure that it remains enabled. Operation of each inventory beacon can be enabled/disabled both from the beacon itself, and from the web interface for FlexNet Manager Suite. By default it is enabled at both ends.

Communication between the SAP Admin Module and an Inventory Beacon

Communication between an inventory beacon and the SAP Admin module is facilitated using web services, just like the communication between FlexNet Manager Suite and the SAP Admin module. The configuration encompasses exactly the same steps as the procedures described for configuring communication using [basic authentication](#) and [SSL authentication](#), with the following exception: In each procedure, on the **Transport Settings** tab, the IP address of the relevant inventory beacon web server must be provided.

Configuring IIS for Communication between the Inventory Beacon Server and the SAP Admin Module

The SAP Admin module can be configured to connect to the inventory beacon server to retrieve and send SAP-related data, such as, for example, SAP usage data, license recommendations, and the active landscapes.

In order to retrieve this data, Microsoft Internet Information Services (IIS) must be installed on the inventory beacon, and the *SAPService* web service must be configured. In addition, the inventory beacon must be configured to use IIS.

**To configure the inventory beacon to use IIS:**

1. Ensure that IIS is installed on the inventory beacon.
2. On the inventory beacon server, from the Windows **Start** menu, run **FlexNet Beacon**.
3. On the **Local Web Server** tab, click **IIS web server**.
4. Select **Basic Authentication**.
5. Click **Save**.

After you have performed these steps, the *SAPService* web service is configured automatically.

For more information on the beacon web server, see [Local Web Server Tab](#).

For more information on the beacon web server, see *Local Web Server Page* in the FlexNet Manager Suite online help.

Managing Inventory Beacon Connections

You can define the connections to SAP Admin modules, their dependent SAP systems, and independent SAP systems. Please note that although the inventory beacon does not connect to the dependent SAP systems, you must however set up connections to the dependent SAP systems so that they are added to the system landscape in FlexNet Manager Suite, and to enable the landscape synchronization with the SAP Admin module. (Dependent SAP systems that are not defined on the inventory beacon are not imported into FlexNet Manager Suite and the SAP Admin module.)



Important: For inventory beacons which run on the central application server, the collection of SAP inventory data is **not** supported. In this case, you must set up an inventory beacon on a server which is separate from the central application server. Otherwise the connections to the SAP systems must be configured directly in SAP mode using the web interface of FlexNet Manager Suite. For procedural information, see [Adding an SAP Admin Module System](#), [Adding a Dependent SAP System](#), and [Adding an Independent SAP System](#).

Managing a free-standing inventory beacon

You can manage your connections in these ways:

- Creating a new connection (see [Creating SAP Connections](#))
- Updating details for a connection (see [Modifying SAP Connections](#))
- Removing a connection that no longer applies (see [Deleting SAP Connections](#))
- Manually triggering data collection through a connection (see [Executing Connections](#)).

Creating SAP Connections

Before the SAP Inventory Agent can collect data on an inventory beacon, you need to configure the connection and provide the credentials on the inventory beacon.

After the import is executed on the inventory beacon, the connections that you set up on an inventory beacon are automatically imported into FlexNet Manager Suite and are added to the corresponding system landscape.

You need to add a connection to an SAP Admin module before you can add connections to its dependent SAP systems.

**To define a connection to an SAP system:**

1. On the inventory beacon, from the Windows **Start** menu, run **FlexNet Beacon**.



Note: To run FlexNet Beacon, you must have system administrator rights.

2. In the **Data collection** section, click **SAP systems**.
3. Click **New...**

The **SAP Connection** dialog window displays.

4. In the **System landscape details** section, complete the following fields:
 - a. The **System landscape** field displays your system landscape(s). Choose the landscape that contains the SAP Admin module or independent SAP system that you want to connect to.
 - b. From the **SAP suite type** drop-down list, choose the type of SAP suite for this connection. Available options are:
 - **Classic Business Suite**
 - **S/4HANA**
 - c. From the **SAP system type** drop-down list, select the type of system to which you want to connect from the drop-down list. Available options are:
 - **Admin Module** — Your primary or root system that collects data from its dependent SAP systems. This option does not support S/4HANA.
 - **Independent SAP System** — An SAP system that is not connected to an SAP Admin module.
 - **Dependent SAP system** — An SAP system that is connected to an SAP Admin module. This option only displays when a connection to an SAP Admin module has already been established.
 - d. Choose the **Master SAP system** from the drop-down list. If you are creating a beacon connection to a dependent SAP system, select the SAP Admin module to which the dependent system is connected.
5. In the **Connection details** section, complete the following fields:
 - a. Choose the type of connection you want to establish from these options:
 - **Direct connection** — Select to establish a direct connection.
 - **Load balancer** — Select this option to establish a connection to a load balanced solution manager. This option automatically distributes user logons to individual instances or to groups of SAP instances (application servers) in a load balancing environment.
 - b. In the **Server name** text box, select from these options:
 - If **Direct connection** was selected above, enter either the DNS name of the SAP system, or its IP address. This value will be used by the RFC connection.
 - If **Load balancer** was selected above, enter the message server host name.
 - c. In the **System ID** text box, enter the unique identifier of the SAP system to which you want to connect.

- d. In the **System number** text box, enter the SAP system number which will be used by the RFC connection.
- e. In the **Logon group** text box, enter the name of the logon group which will be used for load balancing.

This option is enabled when **Load balancer** is selected at [Step 5a](#).

Logon groups are created when configuring your SAP server. This option automatically distributes user logons to individual instances or to groups of SAP instances (application servers) in a load balancing environment.

6. In the **Logon details** section, complete the following fields:

- a. In the **User name** text box, enter the user name to be used when connecting to the SAP system and making RFC calls.
- b. In the **Password** text box, enter the password.

The password that is to be used when connecting to the SAP system and making RFC calls.



Important: The password should not contain any backward slashes (\). Otherwise, the connection to the SAP system cannot be established.



Important: On some configurations, a logon error can occur when connecting an independent SAP system. The issue may affect SAP systems up to SAP Basis release 6.4, but primarily affects systems running SAP Basis 4.6. It is recommended that you test the connection using the **Test connection** button. If the test returns an error saying that the connection to the system was established, but that credentials were incorrect, enter the password in uppercase letters. For more information, see SAP Note 792850.

- c. In the **Client ID** text box, enter the client ID of the SAP system to which you want to connect.

7. If you chose to collect data for an **Independent SAP System**, the **Digital access data** section enables you to set the time period to collect the digital access data for by choosing from these options:

- **Last [3] months** — Select to collect data for one or more months and optionally modify the default selection of 3 months to a value from 1 up to a maximum of 12 months.
- **Last calendar year** — Select to collect data from 1 January until 31 December for the previous year.
- **Custom date** — Select to set any custom date range using the **Start date** and **End date** fields.

8. Optionally, if you are using Secure Network Communication (SNC) for your target system (whether an **Independent SAP System** or an **Admin Module**) and you are connecting from a stand-alone inventory beacon, complete the following fields in the **Secure Network Communication (SNC) configuration** section.



Tip: SNC connection is not available from an inventory beacon that is co-located on your application server (or any of your central application servers, in a multi-server implementation).

Using the SNC feature on FlexNet Beacon requires some preliminary configuration:

- If your enterprise is already using SNC in your SAP environment, confirm whether you are using X-509 or Kerberos certificates. (If SNC is not already in use on your SAP system, please ask the SAP Basis team to configure SNC on SAP, and then confirm the certificate type.)

- Ask your SAP Basis team to help with the following for your inventory beacon:
 - a. Install the SAP Cryptographic Library/SAP Client Encryption on the inventory beacon.
 - b. Create a Personal Security Environment (PSE) and self-signed public-key certificate. While doing so, take note of the SNC name of this inventory beacon server, as you need this later in the process.
 - c. Create credentials for the inventory beacon.
 - d. Configure the certificate for use between FlexNet Beacon and the SAP Admin Module server, using STRUST and SGENPSE.

When these preparations are complete, you can proceed with the following settings in the **SAP Connection** dialog:



Tip: There are regulations in various countries that restrict the use of encryption in software applications. Pay close attention to the regulations applying in your area. Use the following settings only where permitted.

- a. Select the **Enable SNC** check box.

When this is selected, the following four fields are enabled.
- b. Use the **Browse** button to identify the location of the SNC library for this connection.

This is mandatory for this connection. Typically you may identify the `sapcrypto.dll` file, or you may check the environment variable `SNC_LIB` on the target SAP system.
- c. From the **Level of protection** drop-down, choose one of the following values (the numbering follows the SAP conventions for these options):
 - 1. **Authentication only** – verifies the identity of the communication partners (in this case, FlexNet Manager Suite and your SAP system)
 - 2. **Integrity protection (authentication)** – detects any changes or manipulation of the data exchanged, as well as verifying identities
 - 3. **Privacy protection (integrity and authentication)** – encrypts communications, as well as the two previous kinds of protection
 - 8. **Default protection** – takes the value from `snc/data_protection/use` on the SAP application server
 - 9. **Max protection** – takes the value from `snc/data_protection/max` on the SAP application server.
- d. In the mandatory field for **Partner SNC name**, insert the SNC name of SAP NetWeaver Application Server for ABAP.

This value is available on the SAP NetWeaver Application Server for ABAP in the profile parameter `snc/identity/as`. An example is:

```
p:CN=ABC, O=MyCompany, C=US
```

- e. In **My SNC name**, specify the SNC name of this inventory beacon server.

You took note of this name while configuring the PSE on this inventory beacon. Example:

```
p:CN=FlexNetBeacon, O=MyCompany, C=US
```

- f. Click **Test connection** to verify that the secure connection to SAP works.

If the SNC connection from the inventory beacon fails, ask your SAP Basis team to install the SAPGUI client on the inventory beacon. Activate the SAPGUI client, and check whether the secure connection to SAP works now. If it still does not succeed, ask for the help of your SAP Basis team to identify and correct the issue (for example, make sure that the same SAP Crypto library has been specified on the inventory beacon and the target SAP server).

9. If you have not already done so, click **Test connection** to test whether a connection can be established. This button is only available when you are creating or modifying the connection to an SAP Admin module or to an independent SAP system.

10. Click **Save**.

The new connection is added to the list of connections.

Your new connection can now be executed by the SAP Inventory Agent on this inventory beacon.

The SAP system connections are saved in %ALLUSERSPROFILE%\Flexera\Beacon\Config.xml. The SAP Inventory Agent uses the connection details saved in this file to access the SAP systems and gather inventory data.

Modifying SAP Connections

SAP system connections are identified based on their system ID, client ID, and the SAP system landscape of the SAP system. Modifications to an SAP system connection on an inventory beacon are automatically sent to FlexNet Manager Suite where a new SAP system is created.



Important: Changes to the SAP suite type of existing SAP system connections are not automatically sent to FlexNet Manager Suite and must be manually adjusted on the FlexNet Manager SAP System page. See *Synchronizing a System Landscape in the SAP Admin Module with FlexNet Manager Suite in the FlexNet Manager for SAP Applications User Guide*.



To modify an SAP connection:

1. On the inventory beacon, from the Windows **Start** menu, run **FlexNet Beacon**.



Note: To run FlexNet Beacon, you must have system administrator rights.

2. In the **Data collection** section, click **SAP systems**.
3. Select the connection you would like to modify from the list.
4. Click **Edit...**
5. In the **SAP Connection** dialog, modify any properties of the SAP system connection that you want to change.

If you change the password, ensure that it does not contain any backward slashes (\). Otherwise, the connection to the SAP system cannot be established.

6. If you have not already done so, click **Test connection** to test whether a connection can be established. This

button is only available when you are creating or modifying the connection to an SAP Admin module or to an independent SAP system.

7. Click **Save**.

Deleting SAP Connections

Deleting a connection permanently disables inventory collection from that system.

When connections are deleted on an inventory beacon, they will no longer generate packages. If any unwanted packages from the connection have been uploaded to the processing server, you will need to delete the packages there as well.

If you delete an SAP system connection on an inventory beacon, the corresponding SAP system is not automatically removed from the corresponding system landscape in FlexNet Manager Suite. To remove the system from the system landscape in FlexNet Manager Suite, perform the procedure described in [Deleting an SAP System](#).



To delete an existing SAP system connection:

1. On the inventory beacon, from the Windows **Start** menu, run **FlexNet Beacon**.



Note: To run FlexNet Beacon, you must have system administrator rights.

2. In the **Data collection** section, click **SAP systems**.
3. Select the connection you would like to delete from the list.
4. Click **Delete**.

A warning message is displayed.

5. If you wish to proceed with the deletion, click **OK**.

Executing Connections

Inventory collection can be triggered automatically or manually.

Any SAP connection (and resulting imports) configured to run on an inventory beacon will be executed each time an appropriate data gathering schedule triggers the collection of SAP inventory data on the inventory beacon. For information on creating a schedule, see [Creating a Data Gathering Schedule](#). For information on creating a schedule, see *Creating a Data Gathering Schedule* in the FlexNet Manager Suite online help.

It is also possible to execute a connection manually, by clicking a button in the FlexNet Beacon interface.



To manually execute a specific SAP connection and collect inventory data:

1. On the inventory beacon, from the Windows **Start** menu, run **FlexNet Beacon**.



Note: To run FlexNet Beacon, you must have system administrator rights.

2. In the **Data collection** section, click **SAP systems**.

3. Select the connection you would like to execute, and click **Execute now**.

4

Import of Transports

FlexNet Manager for SAP Applications is installed on your system using SAP transport requests.

All objects of FlexNet Manager for SAP Applications are within the /LICMAN/ namespace (registered and reserved by SAP). There will be no conflicts with SAP standard developments or your own developments in the customer namespace. The SAP standard is not modified.

The product CD or the product download zip contains a list of the current transports in the file *Transport_Overview.xls* or *Transport_Overview.pdf*.

Resources

The product CD or the product download usually contains the following resources and transports:

- 1_Basis — Contains the transports for the dependent SAP systems (previously referred to as *satellites*) in subfolders for the relevant SAP Basis release.
- 2_Roles — Contains the transport for the roles in a subfolder for the relevant SAP Basis release.
- 3_AdminModule — Contains the transport for the SAP Admin module in a subfolder for the SAP Basis release.
- 4_Deletion — Contains subfolders with the deletion transports. The transports must be executed in the order of the subfolder names (Step_1, Step_2, Step_3).

Before Importing

Copy the transport files to a transport directory of your choice, such as, for example, /usr/sap/trans/cofiles.

If you install FlexNet Manager for SAP Applications on a Unix system, remove the read-only flag for all K* files after copying to the transport directory. (Example: `chmod 755 K900629.AP2`.) This step is not relevant for Windows systems.

Importing the Transports

 **Important:** If you are installing FlexNet Manager for SAP Applications on a system running SAP Basis 702 or higher, the system might display a warning message with the explanation *The installed release does not match or Does not match component version*. This is because SAP Basis 702 systems or higher compare the support pack level of the target system with that of the objects in the transport that you are trying to import. If the support pack levels do not match, a warning message might be displayed. This is not a concern for FlexNet Manager for SAP Applications transports, because all objects in FlexNet Manager for SAP Applications transports are in the /LICMAN/ namespace.

