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## Contents

1. Introduction to FlexNet Manager for SAP Applications ................................................................. 11
   - What's New in This Release ........................................................................................................ 11
   - Help and Documentation Resources ......................................................................................... 11
   - Product Training ......................................................................................................................... 12
   - Contacting Us .......................................................................................................................... 12

2. Installing the SAP Connector Libraries for integration with SAP ........................................... 13
   - Downloading SAP Connector for Microsoft .NET .................................................................... 13
   - Installing the connector on the FlexNet Inventory Beacon ...................................................... 13

3. Components for FlexNet Manager for SAP Applications ....................................................... 15
   - Workflow Summary .................................................................................................................... 15
   - IT Asset Management .................................................................................................................. 16
   - SAP Admin Module ....................................................................................................................... 17
   - Satellite Transport .......................................................................................................................... 18
   - SAP Inventory Agent ...................................................................................................................... 18
     - SAP Inventory Agent Options .................................................................................................... 18
     - SAP Inventory Agent Logging ................................................................................................... 19

4. SAP Functionality in IT Asset Management ............................................................................ 20
   - Accessing the SAP Features ........................................................................................................ 20
   - Selecting the System Landscape ................................................................................................. 20
   - Page Elements in IT Asset Management .................................................................................... 21
     - Grids ........................................................................................................................................... 22
       - Filters ......................................................................................................................................... 22
       - Searches ..................................................................................................................................... 25
       - Exporting a Grid ......................................................................................................................... 26
       - Changing the Columns Displayed in a Grid .............................................................................. 26

5. Initial Setup of IT Asset Management ....................................................................................... 28
   - System Landscape Setup ............................................................................................................. 28
     - Accessing the System Landscape Editor .................................................................................. 29
     - The System Landscape Details Page .......................................................................................... 29
     - Managing Your System Landscape ............................................................................................ 33

Collection of User Details and Consumption Data from SAP Systems ........................................... 47
The SAP Admin Module

9. SAP License Position

Current License Position

License Consumption
License Position Management

License Position History

Viewing the License Position History
Deleting Recommendation Sets from the License Position History

Counting Rows in Reports

Viewing User Data Modification Logs

License Position History

Changing the Period for the SAP Overview Page

User Data or License Data Changes

Changing User Data Directly in FlexNet Manager for SAP Applications
Changing User Data Using the Transaction SU01
Initializing User Data Fields
Changing License Data Directly in FlexNet Manager for SAP Applications
Changing License Data Using the Transaction SU01
Initializing License Data Fields
Modifications of User and License Data

Dialog RFC Destinations in the SAP Admin Module

System Types in the SAP Admin Module
Information in the System Landscape List View
Setup and Maintenance of Landscapes and RFC Destinations
Central User Administration
HR System Setup

Deleting Recommendation Sets from the License Position History

Viewing the License Position History
Deleting Recommendation Sets from the License Position History

Viewing User Data Modification Logs

Counting Rows in Reports

SAP License Contract Information in the SAP Admin Module

Specifying License Contract Data
Displaying License Contract Data
Modifying License Contract Data
Deleting License Contract Data

Data Collection Using the Staging Database Monitor

Collecting Data from Dependent SAP Systems
Data Collection Status
11. Optimization in the SAP Admin Module ................................................................. 148

User Data Validation Report ...................................................................................... 148
  Setting User Data Checks for User Data Validation ................................................ 149
  Creating a User Data Validation Report ................................................................. 150

Logon Evaluation Report .......................................................................................... 152
  Creating a Logon Evaluation Report ...................................................................... 153
  Results of a Logon Evaluation Report .................................................................... 155

Check for License Type 11 Report .......................................................................... 156
  Creating a Check for License Type 11 Report ....................................................... 156
  Troubleshooting the Check for License Type 11 Report ........................................ 158
  Accepting License-Type Recommendations in a Check for License Type 11 Report ............................................................................................................................................ 158

License Distribution by Cost Center (License Chargeback) Report .................. 158
  Creating a License Distribution by Cost Center (License Chargeback) Report ........ 159
  Reading the Results of a License Distribution by Cost Center Report ..................... 160

Customer Reports .................................................................................................... 162
  Adding a Customer Report .................................................................................... 163
  Modifying a Customer Report .............................................................................. 163
  Deleting a Customer Report .................................................................................. 163

Activity Checks ........................................................................................................ 163
  Available Activity Checks .................................................................................... 164
  Defining and Executing Activity Checks ............................................................... 164
  Viewing Activity Check Results ............................................................................ 165

12. Regular Optimization of the SAP License Position in IT Asset Management ......... 166

Consumption Analysis Report ................................................................................. 166
  Creating a Consumption Analysis Report ............................................................. 167
  Reading the Results of a Consumption Analysis Report ....................................... 167
  The "SAP Consumption Analysis Details" Dialog .................................................. 169

