



FlexNet Manager for SAP Applications 2015

Installation Guide

Legal Information

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Introduction

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.

You will find a list of the current transports in the file `Transport_Overview.xls` or `Transport_Overview.pdf` on the product CD or the product download.

The product CD or the product download usually contains the following folders and subfolders:

- **0_Documentation**—Contains the product documentation.
- **1_Basis**—Contains the transports for the satellites in subfolders for the relevant SAP Basis release.
- **2_Roles**—Contains the Roles transport 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).
- **5_Portal**—Contains a SCA (software component archive) file that must be deployed in the SAP enterprise portal to enable data collection from an SAP enterprise portal.

Components Terminology

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

- The *SAP Admin module* is a component of FlexNet Manager for SAP Applications which acts as a central access point. The SAP administrator uses this module to perform recommendations processing, 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 satellite systems.
- The *Satellite* transport enables you to collect SAP package data and run activity checks. It must be installed on all SAP systems with SAP packages, if you want to optimize the relevant package licenses and run activity checks.

The Satellite transport must be installed to retrieve the module hierarchy. 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*. When the Satellite transport is installed on a satellite system, the module data including the hierarchy is retrieved automatically.

- All SAP systems that are connected to the system on which the SAP Admin module is installed are referred to as *satellites*. During the processing of license type recommendations, user data changes are sent from the SAP Admin module to the satellite systems.