To avoid such a warning message, on the **Import Transport Request** dialog, click the **Options** tab and select the **Ignore Invalid Component Version** check box. For more information, refer to the following SAP documentation: SAP Knowledge Base Article 1688610 and SAP Note 1742547.

To import the transports:

1. Determine an SAP system that is running SAP Basis version 7.x and that is assigned as primary/parent system.
2. Import the AdminModule transport for the SAP Basis release into the primary system. After FlexNet Manager for SAP Applications has been installed, the SAP Admin module will run on this primary system.
3. Import the appropriate Roles transport that matches the SAP Basis release into the primary system. The Roles transport is client dependent.
4. Import the Roles transport into all dependent SAP systems that you want to manage using FlexNet Manager for SAP Applications. Ensure that you import the transport that is appropriate for the relevant SAP Basis version of each dependent SAP system. The Roles transport is client dependent.
5. Import the Satellite transport into all dependent SAP systems that you want to manage using FlexNet Manager for SAP Applications. Ensure that you import the transport that is appropriate for the relevant SAP Basis version of each dependent SAP system. (It is not necessary to import the Satellite transport into the SAP system that contains the SAP Admin module.)

 **Note:** This step is required if you do not want to execute the USMM to collect license data and user data, or if you do not want to use RFC_READ_TABLE. It is also required for Activity Check data collection through the staging database monitor, due to the limitations of RFC_READ_TABLE.

 **Important:** If you are importing the Satellite transport into an SAP system running SAP Basis release 6.2, the import might fail and a transport request error might occur (for more information, see the transport log). This is due to a transport limitation between SAP Basis release 6.* and 7.0 in SAP. To fix this limitation, it is recommended that you update the SAP kernel according to the information in the SAP Note 454321 - Transports between Basis Release 6.* and 7.0.

Checks after the Import

Check the import logs generated for the individual import steps for errors (transaction STMS).

Because some transports contain entire dictionary objects, warning messages may be displayed during the import process. Transports with an error message up to the return code level 4 are successful.



Important: *If you encounter other errors (RC = 8 or above), review the import logs to ensure that the import of transports was successful, and that the system has been set up correctly. If you still encounter problems, contact Flexera technical support for assistance.*

5

Creating Users

You need to create users and assign the relevant authorizations.

**To create the users:**

1. In the SAP Admin module, create a user and assign the role /LICMAN/ADMIN_MODULE. For information about the authorizations in this role, see [Role /LICMAN/ADMIN_MODULE](#).
2. On each dependent SAP system, create a user for the communication between the SAP Admin module and the SAP system. Assign the role /LICMAN/SATELLITE to each of these users. For information about the authorizations in this role, see [Role /LICMAN/SATELLITE](#).
3. On each independent SAP system, create a user and assign the role /LICMAN/SATELLITE to read inventory data via the SAP Inventory Agent. For information about the authorizations in this role, see [Role /LICMAN/SATELLITE](#)

6

Authorizations for FlexNet Manager for SAP Applications

This chapter describes the authorization roles that are included in FlexNet Manager for SAP Applications, as well as how the authorization object J_5NL_UPD is used in FlexNet Manager for SAP Applications. The authorizations that are required by the SAP Inventory Agent are explained in the last topic of this chapter.

Authorization Roles

FlexNet Manager for SAP Applications comes with the following authorization roles:

- /LICMAN/SATELLITE: This role contains all required authorizations for the RFC user on the dependent SAP systems. It enables the communication between the SAP Admin module and the dependent SAP systems.
- /LICMAN/ADMIN_MODULE: This role contains all authorizations for the user of FlexNet Manager for SAP Applications on the SAP Admin module. It also includes standard authorizations, for example, for creating the dialog RFC destinations that are used optionally by FlexNet Manager for SAP Applications.
- /LICMAN/SATELLITE_CHARGEBACK: This role must be assigned to the RFC user on the dependent SAP system, if the cost center data used for the chargeback report are loaded from this system.

These roles contain the maximum authorizations that are required for each type of user. If you need to modify the roles, it is recommended to use these roles as templates. Copy the roles into your namespace and edit the new roles as required. For detailed information about the objects contained in these roles, see [Authorization Objects in Standard Authorization Roles](#).

The role /LICMAN/ADMIN_MODULE can be used as a template if certain users should be allowed only to display or maintain specific systems or system groups. To do this, customize the authorizations for the object J_5NL_SYST, using the information provided in the following table.

Table 2: Customization of authorizations for object J_5NL_SYST

Field	Description
Installation number	The installation number of the SAP system.

Field	Description
Client	The client within the SAP system.
System ID	The 3-digit system ID of the SAP system.
FlexNet Manager for SAP Applications activities	• 02: Update user data • 03: Display data • 11: Invoke LAW • 12: Import SAP package data • 23: Customizing • 30: Import usage data CCMS • 33: Customizing system overall • 43: Display LAW data • 44: Load LAW data • 50: Start USMM • 51: USMM results download • 60: Start consolidation • 61: Display consolidation In order to allow only the display of data, you should give authorization only for the activity 03.

Authorization Object J_5NL_UPD

The authorization object J_5NL_UPD checks the authorizations of a user during updates of the user primary data. By customizing the object, you can define the fields of the user primary data that a user is allowed to update. The object contains only one field called **Field Name**. Use this field to specify the names of the fields from the user primary data that can be updated from within FlexNet Manager for SAP Applications.

Authorizations Required by the SAP Inventory Agent

The SAP Inventory Agent requires a small number of authorizations to collect the relevant user and consumption data from the staging database in the SAP Admin module. These authorizations are included in the role /LICMAN/SATELLITE. For a list of the authorizations in the role /LICMAN/SATELLITE, see [Role /LICMAN/SATELLITE](#).

Each SAP Admin module system that should be inventoried by the SAP Inventory Agent requires a user account with all these authorizations. This account is used for all RFC-based communication between the SAP Inventory Agent and the

SAP Admin module system. To ensure that the account has the required roles, it is recommended to import the Roles transport and assign the /LICMAN/SATELLITE role (see [Authorization Roles](#)). However, you can also use the /LICMAN/SATELLITE role as a template and assign these authorizations manually.

Refer to [Authorization Objects in Standard Authorization Roles](#) and [Tables Read and Data Collected by the SAP Inventory Agent](#) for information about which data is collected by the SAP Inventory Agent.

7

Configuring the Web Service on the SAP Admin Module System for Communication with FlexNet Manager Suite

Communication between FlexNet Manager Suite and the SAP Admin module of FlexNet Manager for SAP Applications is facilitated using web services. Web services support the interaction of different software applications over the World Wide Web infrastructure.

After installation of FlexNet Manager Suite and FlexNet Manager for SAP Applications, you need to configure a web service called SAPServiceSoap to enable the applications to communicate with each other.

There are different security levels for the communication, and you can choose the level that you would like to use. The security settings are independent of the functionality of the applications. However, the settings need to be set up properly, otherwise communication is not possible.

The following security levels are available:

- No authentication — Without authentication, communication between FlexNet Manager Suite and FlexNet Manager for SAP Applications is not secure. This security level is not desirable and therefore not described in this document.
- Basic authentication — Authentication is based on the user name and password of the FlexNet Manager Suite service account (svc-flexnet) which is used for normal operations. For more information on FlexNet Manager Suite service accounts, see *Accounts* in *Installing FlexNet Manager Suite On Premises*. For more information on basic authentication, see [Communication Using Basic Authentication](#).
- SSL authentication — Authentication is based on the exchange of certificates. This is the most secure level. See [Communication Using SSL Authentication](#) for more information.

SOA Manager

You use the SOA Manager in SAP to configure the web service settings. The web service is client-dependent, and you need to configure it in the SOA Manager (transaction SOAMANAGER) for the client that the AdminModule transport will be used on. It is a prerequisite that SOA Manager is activated on the client *before* commencing the following web service

configuration. These settings are not required on the dependent SAP systems. Administrator privileges are required for using the SOA Manager.

In the SOA Manager, the options that need to be selected depend on the SAP Basis release and the support package that is installed. Due to the number of different combinations of SAP Basis release and support package that are possible, not all combinations are documented here. Instead, the following steps only outline the required options based on the SAP Basis release that is installed.

Testing the Web Service Connection

During configuration, the SOA Manager enables you to test the web service connection using the **Ping Web Service** button. In SAP Basis release 7.3 and newer versions, this test can produce a false negative result. Although the SOA Manager displays an error such as `Web service ping failed (RC=405). Service Ping Error: Method Not Allowed`, the web service connection may be working correctly. Therefore, the ping result should be ignored.

The false error is generated because FlexNet Manager Suite sends a GET message, but the ping expects a HEAD message.

Communication Using Basic Authentication

It is recommended to use basic authentication only when the connection between FlexNet Manager Suite and FlexNet Manager for SAP Applications is secure and can be trusted. The configuration steps depend on which version of SAP Basis is running.

Configuring Communication with Basic Authentication on Systems Running SAP Basis 7.00, 7.01, 7.02, 7.10, 7.11, 7.30, or 7.31

Communication is configured using the SOA Manager in SAP.



To configure communication using basic authentication on a system running SAP Basis 7.00, 7.01, 7.10, 7.11, 7.30, or 7.31:

1. Start the SOA Manager on the SAP system on which you want to configure the web service using the transaction code SOAMANAGER.
2. On the **SOA Management** page, do the following, depending on which version of SAP Basis your system is running:
 - SAP Basis 7.00 or 7.10: Select the **Business Administration** tab and click **Web Service Administration**.
 - SAP Basis 7.01 or 7.11: Select the **Application and Scenario Communication** tab and click **Single Service Administration**.
 - SAP Basis 7.30 or 7.31: Select the **Service Administration** tab and click **Web Service Configuration**.
3. On the next page, on the **Search** tab, locate the **Search by** menu and select **Consumer Proxy** from the list. In the **Search Pattern** field, type `*SAPSERVICE*`, and click **Go**.

The search returns the web service SAPServiceSoap.

4. Select the web service SAPServiceSoap and click **Apply Selection**.
5. In the **Details of Proxy Definition** section, select the **Configurations** tab. Click **Create Logical Port**.

The **SOA Management** dialog opens.

6. Provide the following information:
 - **Logical Port Name:** Enter a unique name for your logical port.
 - **Logical Port is Default:** Select this check box to ensure that the default logical port is called. If this check box is not selected, communication between FlexNet Manager Suite and FlexNet Manager for SAP Applications is not possible.
 - **Description:** Enter a description.
 - **Configuration Type:** Select **Manual Configuration**.
7. Click **Apply Settings**.
8. On the **Configuration for Logical Port** *name* page, on the **Consumer Security** tab, select the **User ID / Password** option to enable basic authentication.
9. In the **User ID/Password** section, provide the case-sensitive login credentials of the service account that is used in FlexNet Manager Suite.

The recommended format is domain\user name.



Note: If the user name and password of the service account changes in FlexNet Manager Suite, you must make the same changes in the SOA Manager.

10. On the **Messaging** tab, open the **Message ID Protocol** menu and select **Suppress ID Transfer**. Accept the default values for all other options on this tab.
11. On the **Transport settings** tab, provide the following information:
 - **URL Access Path:** Enter the URL access path /SAPService/SAPService.asmx.
 - **URL Protocol Information:** Select **HTTP**.
 - **Computer Name of Access URL:** Enter the IP address of the relevant FlexNet Manager Suite server.
 - **Port Number of Access URL:** Enter 80 which is the port number required for basic authentication.
 - Accept the default values for all other options on this tab.
12. On the **Operation specific** tab, you need to manually add the SOAP action for every web-service operation.
 - a. Add the web-service operations in the grid on the left. For each operation, specify the appropriate SOAP action in the **SOAP Action** field. The table [SOAP Actions for the Web-Service Operation](#) lists the operations and corresponding SOAP action. If you copy the SOAP actions from the table to paste each action into the **SOAP Action** field, ensure that you copy the entire line.
 - b. On some SAP Basis versions, the **Operation specific** tab contains a check box next to the **SOAP Action** field. The label of this check box varies depending on the SAP Basis version, and listing all variations would

exceed the scope of this documentation. Review the label and select or clear the check box to ensure that the SOAP action that you entered is active for the configuration. It is strongly recommended that you refer to the SAP documentation for more information on this check box.

13. Click **Save**.

Configuring Communication with Basic Authentication on Systems Running SAP Basis 7.4

Communication is configured using the SOA Manager in SAP.



To configure communication using basic authentication on a system running SAP Basis 7.4:

1. Start the SOA Manager on the SAP system on which you want to configure the web service using the transaction code SOAMANAGER.
2. On the **SOA Management** page, on the **Service Administration** tab, click **Web Service Configuration**.
3. On the **Web Service Configuration** page, under **Search Criteria**, specify the following search parameters:
 - **Object Type** is All
 - **Consumer Proxy contains** *SAPSERVICE*.
4. Click **Search**.

The search returns the web service SAPServiceSoap.

5. In the **Internal Name** column, click the hyperlinked name for the SAP web service.
6. On the next page, on the **Configurations** tab, click **Create** and choose **Manual Configuration**.
7. In the **Logical Port Name** step, enter the Logical Port Name and an appropriate description.
8. Select the **Logical Port is Default** check box.
9. On the **Consumer Security** step, select **User ID / Password**.



Note: If the user name and password change on the FlexNet Manager Suite server, you need to make the same changes in the SOA Manager.

10. In the **User ID/Password** section, provide the user name and password that are used in FlexNet Manager Suite.
11. On the **Messaging** or **SOAP Protocol** step, select **Suppress ID Transfer** from the **Message ID Protocol** drop-down list. Accept the default values for all other options for this step.
12. On the **Transport Settings** or **HTTP Settings** tab, provide the following information:
 - **URL Access Path:** Enter the URL access path /SAPService/SAPService.asmx.
 - **Computer Name of Access URL:** Enter the IP address of the relevant application server for FlexNet Manager Suite.
 - **Port Number of Access URL:** Enter 80 which is the port number required for basic authentication.

- **URL Protocol Information:** Select **HTTP**.
- Accept the default values for all other options on this tab.

13. On the **Operation Specific** or **Operation Settings** step, you need to manually add the SOAP action for every web-service operation.

- Select the **Use non-default value for SOAP Action** check box to ensure that the SOAP action is active for the configuration, and to enable the **SOAP Action** field.
- Add the web-service operations in the grid on the left. For each operation, specify the appropriate SOAP action in the **SOAP Action** field. The table [SOAP Actions for the Web-Service Operation](#) lists the operations and corresponding SOAP action. If you copy the SOAP actions from the table to paste each action into the **SOAP Action** field, ensure that you copy the entire line.

14. Click **Save**.

Configuring Communication with Basic Authentication on Systems Running SAP Basis 7.5

Communication is configured using the SOA Manager in SAP.



To configure communication using basic authentication on a system running SAP Basis 7.5:

1. Start the SOA Manager on the SAP system on which you want to configure the web service, using the transaction code SOAMANAGER.
2. On the **SOA Management** page, on the **Service Administration** tab, click **Web Service Configuration**.
3. On the **Web Service Configuration** page, under **Search Criteria**, specify the following search parameters:
 - **Object Type** is **All**
 - **Consumer Proxy contains** *SAPSERVICE*.
4. Click **Search**.