Role Utilization Report ............................................................................................. 170
  Creating a Role Utilization Report ....................................................................... 171
  Reading the Results of a Role Utilization Report ................................................ 171
  Advanced Role Analysis ....................................................................................... 173
  The "SAP Consumption Analysis Details" Dialog .................................................. 175

Module Usage Report ............................................................................................... 176
  Creating a Module Usage Report ....................................................................... 176
  Reading the Results of the Module Usage Report ................................................ 177
13. Remediation in the SAP Admin Module........................................................................251

- Importing Recommendations .................................................................252
- Process License Recommendations Report .............................................253
  - Creating a Process License Recommendations Report .........................253
  - Information in the Process License Recommendations Report .............254
- Recommendation History Report ............................................................261
  - Creating a Recommendation History Report .........................................261
  - Information in the Recommendations History Report .........................262
- Duplicate User Recommendations Report ................................................264
  - Creating a Duplicate User Recommendations Report .............................264
  - Duplicate User Recommendation Status ..............................................265
  - Duplicate User Recommendations Review ..........................................265

14. SAP Package Analysis in the SAP Admin Module .................................................269

- Importing Source Data of Packages .........................................................269
- Deleting Primary Data .............................................................................270
- Displaying Packages of Installed Systems ..............................................270
- SAP Package Measurement .....................................................................271
  - Executing a Package Measurement .......................................................271
  - Displaying Package Measurement Results ............................................272
- Setting Package Usage Alerts ...................................................................272
  - Setting Parameters for Package Usage Alerts .........................................273
- Displaying All Packages of the System Landscape .......................................273
- XI Adapter Data Volume Report ...............................................................275

15. System Measurement in the SAP Admin Module ...............................................277

- Performing a System Measurement ..........................................................277
- Consolidating Measurement Results in the LAW .......................................278
- Loading the LAW Measurement Results ..................................................279

16. Statistics in the SAP Admin Module .....................................................................280

- Management Summary ............................................................................280
  - Creating a Management Summary Report .............................................280
  - Data in the Management Summary Report .............................................281
- License Analysis .......................................................................................282
  - Creating a License Analysis Report .........................................................282
17. Working with Independent Systems ................................................................. 286

Data Collection from Independent SAP Systems .................................................. 287
Data Collection Using an Inventory Beacon .......................................................... 287
Executing Connections ......................................................................................... 288

Measuring Packages on Independent SAP Systems ................................................. 288
Previous Package Measurements ......................................................................... 289

Exporting Recommendations for Independent SAP Systems ............................. 289
Importing License-Type Recommendations .......................................................... 290

Recommendation Processing on Independent SAP Systems .............................. 291
Creating a Process Recommendations Offline Report ......................................... 291
Recommendation Status Values for Independent SAP Systems .......................... 292
Information in the Process Recommendations Offline Report ........................... 293
Accepting Recommendations ............................................................................. 295
Rejecting Recommendations ............................................................................. 296
Overwriting Recommendations ......................................................................... 296
Resetting Recommendations ............................................................................ 297
Committing License-Type Changes ..................................................................... 298

18. User Exits in the SAP Admin Module ............................................................... 299

User Exits: Data Check ......................................................................................... 299
Creating a User Exit ID for the User Data Check .................................................. 299
Modifying a User Exit ID for the User Data Check ............................................... 300
Copying a User Exit ID for the User Data Check ............................................... 300
Changing the Description of a User Exit ID for the User Data Check .................. 300
Deleting a User Exit ID for the User Data Check ................................................ 301

User Exits for LDAP Connections ....................................................................... 301
Creating a User Exit ID for an LDAP Connection .............................................. 301

User Exits for Packages ...................................................................................... 302
Creating a User Exit for Packages .................................................................... 302
Modifying a User Exit for Packages .................................................................. 302
19. Properties and Methods........................................................................................................303
   Properties for Custom License Assignment, Duplicate User, and User Consolidation Rules ....303
   Custom Rule Methods...........................................................................................................305
   Package Rule Properties and Methods ..................................................................................308

20. Scheduled Tasks .................................................................................................................313
   Common Task Utility ...........................................................................................................313
   Parameters for ndcrproc.exe ..............................................................................................313
   Import SAP Inventories .......................................................................................................314
   Import SAP Package License ...............................................................................................315
   Recognition Data Import .....................................................................................................315
   Upload Third-Party Inventory Data ......................................................................................316

21. Index .................................................................................................................................317
Introduction to FlexNet Manager for SAP Applications

Designed for use with SAP® Business Suite, FlexNet Manager for SAP Applications helps you to centrally monitor and analyze your organization’s SAP license usage. This enables you to ensure accurate and appropriate licensing, and so better plan and budget for future SAP purchases.

What's New in This Release

The IT Asset Management 2023 R1.2 Features by Release list the new features that are available in this release. You can find the Features by Release information in the following locations:

- Available on Flexera Product Documentation site https://docs.flexera.com/ for each release.
- Downloadable from the Flexera Product and License Center, where you downloaded the installer for the system. Log in at https://flexerasoftware.flexnetoperations.com/.