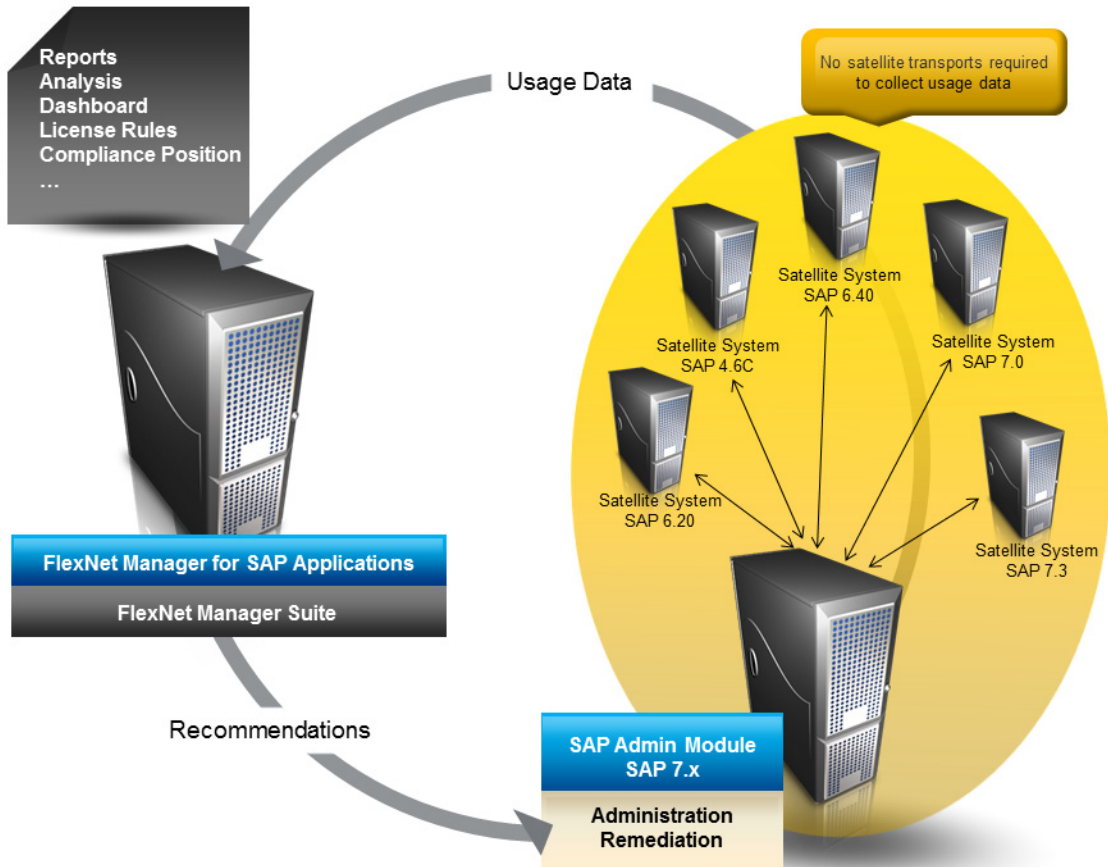


Figure 1: Overview of the components in FlexNet Manager for SAP Applications

For more information about the individual components of FlexNet Manager for SAP Applications, refer to the *FlexNet Manager for SAP Applications User Guide*.

Technical Requirements

SAP Front-end:

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

SAP Admin module:

- SAP Basis release between 7.00 and 7.4

FlexNet Manager for SAP Applications satellite(s):

- SAP Basis release between 4.6C and 7.4

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

FlexNet Manager for SAP Applications 2015 is a complete release. If you are upgrading from a previous version of FlexNet Manager for SAP Applications, no additional steps are required.

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

Import of Transports

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

For current transport numbers, see the document `Transport_Overview.xls` or `Transport_Overview.pdf`.



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.



Task: *To import the transports, perform the following steps:*

1. Install FlexNet Manager for SAP Applications on the master system:
 - a. Determine an SAP system that is running SAP Basis version 7.x and that is assigned as master system.
 - b. Import the **AdminModule** transport for the SAP Basis release into the master system.

After FlexNet Manager for SAP Applications has been installed, the SAP Admin module will run on this master system.
 - c. Import the appropriate **Roles** transport that matches the SAP Basis release into the master system. The **Roles** transport is client dependent.
2. Install FlexNet Manager for SAP Applications on the satellite systems:
 - a. Import the **Basis/Satellite** transport into all satellite 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 satellite system.
 - b. Import the **Roles** transport into all satellite 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 satellite system. The **Roles** transport is client dependent.



Note • *It is not necessary to import the **Basis/Satellite** transport into the master system.*



Figure 2: Transports for FlexNet Manager for SAP Applications in the SAP system landscape

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), contact Flexera Software technical support for assistance.

Authorizations for FlexNet Manager for SAP Applications

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 satellite systems. It enables the communication between the SAP Admin module and the satellite systems.
- **/LICMAN/MASTER_ALL:** 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/MASTER_READONLY:** This role, which has been derived from /LICMAN/MASTER_ALL, entitles the user only to view data in FlexNet Manager for SAP Applications.
- **/LICMAN/SATELLITE_CHARGEBACK:** This role must be assigned to the RFC user on the satellite system, if the cost center data used for the chargeback report are loaded from this system.
- **/LICMAN/SATELLITE_READONLY:** This role is used by the SAP Inventory Agent (SAPReader.exe) to collect user master data from the SAP systems. This data includes, for example, user information, transactions, CPU and memory consumption, roles, and license types. The data is cached in the FlexNet Manager Suite database and can be used to optimize the license position.

For detailed information about the objects contained in these roles, refer to [Authorization Objects in Standard Authorization Roles](#) on page 22.

The roles /LICMAN/MASTER_ALL and /LICMAN/MASTER_READONLY can be used as templates 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 1 • Customization of authorizations for object J_5NL_SYST

Field	Description
Installation number	The installation number of the SAP system
Client	The client within the SAP system
System ID	The 3-digit system ID of the SAP system

Table 1 • Customization of authorizations for object J_5NL_SYST

Field	Description
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 master data. By customizing the object, you can define the fields of the user master 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 master 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. These authorizations are included in the role /LICMAN/SATELLITE_READONLY.

For a list of the authorizations in the role /LICMAN/SATELLITE_READONLY, see [Table A-5](#) on page 28.

Each SAP 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 system. To ensure that the account has the required roles, it is recommended to import the **Roles** transport and assign the /LICMAN/SATELLITE_READONLY role (see [Authorization Roles](#) on page 6). However, you can also assign these authorizations manually.