The search returns the web service SAPServiceSoap.

5. In the **Internal Name** column, click the hyperlinked name for the SAP web service.
6. On the next page, on the **Configurations** tab, click the **Create** button and choose **Manual Configuration**.
7. In the **Logical Port Name** step, input **Logical Port Name** and an appropriate description. Check the **Logical Port is Default** check box.
8. In the **Consumer Security** step, select **User ID / Password**.
9. Under **User ID / Password**, provide the case-sensitive login credentials of the service account that are used in FlexNet Manager Suite.

The recommended format is domain\user name.



Note: If the user name and password of the service account changes in FlexNet Manager Suite, you must make

the same changes in the SOA Manager.

10. In the **HTTP Settings** step, provide the following information:

- **URL Access Path:** Enter the URL access path `/SAPService/SAPService.asmx`.
- **Computer Name of Access URL:** Enter the IP address of the relevant web application server for FlexNet Manager Suite.
- **Port Number of Access URL:** Enter 80 which is the port number required for basic authentication.
- **URL Protocol Information:** Select **HTTP**.

Accept the default values for all other options in this step.

11. In the **SAP Protocol** step, open the **Message ID Protocol** menu and select **Suppress ID Transfer**.

Accept the default values for all other options in this step.

12. In the **Operation Settings** step, manually add the SOAP action for every web-service operation as follows:

- a. Select the operation from the **Operations** grid.
- b. Select the **Use non-default value for SOAP Action** check box to ensure that the SOAP action is active for the configuration, and to enable the **SOAP Action** field.
- c. Specify the appropriate SOAP action for the selection operation.

The table **SOAP Actions for the Web-Service Operation** lists the operations and corresponding SOAP action. If you copy the SOAP actions from the table to paste each action into the **SOAP Action** field, ensure that you copy the entire line.

- d. Add the web-service operations in the grid on the left. For each operation, specify the appropriate SOAP action in the **SOAP Action** field.

13. Click **Finish**.

Communication Using SSL Authentication

You can configure the web service to use Secure Sockets Layer (SSL) encryption to protect the sensitive data that is exchanged between FlexNet Manager Suite and FlexNet Manager for SAP Applications.

Configuring Communication with SSL Authentication on Systems Running SAP Basis 7.00, 7.01, 7.10, 7.11, 7.30, or 7.31

The SAP system needs to be configured to accept SSL communication. For this, a cryptographic library has to be installed. For more information, see SAP Note 510007.

To use SSL authentication, you need to install a Root Certificate (steps 15 to 18). Contact the Certificate Authority (CA) for an SSL certificate that is used by the FlexNet Manager Suite server. You can download the Root Certificate in binary

format or base64 format.



To configure communication using SSL authentication on a system running SAP Basis 7.00, 7.01, 7.10, 7.11, 7.30, or 7.31:

1. Start the SOA Manager on the SAP system on which you want to configure the web service using the transaction code SOAMANAGER.
2. On the **SOA Management** page, do the following, depending on which version of SAP Basis your system is running:
 - SAP Basis 7.00 or 7.10: Select the **Business Administration** tab and click **Web Service Administration**.
 - SAP Basis 7.01 or 7.11: Select the **Application and Scenario Communication** tab and click **Single Service Administration**.
 - SAP Basis 7.30 or 7.31: Select the **Service Administration** tab and click **Web Service Configuration**.
3. On the next page, on the **Search** tab, locate the **Search by** menu and select **Consumer Proxy** from the list. In the **Search Pattern** field, type *SAPSERVICE*, and click **Go**.

The search returns the web service SAPServiceSoap.

4. Select the web service SAPServiceSoap and click **Apply Selection**.
5. In the **Details of Proxy Definition** section, select the **Configurations** tab. Click **Create Logical Port**.

The **SOA Management** dialog opens.

6. Provide the following information:
 - **Logical Port Name:** Enter a unique name for your logical port.
 - **Logical Port is Default:** Select this check box to ensure that the default logical port is called. If this check box is not selected, communication between FlexNet Manager Suite and FlexNet Manager for SAP Applications is not possible.
 - **Description:** Enter a description.
 - **Configuration Type:** Select **Manual Configuration**.
7. Click **Apply Settings**.
8. On the **Configuration for Logical Port** *name* page, on the **Consumer Security** tab, select the **User ID / Password**.
9. Under **User ID/Password**, provide the case-sensitive login credentials of the service account that are used in FlexNet Manager Suite.

The recommended format is domain\user name.



Note: If the user name and password of the service account changes in FlexNet Manager Suite, you must make the same changes in the SOA Manager.

10. On the **Messaging** tab, open the **Message ID Protocol** menu and select **Suppress ID Transfer**. Accept the default values for all other options on this tab.

11. On the **Transport settings** tab, provide the following information:
 - **URL Access Path:** Enter the URL access path `/SAPService/SAPService.asmx`.
 - **URL Protocol Information:** Select **HTTPS**.
 - **Computer Name of Access URL:** Enter the IP address of the relevant FlexNet Manager Suite server.
 - **Port Number of Access URL:** Enter 443 which is the port number for SSL authentication.
 - Accept the default values for all other options on this tab.
12. On the **Operation specific** tab, you need to manually add the SOAP action for every web-service operation.
 - a. Add the web-service operations in the grid on the left. For each operation, specify the appropriate SOAP action in the **SOAP Action** field. The table [SOAP Actions for the Web-Service Operation](#) lists the operations and corresponding SOAP action. If you copy the SOAP actions from the table to paste each action into the **SOAP Action** field, ensure that you copy the entire line.
 - b. On some SAP Basis versions, the **Operation specific** tab contains a check box next to the **SOAP Action** field. The label of this check box varies depending on the SAP Basis version, and listing all variations would exceed the scope of this documentation. Review the label and select or clear the check box to ensure that the SOAP action that you entered is active for the configuration. It is strongly recommended that you refer to the SAP documentation for more information on this check box.
13. Click **Save**.
14. Connect to the SAP system and run transaction STRUST to start the Trust Manager.
15. Click **Import Certificate** .
16. On the **Import Certificate** dialog, select the appropriate Root Certificate.
17. Under **File format**, select the file format of the Root Certificate and click **OK**.
18. In the system tree on the left pane of the Trust Manager, select **SSL client SSL Client (Anonymous)** and click **Add to Certificate List**.
19. Start the Internet Communication Manager (ICM) using the transaction SMICM. (The ICM sends and receives requests to and from the Internet.)
20. In the **ICM Monitor** screen, open the **Administration** menu and select **ICM > Exit Soft > Global**.
This step resets the ICM Monitor. The new certificate is activated only after the reset.
21. On the toolbar of the **ICM Monitor** screen, click **Services** .
22. On the **ICM Monitor - Service Display** screen, click **Refresh**.

If the **Active Services** grid does not show a line for HTTPS, you need to add it.

1. Open the **Service** menu and click **Create**.
2. In the **Define New Service** dialog, provide the following information:
 - **New Service Port:** Enter 443.
 - **Log:** Enter HTTPS.
 - **Keep Alive (in Sec.):** Keep the default value or change to a value of your choice.

- **Max. Processing Time:** Keep the default value or change to a value of your choice.

3. Click **OK**.

Configuring Communication with SSL Authentication on Systems Running SAP Basis 7.4

The SAP system needs to be configured to accept SSL communication. For this, a cryptographic library has to be installed. For more information, see SAP Note 510007.

To use SSL authentication, you need to install a Root Certificate (steps 16 to 19). Contact the Certificate Authority (CA) for an SSL certificate that is used by the FlexNet Manager Suite server. You can download the Root Certificate in binary format or base64 format.



To configure communication using SSL authentication on a system running SAP Basis 7.4:

1. Start the SOA Manager on the SAP system on which you want to configure the web service using the transaction code SOAMANAGER.
2. On the **SOA Management** page, on the **Service Administration** tab, click **Web Service Configuration**.
3. On the **Web Service Configuration** page, under **Search Criteria**, specify the following search parameters:
 - **Object Type is All**
 - **Consumer Proxy contains** *SAPSERVICE*.
4. Click **Search**.

The search returns the web service SAPServiceSoap.

5. In the **Internal Name** column, click the hyperlinked name for the SAP web service.
6. On the next page, on the **Configurations** tab, click **Create** and choose **Manual Configuration**.
7. In the **Logical Port Name** step, enter the Logical Port Name and an appropriate description.
8. Select the **Logical Port is Default** check box.
9. On the **Consumer Security** step, select **User ID / Password**.
10. In the **User ID/Password** section, provide the case-sensitive login credentials of the service account that are used in FlexNet Manager Suite.

The recommended format is domain\user name.



Note: If the user name and password of the service account changes in FlexNet Manager Suite, you must make the same changes in the SOA Manager.

11. On the **Messaging** or **SOAP Protocol** step, select **Suppress ID Transfer** from the **Message ID Protocol** drop-down list. Accept the default values for all other options for this step.
12. On the **Transport Settings** or **HTTP Settings** tab, provide the following information:

- **URL Access Path:** Enter the URL access path `/SAPService/SAPService.asmx`.
- **Computer Name of Access URL:** Enter the IP address of the relevant application server for FlexNet Manager Suite.
- **Port Number of Access URL:** Enter 443 which is the port number for SSL authentication.
- **URL Protocol Information:** Select **HTTPS**.
- Accept the default values for all other options on this tab.

13. On the **Operation Specific** or **Operation Settings** step, you need to manually add the SOAP action for every web-service operation.

- Select the **Use non-default value for SOAP Action** check box to ensure that the SOAP action is active for the configuration, and to enable the **SOAP Action** field.
- Add the web-service operations in the grid on the left. For each operation, specify the appropriate SOAP action in the **SOAP Action** field. The table [SOAP Actions for the Web-Service Operation](#) lists the operations and corresponding SOAP action. If you copy the SOAP actions from the table to paste each action into the **SOAP Action** field, ensure that you copy the entire line.

14. Click **Save**.

15. Connect to the SAP system and run transaction STRUST to start the Trust Manager.

16. Click **Import Certificate** .

17. On the **Import Certificate** dialog, select the appropriate Root Certificate.

18. Under **File format**, select the file format of the Root Certificate. Click **OK**.

19. In the system tree on the left pane of the Trust Manager, select **SSL client SSL Client (Anonymous)** and click **Add to Certificate List**.

20. Start the Internet Communication Manager (ICM) using the transaction SMICM. (The ICM sends and receives requests to and from the Internet.)

21. In the **ICM Monitor** screen, open the **Administration** menu and select **ICM > Exit Soft > Global**.

This step resets the ICM Monitor. The new certificate is activated only after the reset.

22. On the toolbar of the **ICM Monitor** screen, click **Services** .

23. On the **ICM Monitor - Service Display** screen, click **Refresh**.

If the **Active Services** grid does not show a line for HTTPS, you need to add it.

1. Open the **Service** menu and click **Create**.
2. In the **Define New Service** dialog, provide the following information:
 - **New Service Port:** Enter 443.
 - **Log:** Enter HTTPS.
 - **Keep Alive (in Sec.):** Keep the default value or change to a value of your choice.
 - **Max. Processing Time:** Keep the default value or change to a value of your choice.

3. Click **OK**.

Configuring Communication with SSL Authentication on Systems Running SAP Basis 7.5

The SAP system needs to be configured to accept SSL communication. For this, a cryptographic library has to be installed. For more information, see SAP Note 510007.

To use SSL authentication, you need to install a Root Certificate (as described below). Contact the Certificate Authority (CA) for an SSL certificate that is used by the web application server for FlexNet Manager Suite. You can download the Root Certificate in binary format or base64 format.



To configure communication using SSL authentication on a system running SAP Basis 7.5:

1. Start the SOA Manager on the SAP system on which you want to configure the web service using the transaction code SOAMANAGER.
2. On the **SOA Management** page, on the **Service Administration** tab and click **Web Service Configuration**.
3. On the **Web Service Configuration** page, under **Search Criteria**, specify the following search parameters:
 - **Object Type** is **All**
 - **Consumer Proxy** contains ***SAPSERVICE***.

4. Click **Search**.

The search returns the web service SAPServiceSoap.

5. In the **Internal Name** column, click the hyperlinked name for the SAP web service.
6. On the next page, on the **Configurations** tab, click the **Create** button and choose **Manual Configuration**.
7. In the **Logical Port Name** step, input **Logical Port Name** and an appropriate description. Select the **Logical Port is Default** check box.
8. In the **Consumer Security** step, select **User ID / Password**.
9. Under **User ID / Password**, provide the user name and password that are used in FlexNet Manager Suite.



Important: If the user name and password change in FlexNet Manager Suite, you need to make matching changes in the SOA Manager.

10. In the **HTTP Settings** step, provide the following information:

- **URL Access Path:** Enter the URL access path `/SAPService/SAPService.asmx`.
- **Computer Name of Access URL:** Enter the IP address of the relevant web application server for FlexNet Manager Suite.
- **Port Number of Access URL:** Enter 443 which is the port number for SSL authentication.
- **URL Protocol Information:** Select **HTTPS**.

Accept the default values for all other options in this step.

- 11.** In the **SAP Protocol** step, open the **Message ID Protocol** menu and select **Suppress ID Transfer**.

Accept the default values for all other options in this step.

- 12.** In the **Operation Settings** step, manually add the SOAP action for every web-service operation as follows:

- a. In **SOAP Action** check box, select **Use non-default value** to ensure that the SOAP action is active for the configuration, and to enable the **SOAP Action** field.
- b. Add the web-service operations in the grid on the left. For each operation, specify the appropriate SOAP action in the **SOAP Action** field.

The table **SOAP Actions for the Web-Service Operation** lists the operations and corresponding SOAP action. If you copy the SOAP actions from the table to paste each action into the **SOAP Action** field, ensure that you copy the entire line.

- 13.** Click **Finish**.

- 14.** Connect to the SAP system and run transaction **STRUST** to start the Trust Manager.

- 15.** Click **Import Certificate** .

- 16.** On the **Import Certificate** dialog, select the appropriate Root Certificate.

- 17.** Under **File format**, select the file format of the Root Certificate. Click **OK**.

- 18.** In the system tree on the left pane of the Trust Manager, select **SSL client SSL Client (Anonymous)** and click **Add to Certificate List**.

- 19.** Start the Internet Communication Manager (ICM) using the transaction **SMICM**. (The ICM sends and receives requests to and from the Internet.)

- 20.** In the **ICM Monitor** screen, open the **Administration** menu and select **ICM > Exit Soft > Global**.

This step resets the ICM Monitor. The new certificate is activated only after the reset.

- 21.** On the toolbar of the **ICM Monitor** screen, click **Services** .

- 22.** On the **ICM Monitor - Service Display** screen, click **Refresh**.

SOAP Actions for the Web-Service Operation

If you copy the SOAP actions from the table below to paste each action into the **SOAP Action** field, ensure that you copy the entire line.