Help and Documentation Resources

This FlexNet Manager for SAP Applications User Guide is the complete operator’s guide for regular use of FlexNet Manager for SAP Applications.

Context-sensitive help is available from many places in IT Asset Management. Look for the Help button in the topright corner of each page.

The FlexNet Manager for SAP Applications Installation Guide PDF provides information regarding FlexNet Manager for SAP Applications installation, licensing, and authorizations and roles. It is included in the folder 0_Documentation of the product zip file.

Before using FlexNet Manager for SAP Applications, ensure that IT Asset Management has been configured appropriately for your organization. For more information, see the IT Asset Management product documentation.
Product Training

Online and class-based training materials are available for customers using FlexNet Manager for SAP Applications or IT Asset Management, through the Flexera University.

For details, see:

- Instructor-led courses: http://www.flexerasoftware.com/services/education/instructor-course-listing-enterprise-license-optimization.htm

Contacting Us

You may contact us from anywhere in the world by visiting our Website at: http://www.flexera.com.
Installing the SAP Connector Libraries for integration with SAP

The following tasks only need to be completed if the product is being integrated with SAP to centrally monitor and analyze your organization’s SAP license usage.

- Downloading SAP Connector for Microsoft .NET
- Installing the connector on the FlexNet Inventory Beacon.

Downloading SAP Connector for Microsoft .NET

Download and install the SAP Connector .Net Framework:

1. Download SAP Connector for Microsoft .NET 3.0.25.0 for Windows 64bit (compiled with .NET framework 4.0) from the SAP Product Downloads website https://support.sap.com/en/product/connectors/msnet.html.

2. After the download, extract and install the .msi file. The .msi file installs various .dll files.

   Note: The installer asks you to specify a location which defaults to C:\Program Files\SAP\SAP_DotNetConnector3_Net40_x64\ This path contains the following .dll files: sapnco.dll and sapnco_utils.dll.

3. Locate these files and follow the instructions in Installing the connector on the FlexNet Inventory Beacon to copy the product installation paths.

Installing the connector on the FlexNet Inventory Beacon

This should be done on any of the inventory beacons which are integrating with SAP systems.
Copy sapnco.dll and sapnco_utils.dll from the SAP Connector installation path to: [BeaconInstallationPath]\DotNet\bin.

For example, if using the default installation path, the files will be copied to:

- C:\Program Files (x86)\Flexera Software\Inventory Beacon\DotNet\bin\sapnco.dll
- C:\Program Files (x86)\Flexera Software\Inventory Beacon\DotNet\bin\sapnco_utils.dll.
Components for FlexNet Manager for SAP Applications

FlexNet Manager for SAP Applications is designed for use with SAP® and S/4HANA Business Suite applications. It integrates with IT Asset Management to offer enhanced processes for gathering user and consumption data from SAP servers, to provide transparency, and optimize your SAP license position.

FlexNet Manager for SAP Applications consists of the following components:

- IT Asset Management
- SAP Admin Module
- Satellite Transport
- SAP Inventory Agent.

FlexNet Manager for SAP Applications includes support for:

- S/4HANA systems in User and Package license optimization.
- Migration to S/4HANA systems. New migration and license surplus fields allow you to plan for, and track, your migration so that you see your current license position with your existing landscape(s) and can identify any license surplus that can be used as credits towards your S/4HANA implementation.

Workflow Summary

This overview explains how the components of FlexNet Manager for SAP Applications interact. For information about the individual components of FlexNet Manager for SAP Applications, see the FlexNet Manager for SAP Applications User Guide PDF.

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 on the SAP Admin module. (An SAP landscape can contain more than one SAP Admin module, each with its own dependent SAP systems.) The SAP Inventory Agent reads the data and transfers it to the IT Asset Management database. IT Asset Management analyzes the data and determines the optimal license position, based on a combination of license-assignment rules and duplicate-user rules that you have configured. The resulting recommendations are staged on the IT Asset Management server from where they are...
imported into the SAP Admin module.

In the SAP Admin module, the SAP administrator can review the recommended changes. She decides which recommendations she wants to accept and sets the license types as suggested. When the SAP administrator updates the license types, the SAP Admin module then accesses the user primary records on its dependent SAP systems and updates them accordingly.

SAP systems that are not connected to the SAP Admin module are referred to as independent SAP systems. The SAP Inventory Agent accesses and collects the user primary record information from these systems via Remote Function Call (RFC). The data can be analyzed in SAP mode in IT Asset Management in the same way as data of dependent SAP systems. For information on remediation on independent SAP systems, see Remediation on Independent SAP Systems in the FlexNet Manager for SAP Applications User Guide PDF. For information on remediation on independent SAP systems, see Remediation on Independent SAP Systems.

Figure 1: Data flow between the components in a SaaS implementation

IT Asset Management

IT Asset Management provides hardware and software asset management for enterprises from desktop to datacenter. Asset reports provide actionable insight into software installations, application usage, license compliance status, upcoming payments, and purchased versus installed license reconciliation.
FlexNet Manager for SAP Applications integrates with IT Asset Management to enable robust features for SAP license optimization and SAP license management, and to enhance the transparency of your SAP licensing situation.