The authorizations in the role /LICMAN/SATELLITE_READONLY only give permission to the SAP Inventory Agent to read data from the SAP systems. The SAP Admin module requires additional authorizations which are available in the /LICMAN/SATELLITE role (see [Importing the Transports](#) on page 3).

Refer to [Authorization Objects in Standard Authorization Roles](#) on page 22 and [Tables Read and Data Collected by the SAP Inventory Agent](#) on page 31 for information about which data is collected by the SAP Inventory Agent.

Setting up RFC Connections

Non-CUA Satellites

For each non-CUA satellite, create an RFC connection of type 3. The connection has to be client-specific, therefore you need to specify the target client and the RFC user in the parameter block **Login**. This RFC user (recommended type: **Communication**) must exist in the target client on the satellite system and must have the user role /LICMAN/SATELLITE.

CUA Satellites

All FlexNet Manager for SAP Applications activities (such as reading and modifying user data) are performed using the CUA center, therefore only an RFC connection between the SAP Admin module and the CUA center is required. This connection must be given the same name as the logical system of the CUA center (even if the SAP Admin module and the CUA center are installed on the same system and in the same client) and it must be of type 3. The connection is client-specific (see the preceding section) and the RFC user must have the user role /LICMAN/SATELLITE.

For communication with the subsidiary systems, the existing RFC connections between CUA center and subsidiary systems are used. The RFC users simply need to be assigned the role /LICMAN/SATELLITE.

Configuring SAP Systems to Communicate with FlexNet Manager Suite

Communication between FlexNet Manager Suite and 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. See [Communication Using Basic Authentication](#) on page 10 for more information.
- SSL authentication—Authentication is based on the exchange of certificates. This is the most secure level. See [Communication Using SSL Authentication](#) on page 14 for more information.

The 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 customize it in the SOA Manager (transaction SOAMANAGER) on each client that the **AdminModule** transport will be used on. These settings are not required on the satellite 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.

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



Task: *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**.
4. The search returns the web service SAPServiceSoap. Select it and click **Apply Selection**.
5. In the **Details of Proxy Definition** section, select the **Configurations** tab. Click **Create Logical Port**.
6. The **SOA Management** dialog opens. 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.



Important • *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 the radio button **Manual Configuration**.

Click **Apply Settings**.

7. On the **Configuration for Logical Port 'name'** page, on the **Consumer Security** tab, select the **User ID / Password** radio button to enable basic authentication.

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 the same changes in the SOA Manager.

8. 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.

9. 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 the relevant port number. For basic authentication, the port number is 80.

Accept the default values for all other options on this tab.

10. On the **Operation specific** tab, you need to manually add the SOAP action for every web-service operation.

- a. Add the following web-service operations in the grid on the left. For each operation, specify the appropriate SOAP action in the **SOAP Action** field. The table below lists the operations and corresponding SOAP action.



Note • 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 2 • SOAP actions for the web-service operation

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

Table 2 • SOAP actions for the web-service operation

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

- b. If you configure the SOA Manager on a system that is running SAP Basis 7.3, under **Transport Binding**, clear the check box next to the **SOAP Action** field to ensure that the SOAP action is active for the configuration.

11. Click **Save**.

Configuring Communication with Basic Authentication on Systems Running SAP Basis 7.4



Task: *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 the **Edit logical port** button.
7. On the **Consumer Security** tab, select **User ID / Password**.

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 the same changes in the SOA Manager.

8. 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.

9. On the **Transport 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 FlexNet Manager Suite server.
- **Port Number of Access URL:** Enter the relevant port number. For basic authentication, the port number is 80.
- **URL Protocol Information:** Select **HTTP**.

Accept the default values for all other options on this tab.

10. On the **Operation Settings** tab, you need to manually add the SOAP action for every web-service operation.

- a. 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.
- b. Add the following web-service operations in the grid on the left. For each operation, specify the appropriate SOAP action in the **SOAP Action** field. The table below lists the operations and corresponding SOAP action.



Note • 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
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

11. Click **Save**.

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.

To use SSL authentication, you need to install a Root Certificate (in [Step 13](#) and [Step 14](#)). 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.



Important • 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.