Table 3: SOAP actions for the web-service operation

Web Service Operation	SOAP Action
GetAllActiveSapLandscapes	http://www.flexera.com/webservices/ GetAllActiveSapLandscapes

Web Service Operation	SOAP Action
GetSapLandscapeMembers	http://www.flexera.com/webservices/ GetSapLandscapeMembers
GetAvailableSapRecommendationSummary	http://www.flexera.com/webservices/ GetAvailableSapRecommendationSummary
GetSapRecommendationsByLandscapeUID	http://www.flexera.com/webservices/ GetSapRecommendationsByLandscapeUID
GetSapConsumptionByLicenseRecommendationUID	http://www.flexera.com/webservices/ GetSapConsumptionByLicenseRecommendationUID
AcknowledgeSapRecommendationsUploaded	http://www.flexera.com/webservices/ AcknowledgeSapRecommendationsUploaded
AcknowledgeSapRecommendation	http://www.flexera.com/webservices/ AcknowledgeSapRecommendation
AcknowledgeSapRecommendations	http://www.flexera.com/webservices/ AcknowledgeSapRecommendations

Remember to select the **SOAP Action** checkbox, under **Transport Binding**, to enable the alternative SOAP Action web services. (Note there are specific exceptions for a few support package levels where this setting needs to be reversed).

Testing Connections

The Connection Monitor tests the connections between the SAP Admin module and FlexNet Manager Suite, and between the SAP Admin module and the dependent SAP systems. It enables you to verify whether the installation of transports was successful, if the SOAP actions are correctly defined, and if the users needed for the communication have the correct authorizations.

You access the program in the SAP Admin module by opening the **Administration** menu and clicking **Connection Monitor**. The **Connection Monitor** screen contains the grids **FlexNet Manager Suite connections** and **Satellite connections**.

The **FlexNet Manager Suite connections** grid shows the status of the web-service connections between the SAP Admin module and FlexNet Manager Suite.

Table 4: FlexNet Manager Suite connections

Option	Description
Status	Indicates that the connection works correctly (green status) or that an error has occurred (red status).
Test type	Shows a meaningful description of the test type that was performed.
SOAP action	Displays the SOAP action that is associated with the method that was called.

Option	Description
Error	Displays the error message that is returned by SAP if calling the web-service method was unsuccessful. In some cases, error messages are truncated due to a limitation in SAP. If your setup uses inventory beacons, the methods AcknowledgeSapRecommendationsUploaded and AcknowledgeSapRecommendation always return an error. This error message is incorrect, and the error does not affect the functionality of FlexNet Manager for SAP Applications.

The **Satellite connections** grid shows the status of the connections between the SAP Admin module and its dependent SAP systems. The connections are based on RFC destinations.

Table 5: Satellite connections

Option	Description
System	The dependent SAP system whose connection to the SAP Admin module is tested.
RFC destination	The dependent SAP system's RFC destination.
RFC status	Indicates whether the RFC destination is working correctly.
Satellite	Indicates whether the Satellite transport is installed on the system.
Satellite version	Displays the number of the FlexNet Manager for SAP Applications release that is installed on the system.
RFC user	Displays the user who is used by the RFC destination to access the system.
RFC user role	Indicates whether the user used by the RFC destination has the role /LICMAN/ SATELLITE assigned.
Error message	Explains why a test could not be completed successfully.

8

Communication between FlexNet Manager Suite and the SAP Admin Module

After the system landscape has been set up in FlexNet Manager Suite and synchronized with the SAP Admin module, the user and consumption data from the systems that are connected to the SAP Admin module are held in a staging database. The SAP Inventory Agent reads the data and transfers it to the FlexNet Manager Suite database. The data is analyzed, and the resulting license-type and user recommendations are staged on the FlexNet Manager Suite database server.

The SAP Admin module connects to the FlexNet Manager Suite web server to retrieve the recommendations. The recommendations can then be processed on the SAP Admin module.

This communication between FlexNet Manager Suite and the SAP Admin module is facilitated using web services that are configured on the FlexNet Manager Suite web server.

For information on setting up a web service on the FlexNet Manager Suite web server (using basic authentication or SSL authentication), see the PDF document *Installing FlexNet Manager Suite 2024 R1 On-Premises*, section *Configure the System* (downloadable from the title page of the FlexNet Manager Suite online help).

If you are using SSL encryption for the communication between FlexNet Manager Suite and the SAP Admin module, the SSL certificate that is used for the web services on the FlexNet Manager Suite server or the inventory beacon server must be trusted and accepted by the SAP server on which the SAP Admin module is installed. For more information on installing the root certificate, see the appropriate topic with specialized instructions for the versions of SAP Basis:

- [Configuring Communication with SSL Authentication on Systems Running SAP Basis 7.00, 7.01, 7.10, 7.11, 7.30, or 7.31](#)
- [Configuring Communication with SSL Authentication on Systems Running SAP Basis 7.4](#)
- [Configuring Communication with SSL Authentication on Systems Running SAP Basis 7.5.](#)

9

Initial Setup of the SAP Admin Module

You must set up the SAP Admin module to use SAP-related features, including recommendations processing, Package measurement, activity checks, and LAW measurements. This section describes the following tasks:

- Setting up the system landscape
- Configuring RFC destinations
- Using Central User Administration
- Defining HR systems
- Using SAP IdM

Other functionality is described in the *FlexNet Manager for SAP Applications User Guide* PDF.

The System Landscape in the SAP Admin Module

The system landscape in the SAP Admin module shows all of your organization's SAP systems.

A system landscape represents your SAP systems according to your organization's individual requirements. A system landscape can contain several SAP Admin module systems, with each SAP Admin module being connected to several dependent SAP systems.

Although it is possible to have multiple system landscapes in FlexNet Manager Suite, you can have only one system landscape in each SAP Admin module. Having multiple system landscapes in FlexNet Manager Suite might be useful in simulation scenarios, where one landscape serves as the "production" landscape, and additional landscapes are used for running simulations.

When you set up the SAP Admin module for the first time, you need to import the system landscape from FlexNet Manager Suite. Only the SAP systems that are connected to the corresponding SAP Admin module are imported from FlexNet Manager Suite. For more information, see [Importing a System Landscape from FlexNet Manager Suite](#).

You should regularly synchronize the system landscape in the SAP Admin module with the corresponding system landscape in FlexNet Manager Suite. Some features, such as activity checks and package measurements, are available only in the SAP Admin module, and you may need to target specific SAP systems and system groups when performing these actions. For more information about synchronizing the system landscape, see [Synchronizing a System Landscape in the SAP Admin Module with FlexNet Manager Suite](#).

For information on how to set up a system landscape in FlexNet Manager Suite, see [System Landscape Setup](#).

System Types in the SAP Admin Module

In the system landscape, the icon to the left of the system name indicates the system type.

The string to the right of the icon indicates the system ID and the client number.

Table 6: System type icons

Icon	Description
	Virtual root of the system landscape
 SG:	System group
	Active system
	Active system with a correct RFC destination, but insufficient user authorization. The user should have the role /LICMAN/SATELLITE assigned or a custom role with similar authorizations.
	System with an incorrect RFC destination
	System without an RFC destination

Information in the System Landscape List View

The system landscape list view, which displays as a table on the right side of the main screen in the SAP Admin module, provides detailed information about each system or system group.

Table 7: Information in the system landscape list view

Column	Description
System ID	Three-character identifier that identifies the SAP system.
Client	SAP client number.
System Number	The system number specifies the communication service used in this system.
System Description	Description of the system as entered on the Create New System page in SAP mode in FlexNet Manager Suite.
RFC Destination	The system's RFC destination. You provide this information when you create a new system in SAP mode in FlexNet Manager Suite.
Installation Number	The system's installation number that is registered with SAP. This data is automatically imported when the system is created.

Column	Description
Flexera FlexNet Manager Release	Shows the FlexNet Manager for SAP Applications release that is currently installed. This data is automatically imported when the system is created.
Dialog RFC Destination for Updates	RFC destination that forces a user to login to the system before making any changes. You can set the dialog RFC destination in the Administration menu under Set up Dialog RFC Destinations .
CUA Controlled Users	The column shows a check mark if the users on this system are controlled by a Central User Administration (CUA) central system. For information on CUA central systems, see Central User Administration . If this column shows a check mark, the CUA RFC Destination column shows the RFC destination of the CUA central system.
Model View	Indicates the CUA model view, if applicable.
CUA Central System	Indicates whether the system is a Central User Administration (CUA) central system. The column shows a check mark if you marked this system as a CUA central system in the Maintain RFC Assignments grid. For information on CUA central systems, see Central User Administration .
CUA RFC Destination	This field shows the RFC destination of the CUA central system, if the system is a CUA central system, or if its users are controlled by a CUA central system. For information on CUA central systems, see Central User Administration .
Dialog RFC of CUA Central System	Displays the RFC destination of the CUA central system that forces a user to log on to the system before making any changes.
HR System	If you set an HR system, the HR system's RFC destination displays here.
System Status	Indicates whether the system is active (A), inactive (I), or excluded (E).
SAP Admin Module	Displays a check mark if this is an SAP Admin module system. No check mark indicates that the system is a dependent SAP system.
S/4HANA	Displays a check mark if this is an SAP S4/HANA system. No check mark indicates that the system is a classic SAP Business Suite system.

Setup and Maintenance of Landscapes and RFC Destinations

RFC destinations need to be correctly defined for each system in the SAP Admin module to enable processing of license-type recommendations and updating of user source records in the SAP systems.

In the system landscape, systems with missing RFC destinations have a red icon  next to them. Communication with systems that do not have a valid RFC destination is not possible.

The initial setup of RFC destinations includes the following tasks:

- [Importing a system landscape from FlexNet Manager Suite](#)
- [Synchronizing a system landscape with FlexNet Manager Suite](#)
- [Resetting a system landscape](#)

The general maintenance of RFC destinations includes the following tasks:

- [Adding RFC destinations](#)
- [Modifying RFC destinations](#)
- [Testing RFC destinations](#)

Many of the tasks listed above use the **Maintain RFC Assignments** grid. For more information about this grid, see [The Maintain RFC Assignments Grid](#).

Importing a System Landscape from FlexNet Manager Suite

When you set up the SAP Admin module for the first time, you need to import the system landscape from FlexNet Manager Suite.

You need appropriate authorizations (equivalent to those in the role /LICMAN/ADMIN_MODULE) to import a system landscape from FlexNet Manager Suite into the SAP Admin module and to create RFC connections to SAP systems.

Although it is possible to have multiple system landscapes in FlexNet Manager Suite, you can import only one system landscape into the SAP Admin module. After you have imported the system landscape from FlexNet Manager Suite, the **Import System Landscape** button is unavailable.

RFC destinations can only be saved if the RFC destinations exist in the system and if they have been correctly assigned to the appropriate system.



To import a system landscape from FlexNet Manager Suite:

1. Open the SAP Admin module.
2. Click **Import System Landscape**.

A dialog displays all system landscapes that are available in FlexNet Manager Suite.

3. Select the system landscape that you want to import into the SAP Admin module and click **Continue** or press **Enter**.

The **Maintain RFC Assignments** grid displays the available systems and related system information, based on the information that was imported from FlexNet Manager Suite. For information on the details that are available in this grid, see [The Maintain RFC Assignments Grid](#).

4. Verify the system information.
5. Click **Save RFC Destinations**.

Add any missing RFC destinations by following the procedure that is described under [Adding RFC Destinations](#).

Synchronizing a System Landscape in the SAP Admin Module with FlexNet Manager Suite

You should regularly synchronize the system landscape in the SAP Admin module with the corresponding system landscape in FlexNet Manager Suite. You do this by using the **Synchronize System Landscape** button in the SAP Admin module, which is located directly above the system landscape. This button is enabled only if changes have

been made to a system landscape in FlexNet Manager Suite. If no data is available for import, this button is unavailable.

When you synchronize the system landscape in the SAP Admin module with FlexNet Manager Suite for the first time, and there are multiple landscapes in FlexNet Manager Suite, you will be prompted to choose the landscape that you want to manage in the SAP Admin module.



To synchronize the system landscape in the SAP Admin module with the corresponding landscape in FlexNet Manager Suite:

- Open the SAP Admin module and click **Synchronize System Landscape**.

Resetting a System Landscape in the SAP Admin Module

The Reset System Landscape functionality enables you to synchronize your system landscape in the SAP Admin module with another landscape in FlexNet Manager Suite (for example, in the event that you re-built your FlexNet Manager Suite installation).



Caution: When you reset a system landscape, the system details that were previously entered in the SAP Admin module (such as RFC destinations, and dialog RFC destinations) are no longer available.



To reset a system landscape in the SAP Admin module:

1. Open the SAP Admin module, click **Administration**, and select **Customizing**.
2. In the **Extras** menu, click **Reset System Landscape**. In the dialog box, click **Yes** to continue.
3. Close the SAP Admin module, and then restart it.
4. Open the Main menu of the SAP Admin module.

The Main menu displays the **Import System Landscape** button.

You can now import a system landscape from FlexNet Manager Suite. To do so, follow the steps described under [Importing a System Landscape from FlexNet Manager Suite](#).

Adding RFC Destinations

You can manually create an RFC destination for systems that cannot use an existing RFC destination.

When you first import a system landscape, you will usually find that no RFC destinations are provided in the **Maintain RFC Assignments** grid. You can add the RFC destinations directly in SAP using the transaction SM59, in which case you need to enter all system details manually. Alternatively, FlexNet Manager for SAP Applications offers a shortcut to this transaction — the button **Create RFC Destination** is located directly above the grid. Clicking **Create RFC Destination** also starts SM59, but the values that were imported from FlexNet Manager Suite are used to populate some of the fields (for example, server, system number, and client), which speeds up the creation of RFC destinations.

For information on the Maintain RFC Assignments grid, see [The Maintain RFC Assignments Grid](#).

**To add an RFC destination in the SAP Admin module:**

1. Open the SAP Admin module.
2. Open the **Maintain RFC Assignments** grid.

If you just imported a system landscape from FlexNet Manager Suite, this grid will already be open. Otherwise, in the system landscape, point to **Administration** and click **Maintain RFC Assignments**.
3. Select the system whose RFC destination you want to add, and click **Create RFC Destination**.
4. In the next dialog, enter the RFC destination, and click **Continue**.
5. In the **RFC Destination name** screen, add the user name and password and other details as required.
6. For more information on the properties in this screen, refer to the SAP documentation.
7. Click **Save**.

The changes that you made in SM59 are transferred to the SAP Admin module and the RFC destination details are updated accordingly.

Upon saving the RFC destinations, FlexNet Manager for SAP Applications automatically verifies if the RFC destinations are correct. For information about testing RFC destinations, see [Testing RFC Destinations](#).

Modifying RFC Destinations

You may need to modify RFC destination details for systems—for example, when the password for the RFC user was changed in one of the dependent SAP systems. In this case, the **RFC Status** column in the **Maintain RFC Assignments** grid shows a red status, alerting you to the RFC destination that is not working properly.

**To modify RFC destination details in the SAP Admin module:**

1. Open the SAP Admin module.
2. In the system landscape, point to **Administration** and click **Maintain RFC Assignments**.
3. Select the system whose RFC destination you want to modify, and click **Modify RFC Destination**.

The SAP transaction SM59 is called. The fields in the **RFC Destination name** screen are populated with the information that was already saved for the RFC destination.