The license management and optimization capabilities of FlexNet Manager for SAP Applications are available from the web-based user interface of IT Asset Management. These capabilities offer efficient processes for analyzing user and consumption data, and provide instant, up-to-date information about your license position.

You can access almost all the features of FlexNet Manager for SAP Applications via IT Asset Management’s web interface, using the SAP button in the modal navigation bar. The remaining features, which are mainly related to remediation, are available from the SAP Admin module.

The web-based user interface provides fast and easy access from virtually any PC. The SAP dashboard shows a high-level summary of your current baseline and optimal license position in a diagram, to enable you to quickly identify areas that need attention.

The System Landscape Editor, also available in SAP mode, enables you to represent your organization’s system landscape, reflecting your organization’s structure or your organization’s SAP contracts. The systems that you include in the system landscape are inventoried and provide data such as user primary records, role memberships, and activity logs. This data is subsequently analyzed to determine the current baseline license position (the license position that is achieved by executing a user consolidation). Using reports and license rules, you can determine the optimal license position. This information is sent to the SAP Admin module where you can update the SAP user license data accordingly.

The chapter SAP Functionality in IT Asset Management will help you become familiar with the general features of the SAP mode in IT Asset Management. Refer to the IT Asset Management documentation for detailed information on IT Asset Management.

**SAP Admin Module**

The SAP Admin module is an SAP application that helps SAP administrators to manage their SAP license assignments.

The SAP Admin module is written in ABAP/4, and a development partner namespace is reserved from SAP AG. The SAP Admin module is installed directly on an SAP system and therefore does not require any external hardware or software. Dedicated R/3 tables are used for data storage. Thus, there cannot be any conflicts with SAP functions or company-specific developments.

Each SAP Admin module collects data from its dependent SAP systems. The collected data is stored in a staging database. The SAP Inventory Agent connects to the staging database and loads the data into the IT Asset Management database. The data can then be analyzed using the SAP features in the web interface of IT Asset Management.

You use the SAP Admin module to update the user primary records in the connected SAP systems (also called dependent SAP systems) according to the license-type optimization data the SAP Admin module receives from IT Asset Management. In addition, the SAP Admin module provides features for maintaining and cleaning up user primary data to optimize the quality of the user records (for example, the Logon Evaluation Report). This helps to improve the results of the license optimization. You can specify the relevant criteria on the SAP Admin module according to your organization’s requirements.

If required, your implementation can contain several SAP Admin modules that are connected to IT Asset Management. Each SAP Admin module has its own set of dependent SAP systems.

The SAP Admin module of FlexNet Manager for SAP Applications is available for SAP Basis release 7.0 or higher.

The menus and elements of the SAP Admin module are described in more detail under Main Menu Items in the SAP Admin Module.
Refer to the *FlexNet Manager for SAP Applications Installation Guide* for information regarding FlexNet Manager for SAP Applications installation, licensing, authorizations, and roles.

## Satellite Transport

The FlexNet Manager for SAP Applications Satellite transport (RFC-enabled function modules and the required data structures) is an optional component. It is only required in specific scenarios.

For each SAP Basis release that is maintained by SAP AG, a specific release for FlexNet Manager for SAP Applications satellites is available—currently ranging from SAP Basis release 4.6C to 7.5.

For more information on the Satellite transport, see the *FlexNet Manager for SAP Applications Installation Guide* PDF.

## 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 IT Asset Management 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 IT Asset Management, it is cached in the IT Asset Management database and can be used to optimize your organization’s license position.

The default setting for the SAP Inventory Agent is to run weekly.

The SAP Inventory Agent is executed using a schedule on an inventory beacon. For more information on inventory beacons, see **Inventory Beacons**. For information on scheduling tasks on inventory beacons, see **Scheduling Tab**. For information on scheduling tasks on inventory beacons, see the section **Scheduling Page** in the IT Asset Management online help.

## 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**

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>-c &lt;configuration_file&gt;</td>
<td>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 IT Asset Management (go to the SAP System Landscapes page (Data Collection &gt; IT Assets Inventory Tasks &gt; SAP System Landscapes) and double-click a system landscape name).</td>
</tr>
<tr>
<td>-e</td>
<td>Encrypts passwords inside the file specified by the -c option. Example: &quot;SAPReader.exe -c &lt;configuration_file&gt; -e&quot;</td>
</tr>
<tr>
<td>Parameter</td>
<td>Description</td>
</tr>
<tr>
<td>--------------------</td>
<td>---------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>-o &lt;output_folder&gt;</td>
<td>Outputs SAP inventory to a specified folder.</td>
</tr>
</tbody>
</table>
| -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 IT Asset Management.                                                                                     |
| -b                 | For use with inventory beacons: uncompresses an intermediate package file and resolves its content into the IT Asset Management database.                                                              |
| -p <consumption-enddate> | Specifies the end date of the consumption period, using the format yyyymm. 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.
SAP Functionality in IT Asset Management

In this chapter, you will learn about:

- Accessing SAP functionality in IT Asset Management — see Accessing the SAP Features.
- Selecting the SAP system landscape that you want to work in — see Selecting the System Landscape.
- Working with page elements in IT Asset Management — see Page Elements in IT Asset Management.
- Using grids in IT Asset Management — see Grids.