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



Task: *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**.
4. The search returns the web service SAPServiceSoap. Select it and click **Apply Selection**.
5. In the **Details of Proxy Definition** section, select the **Configurations** tab. Click **Create Logical Port**.
6. The **SOA Management** dialog opens. 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.



Important • 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 the radio button **Manual Configuration**.

Click **Apply Settings**.

7. On the **Configuration for Logical Port 'name'** page, on the **Consumer Security** tab, select the **User ID / Password** radio button.

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 the same changes in the SOA Manager.

8. 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.

9. 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 the port number **443**.

Accept the default values for all other options on this tab.

10. On the **Operation specific** tab, you need to manually add the SOAP action for every web-service operation.
 - a. Add the following web-service operations in the grid on the left. For each operation, specify the appropriate SOAP action in the **SOAP Action** field. The table below lists the operations and corresponding SOAP action.



Note • 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 4 • SOAP actions for the web-service operation

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

Table 4 • SOAP actions for the web-service operation

Web Service Operation	SOAP Action
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

- b. If you configure the SOA Manager on a system that is running SAP Basis 7.3, under **Transport Binding**, clear the check box next to the **SOAP Action** field to ensure that the SOAP action is active for the configuration.

11. Click **Save**.
12. Connect to the SAP system and run transaction STRUST to start the Trust Manager.
13. Click **Import Certificate** .
14. On the **Import Certificate** dialog, select the appropriate Root Certificate.
15. Under **File format**, select the file format of the Root Certificate. Click **OK**.
16. In the system tree on the left pane of the Trust Manager, select **SSL client SSL Client (Anonymous)** and click **Add to Certificate List**.
17. Start the Internet Communication Manager (ICM) using the transaction SMICM. (The ICM sends and receives requests to and from the Internet.)
18. 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.
19. On the toolbar of the **ICM Monitor** screen, click **Services** .
20. 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.
 - a. Open the **Service** menu and click **Create**.
 - b. 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.
- c. Click **OK**.

The **Active Services** grid should now contain an HTTPS service.

Configuring Communication with SSL Authentication on Systems Running SAP Basis 7.4



Task: *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 the **Edit logical port** button.
7. On the **Consumer Security** tab, select **User ID / Password**.

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 the same changes in the SOA Manager.*

8. 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.
9. On the **Transport 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 FlexNet Manager Suite server.
 - **Port Number of Access URL:** Enter the relevant port number. For basic authentication, the port number is 80.
 - **URL Protocol Information:** Select **HTTPS**.

Accept the default values for all other options on this tab.

10. On the **Operation Settings** tab, you need to manually add the SOAP action for every web-service operation.
 - a. 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.
 - b. Add the following web-service operations in the grid on the left. For each operation, specify the appropriate SOAP action in the **SOAP Action** field. The table below lists the operations and corresponding SOAP action.



Note • 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 5 • SOAP actions for the web-service operation

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

11. Click **Save**.
12. Connect to the SAP system and run transaction STRUST to start the Trust Manager.
13. Click **Import Certificate** .
14. On the **Import Certificate** dialog, select the appropriate Root Certificate.
15. Under **File format**, select the file format of the Root Certificate. Click **OK**.
16. In the system tree on the left pane of the Trust Manager, select **SSL client SSL Client (Anonymous)** and click **Add to Certificate List**.
17. Start the Internet Communication Manager (ICM) using the transaction SMICM. (The ICM sends and receives requests to and from the Internet.)

18. 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.

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

20. 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.

- a. Open the **Service** menu and click **Create**.
- b. 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.
- c. Click **OK**.

The **Active Services** grid should now contain an HTTPS service.

Configuring the SAP Admin Module to Communicate with an Inventory Beacon

Inventory beacons are lightweight applications that gather inventory data, stage and package it as appropriate, and forward it to the central inventory server.

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 under [Communication Using Basic Authentication](#) on page 10 and [Communication Using SSL Authentication](#) on page 14, with the following exception: In step 9 of each procedure, the IP address of the relevant inventory beacon web server must be provided.