4. Modify the configuration information as required. For more information on the properties in this screen, refer to the SAP documentation.
5. Click **Save**.

Upon saving the RFC destinations, FlexNet Manager for SAP Applications automatically verifies if the RFC destinations are correct. For information about testing RFC destinations, see [Testing RFC Destinations](#). The changes that you made in SM59 are transferred to the SAP Admin module and the RFC destination details are updated accordingly.

Testing RFC Destinations

You can test all RFC destinations in the SAP Admin module in one step. This enables you to identify and correct RFC

destinations that do not function properly. FlexNet Manager for SAP Applications shows a color-coded status for every RFC destination along with a possible error cause for incorrect RFC destinations.



To test RFC destinations in the SAP Admin module:

1. Open the SAP Admin module.
2. In the system landscape, point to **Administration** and click **Maintain RFC Assignments**.
3. Click **Test RFC Destinations**.

When the test is complete, the **RFC Status** column shows whether the RFC destination is working properly (green status) or not (red status). The **RFC Status Details** column displays additional information that might help you resolve any errors with the RFC destination, if applicable.

The Maintain RFC Assignments Grid

Use the **Maintain RFC Assignments** grid to add or modify an RFC destination, or to define an SAP system as CUA central system.

If you just imported a system landscape from FlexNet Manager Suite, the **Maintain RFC Assignments** grid will already be open. Otherwise, in the system landscape, point to **Administration** and click **Maintain RFC Assignments**.

Table 8: SAP system information in the Maintain RFC Assignments grid

Column	Description
System ID	Three-character identifier that identifies the SAP system.
Client	SAP client number.
Service	The number specifies the communication service used in this system.
System Description	Description of the system as entered on the Create New System page in SAP mode in FlexNet Manager Suite, or as provided on the inventory beacon when the connection to the relevant SAP system was created.
RFC Destination	During the import of the system landscape, FlexNet Manager for SAP Applications tries to identify the existing RFC destinations for the imported systems. This field shows the RFC destination that is suggested for the relevant system. Review the RFC destination, and change it, if it is not correct. In the RFC destination, a user with the role /LICMAN/SATELLITE or a similar set of authorizations must have been defined.
 Important: If no RFC destination is provided for a system, recommendations for this system will not be processed.	
User Name	The user account that should be used to open the RFC connection to the system.
RFC Status	Indicates whether the RFC destination is working properly (green status) or not (red status).

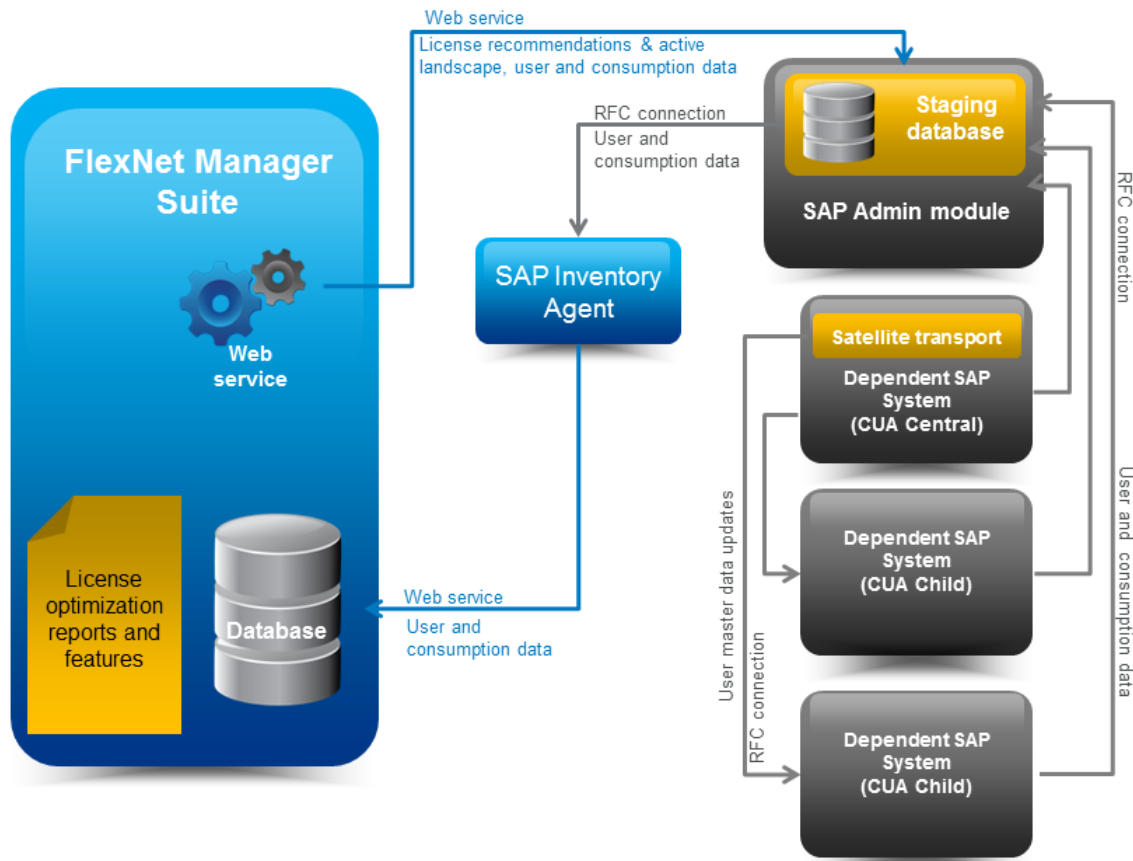
Column	Description
RFC Status Details	Shows a message as to whether the RFC destination is working properly. If the RFC destination is not functioning, the message provides information about the possible cause.
Dialog RFC Destination for Updates	RFC destination that forces a user to login to the system before making any changes. You can set the dialog RFC destination in the Administration menu under Set up Dialog RFC Destinations .
Installation Number	The system's installation number that is registered with SAP. This data is automatically imported when the system is created.
CUA Controlled Users	The column shows a check mark if the users on this system are controlled by a Central User Administration (CUA) central system. For information on CUA central systems, see Central User Administration . If this column shows a check mark, the CUA RFC Destination column shows the RFC destination of the CUA central system.
Model View	Indicates the CUA model view, if applicable.
CUA Central System	Indicates whether the system is a Central User Administration (CUA) central system. The column shows a check mark if you marked this system as a CUA central system in the Maintain RFC Assignments grid. For information on CUA central systems, see Central User Administration .
CUA RFC Destination	This field shows the RFC destination of the CUA central system, if the system is a CUA central system, or if its users are controlled by a CUA central system. For information on CUA central systems, see Central User Administration .
Dialog RFC of CUA Central System	Displays the RFC destination of the CUA central system that forces a user to log on to the system before making any changes.
HR System	If you set an HR system, the HR system's RFC destination is displayed here.
FNM Release	Shows the FlexNet Manager for SAP Applications release that is currently installed. This data is automatically imported when the system is created.
SAP Admin Module	Displays a check mark if this is an SAP Admin module system. No check mark indicates that the system is a dependent SAP system.

Central User Administration

The Central User Administration (CUA) enables you to maintain the user primary records centrally in one SAP system (SAP refers to these as the "user master records").

The system that is used to maintain the user primary records is usually referred to as the CUA central system. Any changes that are made to the user primary records on the CUA central system are automatically distributed to the connected SAP systems (called child system in the following diagram).

Figure 2: Data flow from FlexNet Manager Suite to the SAP systems when using CUA



If your SAP landscape uses CUA, you need to specify the CUA central system in the SAP Admin module. When an SAP administrator makes changes to user primary data in the SAP Admin module, FlexNet Manager for SAP Applications sends these changes to the CUA central system, which distributes them to the connected SAP systems.

Prerequisites for using CUA:

- The **AdminModule** transport and the **Role** transport must be imported on the SAP Admin Module system.
- The **Satellite** transport and the **Role** transport must be imported on the SAP CUA Central system. If the CUA system is the Admin module, you don't need to import the **Satellite** transport because the **AdminModule** transport is sufficient.
- The **Satellite** transport and the **Role** transport on the CUA child systems are optional.
- The RFC connections must meet the following requirements:
 - The name of the RFC connection between the SAP Admin module and the CUA central system must be the same name as the logical system of the CUA central system.
 - The name of an RFC connection between the CUA central system and any CUA child system within the Admin module must be a logical system name or a name that is being used in the CUA landscape.
 - The RFC user must have the user role **/LICMAN/SATELLITE** or similar authorizations.

Specifying the CUA Central System

The Satellite transport must be installed on the CUA central system. In addition, an RFC destination must have been assigned to the CUA central system.

When you specify the CUA central system in the SAP Admin module in the **Maintain RFC Assignments** grid, the grid is updated with the following details:

- **CUA Controlled Users:** A check mark in this column indicates that the system is controlled by a CUA central system.
- **CUA Central System:** A check mark in this column indicates that the system is the CUA central system.
- **CUA RFC Destination:** This column displays the RFC destination of the CUA central system for all systems that are controlled by that CUA central system.

For more information on the **Maintain RFC Assignments** grid, see [The Maintain RFC Assignments Grid](#).



To specify the CUA central system:

1. Open the SAP Admin module.
2. In the system landscape, click **Administration**, then click **Maintain RFC Assignments**.
3. In the **Maintain RFC Assignments** grid, select the row with the CUA central system.
4. In the menu bar, point to **CUA Settings**, and click **Set as CUA Central System**.
5. Click **Save**.

Clearing the CUA Settings



To clear the CUA settings:

1. Open the SAP Admin module.
2. In the system landscape, click **Administration**, then click **Maintain RFC Assignments**.
3. In the menu bar, point to **CUA Settings**, then click **Clear CUA Settings**.

HR System Setup

For every system connected to FlexNet Manager for SAP Applications via the SAP Admin module, you can define an HR system.

The information from the HR system can be used to provide additional information in the Logon Evaluation Report (see the *FlexNet Manager for SAP Applications User Guide* PDF for more information).

Global HR System Setting

You can set a global HR system in the Customizing section. This setting is overridden by HR system settings for individual SAP systems and system groups.

**To set an HR system globally for all SAP systems in a landscape:**

1. Open the SAP Admin module.
2. In the system landscape, click **Administration** and then **Customizing**.
3. In the **Technical Settings** section, for **RFC Destination of HR System**, type the RFC destination of the HR system.
4. Click **Save**.

HR System for Individual SAP Systems

You can only set an HR system for systems with a valid RFC destination.

The HR system setting for individual SAP systems overrides the HR system setting for SAP system groups.

**To set an HR system for an individual SAP system:**

1. Open the SAP Admin module.
2. In the system landscape, right-click the system name and select **Set HR System**.
3. In the **Set HR System** dialog, type the RFC destination of the HR system and click **Continue**.

The HR system's RFC destination displays in the **HR System** column of the system landscape list view.

HR System for SAP System Groups

You can only set an HR system for systems with a valid RFC destination.

When you set an HR system for an entire system group, it is valid for all systems in the group, except where an HR system has been set explicitly for a single system.

**To set an HR system for an SAP system group:**

1. Open the SAP Admin module.
2. In the system landscape, right-click the system group name and select **Set HR System**.
3. In the **Set HR System** dialog, type the RFC destination of the HR system and click **Continue**.

The HR system's RFC destination displays in the **HR System** column of the system landscape list view.

Removing an HR System

You can remove an HR system for individual SAP systems or system groups.

**To remove an HR system for an SAP system or system group:**

1. Open the SAP Admin module.
2. In the system landscape, right-click the system or system group name and select **Set HR System**.

3. In the **Set HR System** dialog, remove the RFC destination and click **Continue**.

The HR system's RFC destination no longer displays in the **HR System** column of the system landscape list view.

Dialog RFC Destinations in the SAP Admin Module

FlexNet Manager for SAP Applications can automatically create or delete logical RFC destinations.

Dialog RFC Destinations are created with reference to already existing RFC destinations in FlexNet Manager for SAP Applications and are used for the updating functions of the user primary data. These RFC destinations are also used for all functions that require a user of the type Dialog. This enforces the logon of the current user into the dependent SAP system, ensuring that all changes are recorded for this respective user in the change history.

There are two ways to set up Dialog RFC destinations:

- In the **Set up Dialog RFC Destination** screen (also called the Wizard option). For information about the procedure, see [Setting up Dialog RFC Destinations using the Wizard](#).
- In the **Change Dialog RFC Destination** dialog. If you use this option, ensure that you also create the Dialog RFC destination using the transaction SM59. For information about the procedure, see [Setting up Dialog RFC Destinations Manually](#).

Setting up Dialog RFC Destinations using the Wizard

When you set up a Dialog RFC destination using the **Set up Dialog RFC Destinations** screen, the Dialog RFC destination is created based on the information that is already available in the screen, and the Dialog RFC destination is assigned to the system. There is no need to call the transaction SM59.



To set up a Dialog RFC destination in the SAP Admin module using the Set up Dialog RFC Destinations dialog:

1. Open the **Set up Dialog RFC Destinations** screen by doing one of the following:
 - In the Main menu of the SAP Admin module, click **Administration** and select **Set up Dialog RFC Destinations**.
 - In the system landscape, right-click the system whose Dialog RFC destination you want to set up. Click **Dialog RFC Destinations** and select **Wizard**.
2. In the **Set up Dialog RFC Destinations** screen, select the systems for which you want to set up Dialog RFC destinations.
3. Under **Action**, select **Create**.
4. Under **Create Options**, in the **Description** field, type a description for the connections to be created (default: **DLC GENERATED**).
5. In the **Suffix for Dialog RFC Dest.** field, type a suffix that should be appended to the destination.
6. If you want to use a specific layout, enter the name of the saved layout in the **Layout** field.
7. Click **Execute** or press **F8**.

Setting up Dialog RFC Destinations Manually

When you set up a Dialog RFC destination manually in the SAP Admin module, you must afterward call the transaction SM59 and create the Dialog RFC destination with the same name there or use an existing Dialog RFC destination.



To manually set up a Dialog RFC destination in the SAP Admin module:

1. In the system landscape, right-click the system whose Dialog RFC destination you want to set up. Click **Dialog RFC Destinations** and select **Manually**.
2. In the **Change Dialog RFC Destination** dialog, provide the following information:
 - **Destination** — Enter the RFC destination.
 - **Installation No.** — Enter the system's installation number that is registered with SAP.
 - **System ID** — Enter the three-character identifier that identifies the SAP system.
 - **Client** — Enter the SAP client number.
 - **Dialog RFC Dest.** — Enter the Dialog RFC destination.
3. Click **Continue** or press **Enter**.

Removing Dialog RFC Destinations

If required, you can remove Dialog RFC destinations.



To remove a Dialog RFC destination in the SAP Admin module:

1. Open the **Set up Dialog RFC Destinations** screen by doing one of the following:
 - In the Main menu of the SAP Admin module, click **Administration** and select **Set up Dialog RFC Destinations**.
 - In the system landscape, right-click the system whose Dialog RFC destination you want to set up. Click **Dialog RFC Destinations** and select **Wizard**.
2. In the **Set up Dialog RFC Destinations** screen, select the system whose Dialog RFC destination you want to remove.
3. Under **Action**, select **Delete**.
4. Click **Execute** or press **F8**.