Accessing the SAP Features

To access the SAP features in IT Asset Management:

1. Use your web browser to browse to http://Your-portal-server/Suite, where Your-portal-server is the name of the web server on which IT Asset Management is installed.

2. In the IT Asset Management web interface, click SAP.

The SAP Overview page displays.

If your setup contains more than one system landscape, the Choose an SAP System Landscape page displays. Click on a system landscape to display the SAP Overview page for that landscape.

To return to this page at any time, click SAP in the modal navigation menu (at the top of the page) or the bread crumbs (below the main navigation bar).

Selecting the System Landscape

If your setup contains more than one landscape, you need to select the system landscape in which you want to work.

You are prompted to select a system landscape each time after you do one of the following:
• Work in SAP mode for the first time in a session and click a menu item (other than System Landscapes under Configuration).

• Access the SAP System Landscapes page and click a menu item.

To select a system landscape:

• If the Choose an SAP System Landscape page prompts you to select a system landscape, click on the landscape name for which you want to perform an action.

• If you are accessing a menu option other than System Landscapes under Configuration, you can switch to a different system landscape by clicking the Change Landscape icon in the top-right corner of the page.

Page Elements in IT Asset Management

There are a number of common elements that you find on all pages of IT Asset Management.

• The settings bar at the top of the page contains high-level status information, such as the last reconciliation date and the account name, and the System Settings menu.

• Navigation bars:
  ○ The modal navigation bar changes the mode in which IT Asset Management is operating. Click the SAP button on this navigation bar to access the SAP functionality of FlexNet Manager for SAP Applications.
  ○ The main navigation bar displays the primary functionality areas. In this documentation, this is usually simply referred to as the navigation bar.
  ○ The navigation menu opens when you point the mouse to an item in the main navigation bar.
  ○ The breadcrumbs at the top of the page show your navigation path to the currently displayed page.
  ○ The title at the top of the page identifies the information currently displayed. If there are multiple landscapes, the Change Landscape icon enables you to switch to a different system landscape (available on all pages except SAP System Landscapes under Configuration).
  ○ The main area on the page is divided into sections containing grids, data entry masks, or graphs.
Grids

Grids are used throughout IT Asset Management. For most grids, you can sort, filter, and group data. You can also export data from any grid.

The preferences you specify are stored as a Windows roaming user profile, so that your preferences are applied each time you access IT Asset Management. See the documentation about the Windows operating system running on your application server (Windows Server 2003 or Windows Server 2008) for more information about roaming user profiles.

A list of records is automatically displayed when you navigate to a grid. When you leave a grid and return, any existing filter is removed. However, the following settings that you selected in the Advanced menu will still apply:

- Number of items per grid (Change Page Size option)
- Any grouping settings (Show Grouping option)
- Fields selected for display (Choose Fields option)

Navigation elements are displayed at the bottom of the page. Click the forward and backward arrows or select a specific page number to navigate through the grid.

To modify the number of items displayed on each page, open the Advanced menu and select Change Page Size. Then select the appropriate number of items from the list.

Filters

Filters enable you to reduce the number of items in a list by showing only those items that match patterns you specify.
You can filter the data of only one column or multiple columns.

There are two levels of filters available in grids: simple, and advanced. You start to build your filter controls in the same way for both levels.

**Simple Filtering**

Use the simple filter to filter the data of only one column, or to set filter conditions and values for multiple columns, where the filters are combined in a logical-AND.

To filter a grid:

1. At the top of the grid, open the Advanced menu and click Show Filter. (A check mark appears if the option is activated.)

2. A new row appears at the top of the grid, immediately under the column headers. In each column, there is a field for you to type a value that you want entries to match. To the right of each of these fields there is a small filter icon.

3. In the column or columns where you want the filter to be active, type the value that the filter should match.

When you pause typing for a short time, the filter is automatically applied. Filter matches are case insensitive. By default, the filter displays items that start with the value you have typed. You can change this behavior in the next step.

4. To change the way that your filter value is applied, click the small filter icon to the right of the filter value field.

A menu of filtering conditions appears, with the current condition checked. The default condition is Begins with. Select a different condition to change the effect of the filter.

5. If required, repeat steps 3 and 4 for other columns.

If you filter the data of multiple columns, they are combined with a logical-AND. This means that grid items will only be displayed when they match all of the conditions and values.

**Advanced Filtering**

The Filter Builder enables you to create complex filter conditions for grids.