Enabling SAP Enterprise Portal Data Collection

FlexNet Manager for SAP Applications provides the ability to collect and display user master and statistical data from an SAP enterprise portal or any SAP system running a Java stack. To enable this data collection, note the following and ensure that the SAP enterprise portal and CEN (Central Monitoring System/Transaction ST03G) are set up properly:

- Collection of user master data is done by a JSP (Java server page), which is part of a SCA (software component archive) file that is included with the FlexNet Manager for SAP Applications installation files (in the `portal` folder). This SCA file must be deployed in the SAP enterprise portal.
- Statistical data is collected from a CEN. A CCMS agent must be set up at the Java stack, to push statistical data into the CEN. For information about installing a CCMS agent, see the SAP documentation.

No roles are required for Java stack or SAP enterprise portal systems.



Important • In order to access SAP enterprise portal data using the FlexNet Manager for SAP Applications interface, you must insert a new SAP enterprise portal system. Refer to the FlexNet Manager for SAP Applications User Guide for more detailed information.

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.

Step 1

In this step, all roles delivered with FlexNet Manager for SAP Applications will be deleted.

Step 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

Step 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](#).



Authorization Objects in Standard Authorization Roles

The following tables contain detailed information about the authorization objects that are contained in the authorization roles that are included by default in FlexNet Manager for SAP Applications.

Table A-1 • Role /LICMAN/SATELLITE

Object	Field Name	Value	
S_RFC	ACTVT	16	
	RFC_NAME	/LICMAN/* ARFC ERFC LAW_MODULES_1 RFC1 RFC_METADATA SCSM_COLLECTOR SDIFRUNTIME SDTX STUW SUU6 SYST SYSU	
	RFC_TYPE	FUGR	
	S_BTCH_ADM	BTCADMIN	Y

Table A-1 • Role /LICMAN/SATELLITE

Object	Field Name	Value
S_BTCHJOB	JOBACTION	*
	JOBGROUP	*
S_TABU_DIS	ACTVT	03
	DICBERCLS	*
S_TOOLS_EX	AUTH	S_TOOLS_EX
S_USER_GRP	ACTVT	02
		03
		05
	CLASS	*
S_PROGRAM	P_ACTION	*
	P_GROUP	/LICMAN*

Table A-2 • Role /LICMAN/MASTER_ALL

Object	Field Name	Value	
S_RFC	ACTVT	16	
	RFC_NAME	/LICMAN/* ARFC ERFC LAW_MODULES_1 RFC1 SCSM_COLLECTOR SDIF_RUNTIME SDTX STUW SUU6 SYST SYSU	
	RFC_TYPE	FUGR	
	S_RFC_ADM	ACTVT	01 02 03 06
		ICF_VALUE	*
		RFCDEST	*
		RFCTYPE	*
		S_TCODE	TCD
	TCD		/LICMAN/START
	S_BTCH_ADM	BTCADMIN	Y
	S_GUI	ACTVT	04 60 61

Table A-2 • Role /LICMAN/MASTER_ALL

Object	Field Name	Value
S_TABU_DIS	ACTVT	03
	DICBERCLS	*
S_TOOLS_EX	AUTH	S_TOOLS_EX_A
S_PROGRAM	P_ACTION	*
	P_GROUP	/LICMAN*
S_ALV_LAYO	ACTVT	23
S_APPL_LOG	ACTVT	03
	ALG_OBJECT	J_5N_DLC
	ALG_SUBOBJECT	J_5N_UPD
J_5NL_SYST	J_5NL_ACTV	*
	J_5NL_CLNT	*
	J_5NL_INST	*
	J_5NL_SYST	*
J_5NL_UPD	J_5NL_UPDF	*



Note • The object `S_RFC_ADM` is not part of the role `/LICMAN/MASTER_READONLY`.