SAP Identity Management and the SAP Admin Module

SAP NetWeaver® Identity Management (IdM) is an SAP technology for centrally managing SAP user accounts across multiple SAP software environments.

With IdM, organizations can:

- Centrally create, maintain, and delete user accounts
- Centrally manage global user account attributes (for example, first and last name)
- Centrally manage privileges (technical roles) and business roles
- Synchronize data across several systems

IdM automatically consolidates the data held in user accounts that belong to the same user. The consolidation is usually based on the user name. This means that any user data that is changed in one account of a user will be propagated into all other accounts that this user holds.

By connecting the SAP Admin module (and, via the SAP Admin module, FlexNet Manager Suite) to IdM, you can ensure that changes made to user accounts using FlexNet Manager for SAP Applications are not subsequently overwritten by IdM. In the SAP Admin module, you can configure which changes (made, for example, through the Logon Evaluation report, the Duplicates Search report, or the Process Recommendations report) are sent to IdM and which changes are sent directly to the SAP systems.



Important: User license types and Valid To dates must be managed using FlexNet Manager for SAP Applications, and not through IdM. This ensures that the license type and Valid To date are managed individually for each account that a user holds.

For more information about IdM, refer to the relevant SAP documentation.

SAP Admin Module and SAP IdM – Architecture

The SAP Admin module can be connected to IdM through Virtual Directory Server (VDS). After VDS has been correctly configured, the SAP Admin module can send requests (using the LDAP protocol) to change specific user data to IdM. Depending on its configuration, IdM then sends changes to the SAP target systems.

VDS is used in the context of IdM to provide connectors to various SAP and non-SAP systems. VDS also functions as an entry point to the IdM database (the Identity Center [IC]). The SAP Admin module accesses the IdM database via an LDAP connector. LDAP requests from the SAP Admin module are transformed and a connection to the IdM database is made.

The LDAP requests are executed centrally within IdM according to its configuration. This means, that the settings that are configured in IdM take priority over those configured in the SAP Admin module. After the SAP Admin module has sent a request to IdM, the IdM database is updated with the new values, and the IdM configuration determines, for example, which changes to user details are propagated into which SAP systems.

Connecting the SAP Admin Module to VDS

The LDAP server that is configured in the steps described below needs to be running (in transaction LDAP) when you are using any functionality in the SAP Admin module that sends data to IdM.

You need to connect the SAP Admin module to Virtual Directory Server (VDS) so that it can communicate with IdM.

For detailed information on the individual steps, refer to the [SAP NetWeaver® Enterprise Search](#) product information that is available online.

**To connect the SAP Admin module to VDS:****1. Configure the LDAP connector.**

- a. Using transaction SM59, create a new RFC connection of type T (TCP/IP).
- b. Use the transaction LDAP to customize the connection to the LDAP directory (VDS).

For more information on this step, in the SAP NetWeaver® Enterprise Search product information, click [Appendix](#) and select the help topic [Configuring the LDAP Connector](#).

2. Define the credentials for the system user that the SAP system uses to login to the directory server.

For more information on this step, in the SAP NetWeaver® Enterprise Search product information, click [Appendix](#) and select the help topic [Defining the System User of the Directory Service](#).

3. Configure the connection data for the directory service.

For more information on this step, in the SAP NetWeaver® Enterprise Search product information, click [Appendix](#) and select the help topic [Configuring Connection Data for the Directory Service](#).

Configuring Global IdM Settings in Customizing

VDS must have been set up correctly. For more information, see [Connecting the SAP Admin Module to VDS](#).

To enable the interaction between the SAP Admin module and the IdM system, you need to configure the IdM settings and provide connection details (such as the name of the LDAP server).

In the **Customizing** section, you can configure the IdM settings for all systems in the SAP Admin module. For information on the IdM settings that are configurable for individual SAP systems, see [Configuring IdM Settings for Individual Systems](#).

**To configure global IdM settings in Customizing:****1. Open the SAP Admin module.****2. Click the **Administration** menu, select **Customizing**, and click **IDM Settings**.****3. On the **Customizing** page, provide the following information:**

- **LDAP Server** — Enter the name of the LDAP server that is configured in SAP.
Example: VDS_SERVER.
- **LDAP Distinguished Name** — Enter the string that is used by the LDAP function to identify the correct entry point in the LDAP directory of VDS. You must specify 'cn=*' in this string. The entry point depends on the system that should be accessed.
Example: CN=*, O=USERS, OU=ORG_UNIT, O=ORG.
- **Values updated through IDM** — Select the check boxes to indicate which of the user details should be managed through IdM, that is, the values of the fields you select here are sent to IdM. The selected fields should match those of the IdM configuration. The following fields are available:
 - First Name

- Last Name
- User Group
- User Type
- Email
- Phone
- Accounting Number
- Cost Center

Cleared check boxes indicate those fields whose values are to be sent directly to the SAP systems.



Important: To ensure that license-type recommendations and recommendations for retiring users are not overwritten by IdM, license types and Valid To dates must be managed through FlexNet Manager for SAP Applications.

4. Click **Continue**.

Removing Global IdM Settings

If required, you can remove the global IdM settings.



To delete global IdM settings:

1. Open the SAP Admin module.
2. Click the **Administration** menu, select **Customizing**, and click **IDM Settings**.
3. On the **Customizing** page, click **Delete IDM Settings**.
4. Click **Yes** to confirm.

Configuring IdM Settings for Individual Systems

You must have configured global IdM settings in the Customizing section (see [Configuring Global IdM Settings in Customizing](#)), otherwise, the IdM settings will not be displayed in the system details. In addition, VDS must have been set up correctly (see [Connecting the SAP Admin Module to VDS](#)).

You can indicate for each system whether or not the system is managed by IdM.



To indicate that a system is managed by IdM:

1. Open the SAP Admin module.
2. In the system landscape, right-click the system name that you want to configure and select **System Details**.
3. In the **FlexNet Manager for SAP Applications** dialog, provide the following information:
 - a. Select the **IDM Controlled** check box to indicate that the system is managed by IdM. The **IDM Account**

Field box and the **Update data also directly to SAP systems** check box become available.

- b. In the **IDM Account Field** box, type the name of the field in the IdM database that holds the user name of the target SAP system. The SAP Admin module identifies users based on their SAP user names. The value in the **IDM Account Field** box enables the SAP Admin module to identify the IdM IDs of the users whose user data should be changed. If you leave this field blank, the SAP Admin module will use the SAP user name as an ID in IdM.
- c. Select the **Update data also directly to SAP systems** check box if changes should be sent directly to the SAP target systems (in addition to the IdM database). This check box acts as a safety mechanism.

4. Click **Continue**.

Data Collection Using the Staging Database Monitor

Use the Staging Database Monitor to specify the data that the SAP Admin module should collect from its dependent SAP systems and to start the data collection.

Each SAP Admin module collects data from its dependent SAP systems using RFC-enabled functions. If the Satellite transport is installed on the dependent SAP system, user data is collected using the function /LICMAN/BS_READ_TABLE. If the Satellite transport is not installed on the dependent SAP system, the function RFC_READ_TABLE is used to collect the user data. Consumption data is collected using the function SWNC_COLLECTOR_GET_AGGREGATES (regardless of whether the Satellite transport is installed).

The collected data is stored in a staging database on the SAP Admin module system. You use the Staging Database Monitor to specify the type of data that is collected. The SAP Inventory Agent connects to the staging database and loads the data into the FlexNet Manager Suite database.

Collecting Data from Dependent SAP Systems

You can launch the data collection from the dependent SAP systems manually or by scheduling a job.

It is recommended that you schedule the Staging Database Monitor to run the data collection job a day before the SAP Inventory Agent reads the data from the SAP Admin module and loads it into the FlexNet Manager Suite database. For information on scheduling a background job, see [Scheduling a Collection Job for the Staging Database Monitor](#). For information on data collection through the SAP Inventory Agent, see [SAP Inventory Agent](#).



To specify the data that should be collected from dependent SAP systems:

1. Open the SAP Admin module.
2. In the system landscape, click **Administration** and then **Staging Database Monitor**.

The **Staging Database Monitor** interface displays, allowing you to specify the data collection criteria.
3. In the **Systems** section, select the dependent systems from which the data should be collected.
4. Optionally select the **Launch USMM remotely** check box to start the USMM remotely on the dependent SAP systems that are specified in the **Systems** field above.

Launching the USMM ensures that current package-measurement and activity-checks data are available in the dependent SAP systems; this data can then be collected by the Staging Database Monitor.

The USMM is only used on dependent SAP systems to start the system measurement. No data is sent to SAP.

For information on best practices when using the USMM, see [Best Practice when Using USMM](#).



Important: The **Launch USMM remotely** check box **must** be selected if you want to collect package data and activity checks data from system measurement results in dependent SAP systems.

If you do not want to use the USMM to generate the data, use the Packages and Activity Checks features (both available from the Main menu of the SAP Admin module). Data collected by the Packages and Activity Checks features is added to the staging database. For more information, see "SAP Package Analysis in the SAP Admin Module" and "Activity Checks" in the *FlexNet Manager for SAP Applications User Guide PDF*.



Note: This functionality cannot be launched remotely in FlexNet Manager Suite 2019 R1 or any earlier versions, if the remote system is based on the same or higher than these supported package versions:
SAP_BASIS:

- 7.02 (SP21)
- 7.31 (SP23)
- 7.40 (SP20)
- 7.50 (SP11)
- 7.51 (SP06)
- 7.52 (SP02).

As a workaround, you can use the Activity Checks and Package Measurement features after finishing your data collection in the Staging Database Monitor. Please refer to *Activity Checks and SAP Package Measurement in the FlexNet Manager for SAP Applications User Guide PDF* for more details.

5. The **Data to collect** section lists all the data types you can collect. All data types are selected by default, so clear the check box for any data type you don't want to collect:

a. User Details — Select this check box to collect user details from the dependent SAP systems. User details include user name, first and last name, license type, last logon date, user group, user type, email address, phone number, accounting number, validity dates, and cost center.

b. System Users (Type B) — Select this check box to collect data for System users, along with data for other user types. Clear this check box to exclude the System user type from data collection.

There are five different SAP user types, which are:

- Dialog (A)
- System (B)
- Communications Data (C)
- Reference (L)
- Service (S).

c. Role Data — Select this check box to collect role data from the dependent SAP systems.

- d. Objects** — Select this check box to collect object data (name and type of consumed objects) from the dependent SAP systems. Object types are Report, Job, or Transaction.
- e. License Data** — Select this check box to collect license data from the dependent SAP systems.
- f. Packages** — Select this check box to collect package measurement data from the dependent SAP systems.

If current package measurement data is **not** available, then we recommended that you **clear** this check box. Package measurement data can be generated by executing the USMM (using the **Launch USMM remotely** check box) or using the Packages feature (available from the Main menu of the SAP Admin module).

- g. Activity Checks** — Choose whether you want to use Activity Checks by selecting one of the following options:
 - If current activity-checks data is **not** available, then we recommended that you **clear** this check box. Activity checks data can be generated by executing the USMM (using the **Launch USMM remotely** check box) or using the Activity Checks feature (available from the Main menu of the SAP Admin module).
 - Select this check box to collect data for activity checks from the dependent SAP systems. This applies the default parameters used by the USMM for activity checks. This option checks the activity of all end-users to ensure that sufficient pauses in activity are recorded in two subsequent days. The default break duration is 28,800 seconds (8 hours). Please refer to *Activity Checks* in the FlexNet Manager for SAP Applications User Guide PDF for more details.



Important: The Satellite transport must be installed on the dependent system for activity checks data collection.



Note: If you want to collect activity check data from a dependent system that runs SAP Basis release 4.6C, 6.2, or 6.4, you must start the data collection using the **Activity Checks** menu in the SAP Admin module. For systems running SAP Basis release 4.6C, 6.2, or 6.4, the Staging Database Monitor always returns a red status, even if the data collection using the **Activity Checks** menu was successful.

- a. Consumption Data** — Select this check box to collect consumption data from the dependent SAP systems.

By default, three months of consumption data will be collected. Use the following fields to refine the data collection period:

- a. Consumption end date** — Enter the end date for the period of consumption data collection in the format dd/mm/yyyy or leave blank to use the current date.
- b. No. months of consumption** — Enter the number of months that you want consumption data to be collected for. The default value is 3. Although you can technically enter any number of months, most SAP systems will typically only support three months of consumption data.
- b. Module Data** — Select this check box if data on used SAP modules should be collected from the dependent SAP systems.
- c. RFC Data** — Select this check box to collect RFC data from the dependent SAP systems.

By default, three months of data will be collected. Use the following fields to refine the data collection

period:

- a. **RFC Data end date** — Enter the end date for the period of RFC data collection in the format dd/mm/yyyy or leave blank to use the current date.
- b. **No. months of RFC Data** — Enter the number of months to indicate for how long RFC data should be collected. The default value is 3.
- d. **Digital Access Data** — Select this check box if digital access data should be collected from the dependent SAP systems.

By default, three months of data will be collected. Use the following fields to refine the data collection period. Use the following radio button to set a different time period:

- **No. months of Digital Access** — Select to collect digital access data for a specific number of months and then enter the number of months. The default value is 3.
- **Last Full Calendar Year (monthly)** — Select to collect digital access data that was generated in last full calendar year. The data will be monthly aggregated.
- **Start Date and End Date** — Select to collect digital access data generated for a specific date range and then enter then start and end date in the format dd/mm/yyyy. Leave the **End Date** blank to use the current date.

6. In the **Options** section, select the way you want to collect data:

- a. Choose the run method for collection from these options:
 - **Run Online** — This is the default selection. Use this option if the functions that are called to facilitate the data collection should be executed online. It is recommended to select this option for the initial data collection, to ensure that data is successfully collected. If the data collection is working as expected, subsequent data collection can be run as a background task.
 - **Run with "IN BACKGROUND TASK"** — Select this option if the functions that are called to facilitate the data collection should be run as a background task. It is recommended to select this option only after you ran an initial data collection using the **Run Online** option, to ensure that the data collection runs as expected.
- b. **Use BAPI_USER_GET_DETAIL** — Choose the fastest way to collect the address, email address, and telephone number of users from these options:
 - Leave this check box selected to enable FlexNet Manager Suite to call this routine to gather the user data.



Tip: Best practice is to test both options to determine the fastest method of data collection for your enterprise.

- Calling `BAPI_USER_GET_DETAIL` for each user may be slow when there is a large number of users in this dependent SAP system, and the network communication between the Admin Module system and this dependent SAP system is less than ideal.
- Calling `BAPI_USER_GET_DETAIL` may be the most efficient option if there is a large amount data in table `ADR6` of this dependent SAP system, when it may reduce the memory usage and improve performance.

- Clear this check box to enable FlexNet Manager Suite to gather the user data from table USR21, ADR6 and V_ADDR_USR through RFC_READ_TABLE.

7. Click **Execute** or press **F8** to launch the data collection.

You can verify the status of the data collection on the **Staging Database Monitor - Data collection status** screen. After the data collection has completed, the SAP Inventory Agent can connect to the staging database and collect the data. The data is then loaded into FlexNet Manager Suite via RFC connection.