Use the Filter Builder if you want to filter multiple columns and combine these filters with an option other than a logical-AND. For example, you may want items that match either the value in the first column or the value in the second column, but not necessarily both (this is a logical-OR relationship). There are other ways to make a more advanced filter as well (such as a filter that matches a choice of values in a single column). You have all these options and more available in the advanced Filter Builder.

To create an advanced filter:

1. Do one of the following:
   - Start a new filter (click Advanced and select Show Filter).
   - Continue to extend an existing simple filter (see Simple Filtering).
When a filter is in operation, a summary statement of the filter appears at the bottom of the page. The summary translates your filter settings into terms suitable for the SQL database, with the percent sign acting as a wildcard that substitutes for any other characters. If you have not yet set any filter values, this hyperlinked statement says Create Filter.

**Note:** Only a single wildcard character is currently supported when filtering. Multiple multi-character wildcards are not supported in SAP custom rule sets, and items that come after a second wildcard character are ignored in the custom rule filter.

2. Click **Create Filter**.

   The Filter Builder dialog appears. The current filter is described, with each color-coded part of the text also acting as a control that you can click and change.

3. Click any area of the Filter Builder to see a context menu of available options for that position.

   You can create complex filters using groups to collect some matches together. One key point to realize is that each logic rule groups together, and applies to, the items immediately below it (until interrupted by another logic rule). This means that you read the logic rule rather backwards. Instead of the spoken language ordering "A or B or C", the layout reads "Or A,B,C".

4. When you are satisfied with your settings in the Filter Builder, click **OK** to apply the filter to your grid and see the results.

**Filter Builder Options**

You can create complex filters using the Filter Builder options.

The options available by clicking a logic rule (such as And or Or) are as follows.

| **Table 2:** Filter Builder options |
|---|---|
| **Option** | **Description** |
| And | The following (child) rules must all be satisfied. |
| Or | A grid item will be displayed if it satisfies any of the following (child) rules. |
| Not And | The results are opposite from And—items satisfying all the child rules are excluded, and everything else is displayed. |
| Not Or | The results are opposite from Or—items satisfying any of the child rules are excluded, and everything else is displayed. |
| Add Group | Inserts a new logic rule (defaulting to **And**) as a child of this one. You can nest multiple levels of groups. |
| Add Condition | Inserts a new statement with default values under this logic rule. Identical to clicking the + symbol to the right of this logic rule. |
| Remove | Delete this logic rule and all its children from the filter. There is no warning confirmation, and no undo. If you remove all content from the filter, a new logic rule (defaulting to **And**) appears as a starting point for your next creation. |
Turning Filters On and Off

When you set a filter, a check box appears as part of the filter summary statement. While the filter is active, this check box is selected. You can control filter activity by clicking this check box.

To temporarily disable a filter:

1. Click the check box to clear it.
   
The filter is disabled, and the current page from your grid displays in full. However, the settings for your filter are not altered.

2. Click the check box a second time to restore the filter.

Filtering vs. Searching

Filtering a list is very similar to searching. It requires a new fetch from the underlying database, and filters the entire set of data for this list, not just the currently-visible page.

Unlike searching, filtering enables you to:

- Constrain the search for a value within a specific column (or field).
- Combine distinct values for different columns.
- Choose different filter conditions for each of the active columns.
- Include different values for a column (A or B or C) to include in the display.
- Invert the results of the filter (using Not).

You can combine searching and filtering, in either order.

Searches

Searching is a convenient way to reduce the amount of data to be downloaded to your browser, and thereby speed up your work. You can search within any of the columns displayed in a grid using the search toolbar at the top of the page.

Searching

You can combine searching and filtering, in either order. Searching applies only to the fields (or columns) currently displayed in a grid. To search hidden fields, you must first make them visible in the grid. The search is case insensitive.

To search for items from a grid:

1. At the top left of the grid, enter the value to search for in the search field Search columns....

2. Click the magnifying glass button to the right of the search field.
Restoring Grids after Searching

Restore a grid after a search to clear the Search field and refresh the data in the grid.

To restore the original grid after a search:

1. Click the clear search button.

Exporting a Grid

When you have arranged the contents of a grid to your liking, you can export the grid to a choice of other file formats for distribution or additional work.

Grids can be exported to the following formats:

• Microsoft Excel 97-2003
• Microsoft Excel 2007+
• Adobe PDF
• CSV File

Data exported to .rtf format can be viewed and edited using Microsoft Word. Other text editors, such as Microsoft Wordpad or Write do not support all of the RTF features used in .rtf files exported from IT Asset Management.

An exported grid includes the current column positions and sort sequence.

To export a grid:

1. Open the Advanced menu at the top of the grid and select the appropriate option:
   • To export the entire grid, select Export All.
   • To export a selection of grid rows, select Export Selection.
2. Select the appropriate format from the list.
3. Depending on your browser, a dialog displays asking whether you want to open or save this file. Select the option to save, and click OK or Save.
4. Depending on your browser, the file may automatically download to your default location, or a Save As dialog may display. If there is a Save As dialog, browse to a folder to store the exported grid, and enter an appropriate file name. Click Save.
5. When the download is complete, choose to open the exported grid, open the folder, or close the dialog.