Table A-3 • Role `/LICMAN/MASTER_READONLY`

Object	Field Name	Value	
S_RFC	ACTVT	16	
	RFC_NAME	/LICMAN/* ARFC ERFC LAW_MODULES_1 RFC1 SCSM_COLLECTOR SDIF_RUNTIME SDTX STUW SUU6 SYST SYSU	
	RFC_TYPE	FUGR	
	S_TCODE	TCD	/LICMAN/START
		TCD	/LICMAN/*
	S_BTCH_ADM	BTCADMIN	Y
	S_GUI	ACTVT	04 61
	S_TABU_DIS	ACTVT	03
		DICBERCLS	*
	S_PROGRAM	P_ACTION	*
P_GROUP		/LICMAN*	

Table A-3 • Role /LICMAN/MASTER_READONLY

Object	Field Name	Value
S_APPL_LOG	ACTVT	03
	ALG_OBJECT	J_5N_DLC
	ALG_SUBOBJECT	J_5N_UPD
J_5NL_SYST	J_5NL_ACTV	03
		23
		43
	J_5NL_CLNT	*
	J_5NL_INST	*
	J_5NL_SYST	*

Table A-4 • Role /LICMAN/SATELLITE_CHARGEBACK

Object	Field Name	Value
S_RFC	ACTVT	*
	RFC_NAME	0012
		KGR2
	RFC_TYPE	FUGR
K_CCA	CO_ACTION	0003
	KSTAR	*
	RESPAREA	*
K_CSXS	ACTVT	03
	KOKRS	*
	KOSTL	*
K_CSXS_SET	ACTVT	03
	KOKRS	*



Note • In the role /LICMAN/SATELLITE_READONLY, only the Roles transport for 4.6 systems contains SDIF. In all other releases, in the role /LICMAN/SATELLITE_READONLY, SDIF is replaced by SDIFRUNTIME.

Table A-5 • Role /LICMAN/SATELLITE_READONLY

Object	Field Name	Value
S_RFC	ACTVT	16
	RFC_NAME	RFC1
		RFC_METADATA
		SRFC
		SDIFRUNTIME
		SDIF
		SDTX
		SCSM_COLLECTOR
		STUW
		SYST
YSU		
	/LICMAN/*	
	RFC_TYPE	FUGR
S_TABU_DIS	ACTVT	03
	DICBERCLS	&NC&
		SA
		SC
		SCUS
SS		
S_TOOLS_EX	AUTH	S_TOOLS_EX_A

Additional Information on the Role /LICMAN/SATELLITE_READONLY

S_RFC

S_RFC enables FlexNet Manager Suite to call RFC functions on the SAP systems. The following table specifies the function modules that are called by FlexNet Manager Suite.

Table A-6 • Function modules called by FlexNet Manager Suite

Function Module	Function Group	Function Description
RFC_SYSTEM_INFO	SRFC	Retrieves system details such as, for example, the SAP Basis release, the hardware key, and the LAW version. You can view these details in FlexNet Manager Suite by pointing to Configuration , clicking System Landscapes , and double-clicking a system landscape.
RFC_READ_TABLE	SDTX	Reads data from SAP database tables. SELECT statements cannot be used outside SAP, therefore, this function needs to be called instead.
SWNC_COLLECTOR_GET_AGGREGATES	SCSM_COLLECTOR	Returns the consumption data for SAP systems with SAP Basis version 7.0 to 7.4.
SAPWL_WORKLOAD_GET_STATISTIC	STUW	Returns the consumption data for SAP systems with SAP Basis version 4.6 to 6.4.
/LICMAN/BS_SYSTEM_PING	/LICMAN/*	Checks if the satellite transport has been installed on the SAP system.
/LICMAN/BS_GET_SAP_MODULES	/LICMAN/*	Retrieves details about the SAP module. The Module Usage report requires this information.

The authorization S_RFC can have only the activity (ACTVT) **Execute**. Possible values are 16 or * (both values mean "Execute").

FlexNet Manager Suite calls an additional set of functions. These functions are used by the SAP .NET Connector to enable RFC communication. For more details, see the SAP Note 460089.