Best Practice when Using USMM

Follow this best practice when you remotely execute the USMM (using the **Launch USMM remotely** check box) to collect the latest package data or activity-checks data.

The USMM runs several jobs which can take some time to complete. Therefore, the Staging Database Monitor might not collect the latest package data or activity-checks data. To ensure that the latest data is collected, it is recommended to run the Staging Database Monitor in two steps.

This recommendation also applies to jobs that use the Staging Database Monitor.



To ensure that the latest data is collected:

1. Run the Staging Database Monitor with the **Launch USMM remotely** check box selected and all check boxes in the **Data to collect** section cleared. The USMM is executed and generates up-to-date package-measurement and activity-checks data on the dependent SAP systems.
2. Run the Staging Database Monitor with the **Launch USMM remotely** check box cleared and the required check boxes in the section **Data to collect** selected (indicating the type of data that should be collected). The Staging Database Monitor collects the data as per your selection.

Scheduling a Collection Job for the Staging Database Monitor

You can automate the data collection using the Staging Database Monitor by scheduling a job.



To schedule the Staging Database Monitor to execute the data collection as a recurring job:

1. Open the SAP Admin module.
2. In the system landscape, click **Administration** and then **Staging Database Monitor**.
The **Staging Database Monitor** interface displays, allowing you to specify the data collection criteria.

3. In the **Systems** section, select the dependent systems from which the data should be collected.

For information about the options on this screen, see the table under step 3 in topic [Collecting Data from Dependent SAP Systems](#).

4. In the menu bar, click **Program** and select **Execute in Background**.
5. In the **Background Print Parameters** dialog, specify relevant values, if desired, or accept the default values.
6. Click **Continue** .

7. In the **Start Time** dialog, click **Date/Time**. Type in the date and time when the job should be started, or press **F4** to select the start date and time from the **Calendar** or **Choose Time** dialog, respectively.
8. At the bottom of the **Start Time** dialog, click **Period values**. In the **Period Values** dialog, click the desired option to specify how frequently the job should be executed. Click **Save** .

The **Period Values** dialog is closed and you return to the **Start Time** dialog.

9. In the **Start Time** dialog, click **Save** .

The **Start Time** dialog is closed and you return to the **Staging Database Monitor** screen. At the bottom of the screen, the message Background job was scheduled for program /LICMAN/SD_MONITOR confirms that the job has been scheduled successfully.

Data Collection Status

Use the **Staging Database Monitor - Data collection status** screen to verify if the data collection from the dependent SAP systems was successful.

If errors occur (yellow or red status), review the staging database logs for more information (see [Staging Database Logs](#)).

Table 9: Status of data collection from dependent SAP systems in the Staging Database Monitor

Option	Description
System ID	The dependent SAP systems from which the data was collected.
Client	The client from which the data was collected.
User	The user who executed the data collection.
Start date	The date when the data collection was launched.
Start time	The time when the data collection was launched.
System status	The system details are always collected online, regardless of whether the option Run online or Run with "IN BACKGROUND TASK" was selected in the Staging Database Monitor screen. Available values: • Green: The system could be reached, and the system details have been collected successfully. • Red: The system could not be reached, or system details could not be collected. This can be due to an incorrect RFC destination, insufficient user authorizations, or other errors.
System end time	The time when the data collection was completed.

Option	Description
USMM status	Available values: • : Execution of the USMM is ongoing. • Green: The USMM was executed. The resulting data is stored in SAP standard tables on the dependent SAP systems. • Red: The USMM could not be executed successfully. Ensure that the RFC user has sufficient authorizations to execute the USMM. If the check box Launch USMM remotely in the Staging Database Monitor screen was not selected, this field is blank.
USMM data end time	The time when the data collection using the USMM was completed. Some USMM processes are launched as jobs and therefore might take longer to complete.
User data status	Available values: • : Data collection is ongoing. The cog icon is only displayed when the Staging Database Monitor is run with the option Run with "IN BACKGROUND TASK". • Green: User data collection was successful. • Yellow: A non-critical error has occurred. • Red: User data collection failed. Ensure that the user has appropriate authorizations.
User end time	Indicates when collection of user data was completed. If data collection failed, the time is 00:00:00.
Role data status	Available values: • : Data collection is ongoing. The cog icon is only displayed when the Staging Database Monitor is run with the option Run with "IN BACKGROUND TASK". • Green: Role data collection was successful. • Yellow: A non-critical error has occurred. • Red: Role data collection failed.
Role data end time	Indicates when collection of role data was completed. If data collection failed, the time is 00:00:00.
Object data status	Available values: • : Data collection is ongoing. The cog icon is only displayed when the Staging Database Monitor is run with the option Run with "IN BACKGROUND TASK". • Green: Object data collection was successful. • Yellow: A non-critical error has occurred. • Red: Object data collection failed.

Option	Description
Object data end time	Indicates when collection of object data was completed. If data collection failed, the time is 00:00:00.
License data status	Available values: ⚙️: Data collection is ongoing. The cog icon is only displayed when the Staging Database Monitor is run with the option Run with "IN BACKGROUND TASK". Green: License data collection was successful. Yellow: A non-critical error has occurred. Red: License data collection failed.
License data end time	Indicates when collection of license data was completed. If data collection failed, the time is 00:00:00.
Package data status	Available values: ⚙️: Data collection is ongoing. The cog icon is only displayed when the Staging Database Monitor is run with the option Run with "IN BACKGROUND TASK". Green: Package data collection was successful. Yellow: A non-critical error has occurred. Red: Package data collection failed.
Package data end time	Indicates when collection of package data was completed. If data collection failed, the time is 00:00:00.
Activity-checks data status	Available values: ⚙️: Data collection is ongoing. The cog icon is only displayed when the Staging Database Monitor is run with the option Run with "IN BACKGROUND TASK". Green: Activity-checks data collection was successful. Yellow: A non-critical error has occurred. Red: Activity-checks data collection failed. For systems running SAP Basis release 4.6C, 6.2, or 6.4, the Staging Database Monitor always returns a red status. For these systems, activity-checks data must be collected using the Activity Checks menu.
Activity data endtime	Indicates when collection of activity-checks data was completed. If data collection failed, the time is 00:00:00.

Option	Description
Consumption data status	Available values: ⚙️: Data collection is ongoing. The cog icon is only displayed when the Staging Database Monitor is run with the option Run with "IN BACKGROUND TASK". Green: Consumption data collection was successful. Yellow: A non-critical error has occurred. Red: Consumption data collection failed.
Consumption end time	Indicates when collection of consumption data was completed. If data collection failed, the time is 00:00:00.
Module data status	Available values: ⚙️: Data collection is ongoing. The cog icon is only displayed when the Staging Database Monitor is run with the option Run with "IN BACKGROUND TASK". Green: Module data collection was successful. Yellow: A non-critical error has occurred. Red: Module data collection failed.
Module data end time	Indicates when collection of module data was completed. If data collection failed, the time is 00:00:00.
RFC data status	Available values: ⚙️: Data collection is ongoing. The cog icon is only displayed when the Staging Database Monitor is run with the option Run with "IN BACKGROUND TASK". Green: RFC data collection was successful. Yellow: A non-critical error has occurred. Red: RFC data collection failed.
RFC data end time	Indicates when collection of RFC data was completed. If data collection failed, the time is 00:00:00.

Staging Database Logs

The staging database logs list all tables and functions that were accessed on the dependent SAP systems and any error messages that were reported during data collection.

Unlike the status information in the Staging Database Monitor, the staging database logs are not deleted automatically. They are a valuable resource to understand why errors occurred and how issues can be remedied.

Accessing Staging Database Logs



To access the staging database logs:

1. Open the SAP Admin module.
2. In the system landscape, click **Administration** and then **Staging Database Logs**.
3. On the screen **Staging Database Logs**, you can filter the information that you want to display:

Option	Description
Start date	Enter the date or date range to filter the information on when the Staging Database Monitor was executed and dependent SAP systems were accessed.
System ID	Enter a system ID or a range of system IDs to filter the information from which dependent SAP systems data was collected.
Client	Enter a client ID or a range of client IDs to filter the information from which clients data was collected.
User name	Enter a user name or a range of user names to filter the information by the user who executed the Staging Database Monitor.
Message type	Enter a message type or a range of message types to filter the information by the message type that was output during data collection. Available values are S (Success), E (Error), and W (Warning).

4. Click **Execute** or press **F8**.

Staging Database Log Results

Table 10: Information in the staging database logs

Column	Description
GUID 16	The unique identifier for each data collection that helps to differentiate between the different runs of the Staging Database Monitor.
System ID	The three-character identifier that identifies the dependent SAP system that was accessed.
Client	The client ID of the SAP system that was accessed.
Area	The type of data that was collected. This information can be helpful for troubleshooting purposes. For example, the value CONSUMPTION indicates all functions that were executed for collecting consumption data.
Counter	The order in which the messages and entries in the log for a particular area are generated.
Start date	The date when the Staging Database Monitor started the data collection from the dependent SAP systems.

Column	Description
Table name	The SAP table that was accessed on the dependent SAP system.
Function module	The function module that was used to access the data.
Code	The error code captured by sy-subrc. Use this to troubleshoot any errors that occurred when the function module was called. For information on possible error codes, see the SAP documentation.
Message type	The type of SAP message indicating whether the process completed successfully (S), with a warning (W), or with an error (E).
Message text	A detailed message describing the outcome of the performed action.

10

Setup of Independent SAP Systems

You can use the analytic functions of FlexNet Manager for SAP Applications for systems that are not connected to an SAP Admin module. These systems are referred to as *independent SAP systems*.

The functionality that is available for the independent SAP system depends on its setup.

- **User and consumption data analysis in FlexNet Manager Suite without remediation:** User and consumption data are collected from the independent SAP system using the SAP Inventory Agent (using an RFC connection). The data is analyzed in FlexNet Manager Suite and contributes to the license position. However, the license-type and duplicate-user recommendations are not released back to the independent SAP system; no remediation (processing of recommendations and committing changes to the SAP database) is taking place.
- **User and consumption data analysis in FlexNet Manager Suite with remediation:** User and consumption data are collected from the independent SAP system using the SAP Inventory Agent (using an RFC connection). The data is analyzed in FlexNet Manager Suite and contributes to the license position. Recommendations (based on all active license rules, the Duplicate User rules, and the user consolidation) can be exported into an XML file, which can be imported into the independent SAP system. The recommendations can be processed in the independent SAP system using the Process Recommendations Offline report using the transaction /LICMAN/OFFLINE.

For the first scenario described above, execute the SAP Inventory agent as described in [SAP Inventory Agent](#).

For the second scenario, you need to set up the independent SAP system as follows:

1. Import the Satellite transport for the corresponding SAP Basis release into the independent SAP system.
2. Import the Roles transport for the corresponding SAP Basis release into the independent SAP system.
3. Create a user for the independent SAP system and assign the role /LICMAN/ADMIN_MODULE. For information about the authorizations in this role, see [Role /LICMAN/ADMIN_MODULE](#).
4. (Optional) If you are using an inventory beacon to transfer data to the FlexNet Manager Suite database, configure this beacon as required. See [Inventory Beacons](#).

For more information about the workflow and remediation, see *Working with Independent Systems* in the *FlexNet Manager for SAP Applications User Guide*.

11

Uninstalling FlexNet Manager for SAP Applications

FlexNet Manager for SAP Applications is removed using deletion transports. The deletion of all objects of FlexNet Manager for SAP Applications is split into three import steps which have to be executed in the specified order. Before executing a step, the import of the preceding step must be finished.

The transport request files for each step are stored in the folders Step_1, Step_2, and Step_3. These folders also contain the object lists of the transports.



To uninstall FlexNet Manager for SAP Applications:

1. In this step, all roles delivered with FlexNet Manager for SAP Applications will be deleted.
2. This step deletes entries in database tables of the development workbench which otherwise — depending on the Basis release and service pack of the importing SAP system — would not be deleted by the deletion transport of Step 3. The transport in this step contains the report /LICMAN/DELETION_XPRA_WB in the /LICMAN/ namespace. It is automatically executed in the XPRA step after import. For the following database tables, entries in the /LICMAN/ namespace will be deleted:
 - DOKHL
 - DOKIL
 - DOKTL
 - FUNCT
 - TADIR
3. The deletion transport of this step deletes all workbench objects of FlexNet Manager for SAP Applications. This includes the report that was imported in Step 2.

12

Troubleshooting

Troubleshooting information is available for the following areas:

- [Web Service Errors](#)
- [Logging Error Details in the SAP Admin Module](#)
- [Password Limitations](#)

Web Service Errors

When the execution of web services triggers an error in FlexNet Manager Suite, the SAP Admin module displays a standard SAP message.

Some of the standard SAP error messages are truncated and provide limited detail. The following table lists some of these standard SAP messages, along with possible causes and resolution suggestions. (Messages in the table are written in the way that they are displayed in the SAP Admin module.)

SAP Message	Possible Causes	Possible Solution(s)
SOAP:1.023 SRT: Processing error in Internet Commu Message no. /LICMAN/ MS_GLOBAL000	The FlexNet Manager Suite server is not available (for example, because it is not installed, not running, or experiencing network problems).	Ensure that the FlexNet Manager Suite server is available.
GET_BUSINESS_SYSTEM_ERROR An error occurred when d Message no. /LICMAN/ MS_GLOBAL000	There is no logical port configured in SOAMANAGER, or the logical port is not set as the default port.	Ensure that the logical port is properly configured in SOAMANAGER, and that the logical port is set as the default port.

SAP Message	Possible Causes	Possible Solution(s)
SoapFaultCode:1 Message no. /LICMAN/ MS_GLOBAL000	The logical port is not correctly configured in SOAMANAGER. This could be caused by one of the following: • The option Suppress ID Transfer was not selected on the Messaging tab. • A SOAP action is missing on the Operation specific tab. • A SOAP action is not spelled correctly.	Ensure that the logical port has been configured correctly.

For information on any other SoapFaultCode message that is displayed in the SAP Admin module, contact Flexera technical support.

For information on configuring the web service, refer to [Communication between FlexNet Manager Suite and the SAP Admin Module](#) and [Configuring the Web Service on the SAP Admin Module System for Communication with FlexNet Manager Suite](#).

Logging Error Details in the SAP Admin Module

When you experience an issue in the SAP Admin module, you can save the issue details in a log file. The log file contains all activities from the past three months that were performed in the SAP Admin module and in the dependent SAP systems. The log file does not contain any sensitive data.

When you open a support case with Flexera technical support, attach the log file to the support case. The information in the log file helps the support team to understand the issue you experienced.



To create a log file for the Flexera technical support:

1. In the SAP Admin module, click **Administration**, and select **Customizing**.
2. In the **Extras** menu, click **Export Log**.
3. Save the file in .txt format.

Password Limitations

The password used to connect from FlexNet Manager Suite to the SAP systems should not contain any backward slashes (\). Otherwise, the connection to the SAP system cannot be established.