Changing the Columns Displayed in a Grid

Most grids in IT Asset Management show only a selection of the fields from the underlying database. You can configure the grid to show as many or as few of the underlying fields as you choose. One reason to change the displayed fields is to perform special searches or filtering on the data. Your choice of columns to display persists when you go to look at a
To change the columns displayed in a grid:

1. In the button bar at the top of the grid, click Advanced.

2. In the button menu that appears, click Choose Fields.

   The Field Chooser palette appears, floating over the grid. You may drag the palette by its title bar to any convenient location.

3. To add a column to the grid, drag the new column header from the Field Chooser to your preferred position in the row of column headers.

   Small down and up arrows appear to indicate where the new column will be inserted in the column headers.

4. To remove a column from the grid, drag the column header from the header row and drop it anywhere on the Field Chooser.

   The column disappears from the grid, and the column header is inserted in alphabetical order into the Field Chooser.

5. To close the Field Chooser, click the red X button in the top-right corner of the Field Chooser.
Initial Setup of IT Asset Management

**Note:** Before executing any of the tasks in this section, ensure that IT Asset Management has been installed and configured.

Typically, you would setup IT Asset Management before configuring the SAP Admin module.

The initial setup of IT Asset Management usually includes the following tasks:

- Setting up the system landscape. Because you are using a Cloud implementation of IT Asset Management, you set up the system landscape in IT Asset Management using inventory beacons. For more information, see [Inventory Beacons](#). After you defined your landscape, use the System Landscape Editor to view the system details.
- Setting access rights—see [Access Rights to SAP Functionality](#).
- Modeling your SAP licensing information—see [Licensing Information Setup](#).

**System Landscape Setup**

In SAP mode of IT Asset Management, you use the System Landscape Editor to represent and manage all your SAP systems. In SAP mode of IT Asset Management, you use the System Landscape Editor to represent 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.

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. After the import of data from the systems is executed on the inventory beacon, the information for each SAP system is automatically imported from the inventory beacon into the system landscape in IT Asset Management.

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. Go to the SAP System Landscapes page (Data Collection > IT Assets Inventory Tasks > SAP System Landscapes). The SAP System Landscapes page is the main page of the editor and contains a list of the system landscapes.

2. Use the Advanced > Choose Fields option to display all fields you require:

<table>
<thead>
<tr>
<th>Field</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Name</td>
<td>The name of the system landscape that was provided when the landscape was created.</td>
</tr>
<tr>
<td>Description</td>
<td>A description of the system landscape.</td>
</tr>
<tr>
<td>Status</td>
<td>The status of a landscape indicates the following:</td>
</tr>
<tr>
<td></td>
<td>• Active — The dashboard will be updated with data on the optimal license position from the landscape.</td>
</tr>
<tr>
<td></td>
<td>• Inactive — The dashboard will not be updated with data on the optimal license position from the landscape.</td>
</tr>
<tr>
<td></td>
<td>• 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 IT Asset Management.</td>
</tr>
<tr>
<td></td>
<td>• 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.</td>
</tr>
<tr>
<td>Creation Date</td>
<td>The date and time when the landscape was created.</td>
</tr>
<tr>
<td>Creation User</td>
<td>The user who created the landscape.</td>
</tr>
<tr>
<td>Updated Date</td>
<td>The date and time when the landscape was last changed.</td>
</tr>
<tr>
<td>Updated User</td>
<td>The user who made the last change to the landscape.</td>
</tr>
</tbody>
</table>

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

The corresponding System Landscapes: 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.

<table>
<thead>
<tr>
<th>Option</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Name</td>
<td>The name of the system landscape that was provided when the landscape was created.</td>
</tr>
<tr>
<td>Description</td>
<td>A description of the system landscape.</td>
</tr>
<tr>
<td>Status</td>
<td>The status of a landscape indicates the following:</td>
</tr>
<tr>
<td></td>
<td>• <strong>Active</strong> — The dashboard will be updated with data on the optimal license position from the landscape.</td>
</tr>
<tr>
<td></td>
<td>• <strong>Inactive</strong> — The dashboard will not be updated with data on the optimal license position from the landscape.</td>
</tr>
<tr>
<td></td>
<td>• <strong>Archived</strong> — 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 <strong>IT Asset Management</strong>.</td>
</tr>
<tr>
<td></td>
<td>• <strong>Simulation</strong> — 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.</td>
</tr>
<tr>
<td>Handling over-consumption of license types</td>
<td>This option indicates how FlexNet Manager for SAP Applications should calculate the license position for license types that are over-consumed.</td>
</tr>
<tr>
<td></td>
<td>• <strong>Recommend promoting users to spare superior licenses</strong>—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.</td>
</tr>
<tr>
<td></td>
<td>• <strong>Show deficits against assigned license (license is at risk)</strong>—Spare superior licenses are not used to cover licenses that are over-utilized. Instead, the over-consumed license is shown as over-utilized, and the resulting license deficit can be viewed on the <strong>License Position</strong> page.</td>
</tr>
<tr>
<td>Location</td>
<td>The location to which the landscape is allocated.</td>
</tr>
<tr>
<td>Cost Center</td>
<td>The cost center to which the landscape is allocated.</td>
</tr>
<tr>
<td>Business Unit</td>
<td>The business unit to which the landscape is allocated.</td>
</tr>
<tr>
<td>Category</td>
<td>The category to which the landscape is allocated.</td>
</tr>
<tr>
<td>Created by</td>
<td>The user who created the landscape.</td>
</tr>
<tr>
<td>Created at</td>
<td>The date and time when the landscape was created.</td>
</tr>
<tr>
<td>Last updated by</td>
<td>The user who made the last change to the landscape.</td>
</tr>
<tr>
<td>Last updated at</td>
<td>The date and time when the landscape was last changed.</td>
</tr>
</tbody>
</table>
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.