Table A-7 • Functions required by FlexNet Manager Suite

Function	Function Group
RFCPING	SYST
RFC_FUNCTION_SEARCH	RFC1
RFC_GET_FUNCTION_INTERFACE	RFC1

Table A-7 • Functions required by FlexNet Manager Suite

Function	Function Group
DDIF_FIELDINFO_GET	SDIFRUNTIME for 6.2-7.4 systems or SDIF for 4.6 systems
SYSTEM_RESET_RFC_SERVER	SYSU

Even though the function group RFC_METADATA has no functions associated, it is required to execute the SAP Inventory Agent.

S_TABU_DIS

The authorization S_TABU_DIS is required for the function RFC_READ_TABLE. This function contains an authority check for the table that is being read. The values &NC&, SA, SC, SCUS, and SS are table classes. The tables that are read using RFC_READ_TABLE are part of these table classes.

S_TOOLS_EX

The authorization S_TOOLS_EX is needed to access the consumption data. It is required to call the functions SWNC_COLLECTOR_GET_AGGREGATES and SAPWL_WORKLOAD_GET_STATISTIC. Without it, the user names are encrypted and the data cannot be used.



Tables Read and Data Collected by the SAP Inventory Agent

This appendix describes which data is collected by the SAP Inventory Agent.

Table B-1 • System information

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

Table B-2 • Active servers

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

Table B-3 • Programs, jobs and transaction codes

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

Table B-4 • Languages

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

Table B-5 • Users

Table Name	Field Name	Definition
USR02	BNAME	User name in user master record
USR02	GLTGV	User valid from date
USR02	GLTGB	User valid to date
USR02	USTYP	User type
USR02	TRDAT	Last logon date
USR02	LTIME	Last logon time
USR02	CLASS	User group in user master maintenance

Table B-5 • Users

Table Name	Field Name	Definition
USR02	ERDAT	Creation date of the user master record
USR02	ACCNT	Account ID
USR02	UFLAG	User lock status
USR06	BNAME	User name in user master 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 master 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

Table B-5 • Users

Table Name	Field Name	Definition
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
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 master record
USR41_MLD	CAL_YEAR	Calendar year
USR41_MLD	COUNTER	Number of concurrent logons
USR41_MLD	PEAK	Maximum number of concurrent logons

Table B-6 • 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 test for user types

Table B-6 • License types

Table Name	Field Name	Definition
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

Table B-7 • Roles

Table Name	Field Name	Definition
AGR_DEFINE	AGR_NAME	Role name
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 master 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

Table B-7 • Roles

Table Name	Field Name	Definition
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

Table B-8 • 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

Table B-9 • Package measurements (not applicable for offline POC)

Table Name	Field Name	Definition
/LICMAN/BSENGI	DATUM	Measurement date

Table B-9 • Package measurements (not applicable for offline POC)

Table Name	Field Name	Definition
/LICMAN/BSENGI	APPLIC	ID for an application for system measurement
/LICMAN/BSENGI	UNIT	ID for a unit for system measurement
/LICMAN/BSENGI	COUNTER	Counter for system measurement objects
/LICMAN/BSENGI	PER_START	Start of measurement period
/LICMAN/BSENGI	PER_END	End of measurement period

Table B-10 • Database schema (read but not collected)

Table Name	Field Name	Definition
DD03L	FIELDNAME	Field name



Functions Executed and Data Collected by the SAP Inventory Agent

This appendix lists the functions that the SAP Inventory Agent executes.

Table C-1 • 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

Table C-2 • SAPWL_WORKLOAD_GET_STATISTIC (Basis version < 7.0)

Function	Definition
MANDT	Client ID
ACCOUNT	User account
ENTRY_ID	Entry ID

Table C-2 • SAPWL_WORKLOAD_GET_STATISTIC (Basis version < 7.0)

Function	Definition
CPUTI	Total CPU time (across multiple clients)
TTYPE	Type of task
MEMSUM	Memory consumed
COUNTER	Counter
PRIVSUM	Private memory consumed

Table C-3 • 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)
TASKTYPE	Type of task
MEMSUM	Memory consumed
COUNTER	Counter
PRIVSUM	Private memory consumed

Table C-4 • /LICMAN/BS_GET_SAP_MODULES (not applicable for offline POC)

Function	Definition
ACCTEXT	User account
MODULE1	Module
MODULE2	Sub-module

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