13

Authorization Objects in Standard Authorization Roles

FlexNet Manager for SAP Applications includes the following roles:

- /LICMAN/ADMIN_MODULE
- /LICMAN/SATELLITE
- /LICMAN/SATELLITE_CHARGEBACK.

These roles contain the maximum authorizations that are required for each type of user. If you need to modify the roles, it is recommended to use these roles as templates. Copy the roles into your namespace and edit them as required.

Role /LICMAN/ADMIN_MODULE

Authorizations that are contained in the role /LICMAN/ADMIN_MODULE.

Table 11: Role /LICMAN/ADMIN_MODULE

Object	Field name	Value
S_RFC	ACTVT	16

Object	Field name	Value
S_RFC	RFC_NAME	/LICMAN/*
		ARFC
		CRFC
		ERFC
		LAW_MODULES_1
		RFC1
		SCSM_COLLECTOR
		SDIFRUNTIME
		SDTX
		SFUNC
		STUW
		SUU6
		SYST
		SYSU
S_RFC	RFC_TYPE	FUGR
S_RFC_ADM	ACTVT	01
		02
		03
		06
		36
S_RFC_ADM	ICF_VALUE	*
S_RFC_ADM	RFCDEST	*
S_RFC_ADM	RFCTYPE	*
S_TCODE	TCD	/LICMAN/START
S_TCODE	TCD	/LICMAN/*
S_BTCH_ADM	BTCADMIN	Y
S_GUI	ACTVT	04
		60
		61
S_TABU_DIS	ACTVT	03
S_TABU_DIS	DICBERCLS	*
S_TOOLS_EX	AUTH	S_TOOLS_EX_A
S_PROGRAM	P_ACTION	*
S_PROGRAM	P_GROUP	/LICMAN*
S_ALV_LAYO	ACTVT	23

Object	Field name	Value
S_APPL_LOG	ACTVT	03
S_APPL_LOG	ALG_OBJECT	J_5N_DLC
S_APPL_LOG	ALG_SUBOBJECT	J_5N_UPD
J_5NL_SYST	J_5NL_ACTV	*
J_5NL_SYST	J_5NL_CLNT	*
J_5NL_SYST	J_5NL_INST	*
J_5NL_SYST	J_5NL_SYST	*
J_5NL_UPD	J_5NL_UPDF	*

Role /LICMAN/SATELLITE

Authorizations that are contained in the role /LICMAN/SATELLITE.

Table 12: Role /LICMAN/SATELLITE

Object	Field name	Value
S_RFC	ACTVT	16

Object	Field name	Value
S_RFC	RFC_NAME	/LICMAN/*
		ARFC
		ERFC
		LAW_MODULES_1
		RFC1
		RFC_METADATA
		SAPWLN3_COLLECTOR
		SBDC
		SCSM_COLLECTOR
		SCUST_SYS_INFO
		SDIFRUNTIME
		SDTX
		SEU_COMPONENT
		SLI1
		SRFC
		STUW
		SUNI
		SUU6
		SU_USER
		SYST
		SYSU
S_RFC	RFC_TYPE	FUGR
S_TCODE	TCD	/LICMAN/*
		USMM
S_BTCH_ADM	BTCADMIN	Y
S_BTC_JOB	JOBACTION	*
S_BTC_JOB	JOBGROUP	*
S_TABU_DIS	ACTVT	03
S_TABU_DIS	DICBERCLS	*
S_TOOLS_EX	AUTH	S_TOOLS_EX_A
S_USER_GRP	ACTVT	02
		03
		05
S_USER_GRP	CLASS	*
S_PROGRAM	P_ACTION	*
S_PROGRAM	P_GROUP	/LICMAN*

Object	Field name	Value
J_5NL_SYST	J_5NL_ACTV	*
J_5NL_SYST	J_5NL_CLNT	*
J_5NL_SYST	J_5NL_INST	*
J_5NL_SYST	J_5NL_SYST	*
J_5NL_SYST	J_5NL_UPDF	*

Role /LICMAN/SATELLITE_CHARGEBACK

Authorizations that are contained in the role /LICMAN/SATELLITE_CHARGEBACK.

Table 13: Role /LICMAN/SATELLITE_CHARGEBACK

Object	Field name	Value
S_RFC	ACTVT	*
S_RFC	RFC_NAME	0012 KGR2
S_RFC	RFC_TYPE	FUGR
K_CCA	CO_ACTION	0003
K_CCA	KSTAR	*
K_CCA	RESPAREA	*
K_CSKS	ACTVT	03
K_CSKS	KOKRS	*
K_CSKS	KOSTL	*
K_CSKS_SET	ACTVT	03
	KOKRS	*

14

Tables Read and Data Collected by the SAP Inventory Agent

The SAP Inventory Agent (SAPReader.exe) accesses and collects the user primary record information from SAP systems via Remote Function Call (RFC). It reads the data from the staging database on the SAP Admin module that was collected via RFC from the dependent SAP systems. It also reads data from independent SAP systems that are connected to FlexNet Manager Suite.

The tables that are read by the SAP Inventory Agent depend on whether the system is an independent system or an SAP Admin module system.

Tables Read from the Staging Database

The SAP Inventory Agent reads the following tables from the staging database on the SAP Admin module. All columns are read.

Table Name	Definition
/LICMAN/SD_ACPR3	Activity Checks – Worktime
/LICMAN/SD_ACPR4	Activity Checks
/LICMAN/SD_AGR1	Roles which contain transactions
/LICMAN/SD_AGRA	Roles in composite roles
/LICMAN/SD_AGRD	Roles
/LICMAN/SD_AGRF	Role attributes
/LICMAN/SD_AGRU	Role assignment to users
/LICMAN/SD_BSENG	Packages
/LICMAN/SD_CONS	User consumption data
/LICMAN/SD_DAC	Digital/Indirect access data
/LICMAN/SD_LAWCO	License type hierarchy

Table Name	Definition
/LICMAN/SD_MLD	Multiple logons
/LICMAN/SD_MODH	Module data
/LICMAN/SD_RFC	RFC consumption data
/LICMAN/SD_SYSTS	System details
/LICMAN/SD_TBTCP	Jobs
/LICMAN/SD_TRDIR	Programs
/LICMAN/SD_TSTC	Transactions
/LICMAN/SD_TUAPP	Applications
/LICMAN/SD_TUAPT	Application texts
/LICMAN/SD_TUPL	Price lists
/LICMAN/SD_TUPLT	Price lists texts
/LICMAN/SD_TUTYA	License types
/LICMAN/SD_TUTYP	License type names
/LICMAN/SD_TUUNT	Package units
/LICMAN/SD_TUZUS	License special versions text
/LICMAN/SD_USERS	User data

Tables Read from Independent SAP Systems

The data read by the SAP Inventory Agent includes user information (user name, first and last name, validity dates, user type, user group, accounting number, cost center, and login times), transactions, CPU and memory consumption, roles and sub-roles, and license types and their hierarchy.

System Information

Table Name	Field Name	Definition
TUCON	SYM_GRP	Group for measurement data
TUCON	SYM_KEY	Key for measurement data
TUCON	SYM_VAL	Value for measurement data
TUPL	DEFLT_UTYP	ID for the user types of the SAP system
TUPL	ACTIVE	General flag

Table Name	Field Name	Definition
T000	CCCATEGORY	Role of client (production, test, ...)

Active Servers

Table Name	Field Name	Definition
DD03L	HOST	Host used for collecting consumption data
DD03L	INSTSHORT	Instance used for collecting consumption data

Programs, Jobs, and Transaction Codes

Table Name	Field Name	Definition
TRDIR	NAME	ABAP program name
TBTC	JOBNAME	Background job name
TBTC	PROGNAME	Program name within a step (e.g. report)
TSTC	PGMNA	Program name
TSTC	TCODE	Transaction code

Languages

Table Name	Field Name	Definition
T002	SPRAS	Language key
T002	LAISO	Language key according to ISO 639

Users

Table Name	Field Name	Definition
USR02	BNAME	User name in user primary record
USR02	GLTGV	User valid from date
USR02	GLTGB	User valid to date
USR02	USTYP	User type
USR02	TRDAT	Last logon date

Table Name	Field Name	Definition
USR02	LTIME	Last logon time
USR02	CLASS	User group in user primary record maintenance
USR02	ERDAT	Creation date of the user primary record
USR02	ACCNT	Account ID
USR02	UFLAG	User lock status
USR06	BNAME	User name in user primary record
USR06	LIC_TYPE	ID for the user types of the SAP system
USR06	VONDAT	Substitute "from date"
USR06	BISDAT	Substitute "to date"
USR06	SURCHARGE	System measurement: country surcharge (3 characters)
USR06	SPRAS	Assignment to special version
USR06	MANDT2	Client
USR06	SYSID	Name of the SAP system
USR06	ANAME	Chargeable user
USR21	BNAME	User name in user primary record
USR21	ADDRNUMBER	Address number
USR21	PERSNUMBER	Person number
USR21	KOSTL	Cost Centre
ADR6	ADDRNUMBER	Address number
ADR6	PERSNUMBER	Person number
ADR6	SMTP_ADDR	Email address
ADRP	PERSNUMBER	Person number
ADRP	NAME_FIRST	First name
ADRP	NAME_LAST	Last name
ADRC	ADDRNUMBER	Address number
ADRC	NAME1	Company name 1
ADRC	NAME2	Company name 2
V_ADDR_USR	ADDRNUMBER	Address number
V_ADDR_USR	PERSNUMBER	Person number
V_ADDR_USR	DEPARTMENT	Department
V_ADDR_USR	TEL_NUMBER	First telephone number: dialling code + number

Table Name	Field Name	Definition
V_ADDR_USR	TEL_EXTENS	First telephone number: extension
V_ADDR_USR	FUNCTION	Function
DEVACCESS	UNAME	Developer user
USR41_MLD	BNAME	User name in user primary record
USR41_MLD	CAL_YEAR	Calendar year
USR41_MLD	COUNTER	Number of concurrent logons
USR41_MLD	PEAK	Maximum number of concurrent logons

License Types

Table Name	Field Name	Definition
TUTYP	LANGU	Language Key
TUTYP	USERTYP	ID for the user types of the SAP system
TUTYP	UTYPLONGTEXT	System measurement: Text of length 55 (case sensitive)
TUTYP	UTYPTXT	Short text for user types
TUTYPA	ACTIVE	Active flag
TUTYPA	COUNTRY	Active flag
TUTYPA	SONDERVERS	Active flag
TUTYPA	SSCR_ALLOW	General flag
TUTYPA	USERTYP	ID for the user types of the SAP system
LAW_CONT	ACTION	Action for value pair
LAW_CONT	CONTAINSU	ID for the user types of the SAP system
LAW_CONT	USERTYP	ID for the user types of the SAP system
TUZUS	LANGU	Language Key
TUZUS	SONDERVERS	Assignment to special version
TUZUS	TEXTVERS	Special version

Roles

Table Name	Field Name	Definition
AGR_DEFINE	AGR_NAME	Role name

Table Name	Field Name	Definition
AGR_FLAGS	AGR_NAME	Role name
AGR_FLAGS	FLAG_VALUE	Default license type for the role
AGR_USERS	AGR_NAME	Role name
AGR_USERS	UNAME	User name in primary record
AGR_USERS	COL_FLAG	Flag: assignment from composite role
AGR_USERS	FROM_DAT	Role valid from date
AGR_USERS	TO_DAT	Role valid to date
AGR_AGRS	AGR_NAME	Composite role
AGR_AGRS	CHILD_AGR	Single role in composite role
AGR_1251	AGR_NAME	Role name
AGR_1251	HIGH	Authorization value
AGR_1251	LOW	Authorization value

Packages

Table Name	Field Name	Definition
TUAPPT	SPRSL	Language key
TUAPPT	APPLIC	ID for an application for system measurement
TUAPPT	APPLICNAME	Name of an application for system measurement
TUAPP	APPLIC	ID for an application for system measurement
TUAPP	PERIOD	Type (length) of period for system measurement
TUUNTT	SPRSL	Language key
TUUNTT	UNIT	ID for a unit for system measurement
TUUNTT	UNITNAME	Name of a unit for system measurement
DD03L	FIELDNAME	Field name

15

Functions Executed and Data Collected by the SAP Inventory Agent

This appendix lists the functions that the SAP Inventory Agent executes on the staging database and on independent SAP systems.

Functions Called for the Staging Database

The following functions are called on the SAP Admin module for collecting data from dependent SAP systems using the Staging Database Monitor.

Function	Description
/LICMAN/BS_READ_TABLE	Used to collect user data if the Satellite transport is installed on the dependent SAP system.
/LICMAN/BS_DAC	Used to collect digital/indirect access data.
RFC_READ_TABLE	Used to collect user data if the Satellite transport is not installed on the dependent SAP system.
SWNC_COLLECTOR_GET_AGGREGATES	Used to collect consumption data (regardless of whether the Satellite transport is installed).
FUNCTION_EXISTS	Determines whether a function that is called exists in the target system.
SCSI_GET_SYSTEM_INFO	Used to collect system details.
SLIC_GET_CUSTKEY	Used to collect system details.
ABAP4_CALL_TRANSACTION	Used to launch USMM.
BAPI_USER_GET_DETAIL	Used to collect user details (if the check box Use BAPI_USER_GET_DETAIL was selected in the Staging Database Monitor).

Functions Called for Independent Systems

The SAP Inventory Agent calls a number of function modules to collect data from independent SAP systems.

RFC_SYSTEM_INFO

Table 14: RFC_SYSTEM_INFO

Function	Definition
RFCSAPRL	Release version
RFCKERNRL	Kernel release version
RFCDBSYS	Database system
RFCHOST	Host
RFCSYSID	System ID
RFCMACH	Machine ID
RFCOPSYS	Operating system type
RFCIPADDR	IP (v4) address

SAPWL_WORKLOAD_GET_STATISTIC (Basis version < 7.0)

Table 15: SAPWL_WORKLOAD_GET_STATISTIC (Basis version < 7.0)

Function	Definition
MANDT	Client ID
ACCOUNT	User account
ENTRY_ID	Entry ID
CPUTI	Total CPU time (across multiple clients)
TTYPE	Type of task
MEMSUM	Memory consumed
COUNTER	Counter
PRIVSUM	Private memory consumed

SWNC_COLLECTOR_GET_AGGREGATES (Basis

version >= 7.0)

Table 16: SWNC_COLLECTOR_GET_AGGREGATES (Basis version >= 7.0)

Function	Definition
MANDT	Client ID
ACCOUNT	User account
ENTRY_ID	Entry ID
CPUTI	Total CPU time (across multiple clients)
TTYE	Type of task
MEMSUM	Memory consumed
COUNTER	Counter
PRIVSUM	Private memory consumed

/LICMAN/BS_GET_SAP_MODULES

This function is not applicable for offline POCs.

Table 17: /LICMAN/BS_GET_SAP_MODULES (not applicable for offline POC)

Function	Definition
ACCTEXT	User account
MODULE1	Module
MODULE2	Sub-module

Special Characters

- /LICMAN/ADMIN_MODULE, role 98
- /LICMAN/BS_READ_TABLE 83
- /LICMAN/SATELLITE_CHARGEBACK, role 102
- /LICMAN/SATELLITE, role 100

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