<table>
<thead>
<tr>
<th>Column</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Active Price List</td>
<td>The active price list is imported from the relevant SAP system (via the USMM transaction).</td>
</tr>
<tr>
<td>Client ID</td>
<td>The client ID of the SAP system.</td>
</tr>
<tr>
<td>Database System</td>
<td>The database technology that the SAP server is using.</td>
</tr>
<tr>
<td>Default License Type</td>
<td>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.</td>
</tr>
<tr>
<td>Dependent On</td>
<td>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.</td>
</tr>
<tr>
<td>FNM-SAP Version</td>
<td>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.</td>
</tr>
<tr>
<td>Group Path</td>
<td>Contains the path of the system within the landscape. (This column is available only in grid view.)</td>
</tr>
<tr>
<td>Hardware Key</td>
<td>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.</td>
</tr>
<tr>
<td>Installation No.</td>
<td>The system’s installation number that is registered with SAP. This data is automatically imported when the system is created.</td>
</tr>
<tr>
<td>Inventoried By</td>
<td>The server (the application server or inventory beacon) that was used to collect the SAP inventory. If a beacon collected the data, the name of the inventory beacon server displays. If a server collected the data, the text Application server displays.</td>
</tr>
<tr>
<td>Inventory Date</td>
<td>The date when the SAP system inventory was collected.</td>
</tr>
<tr>
<td>Column</td>
<td>Description</td>
</tr>
<tr>
<td>---------------------</td>
<td>---------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Last Changed On</td>
<td>The date when the system was last changed. This data is automatically imported when the system is created.</td>
</tr>
<tr>
<td>LAW Version</td>
<td>The version of the SAP LAW. This data is automatically imported when the system is created.</td>
</tr>
<tr>
<td>Migration Status</td>
<td>Displays one of: • Blank if no migration status has been set for this system, or if the <strong>SAP suite type</strong> is S/4HANA.</td>
</tr>
<tr>
<td></td>
<td>• Not planned</td>
</tr>
<tr>
<td></td>
<td>• Planned</td>
</tr>
<tr>
<td></td>
<td>• In progress</td>
</tr>
<tr>
<td></td>
<td>• Completed.</td>
</tr>
<tr>
<td>Parent Group</td>
<td>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.)</td>
</tr>
<tr>
<td>SAP BASIS Patch</td>
<td>The version of the SAP Basis patch that is installed.</td>
</tr>
<tr>
<td>SAP BASIS Release</td>
<td>The version of the SAP Basis release that is installed.</td>
</tr>
<tr>
<td>SAP Suite Type</td>
<td>Shows one of: • Classic Business Suite</td>
</tr>
<tr>
<td></td>
<td>• S/4HANA — This choice requires that the <strong>SAP System Type</strong> is set to Independent SAP system or Dependent SAP system.</td>
</tr>
<tr>
<td></td>
<td><strong>Tip:</strong> SAP Admin module is not supported if the <strong>SAP Suite Type</strong> is set to S/4HANA.</td>
</tr>
<tr>
<td>Server</td>
<td>The name of the SAP server.</td>
</tr>
<tr>
<td>ST-PI Release</td>
<td>The version of the ST-PI release that is installed.</td>
</tr>
<tr>
<td>Column</td>
<td>Description</td>
</tr>
<tr>
<td>---------------------</td>
<td>---------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>System Environment</td>
<td>The type of the system environment:</td>
</tr>
<tr>
<td>Type</td>
<td>• Production                                                                               • Test</td>
</tr>
<tr>
<td></td>
<td>• Customizing                                                                             • Demo</td>
</tr>
<tr>
<td></td>
<td>• Training/Education                                                                      • SAP Reference.</td>
</tr>
<tr>
<td>System ID</td>
<td>Three-character identifier that identifies the SAP system.</td>
</tr>
<tr>
<td>System Number</td>
<td>The system number of the SAP system.</td>
</tr>
<tr>
<td>System Type</td>
<td>The type of SAP. The following options are available:</td>
</tr>
<tr>
<td></td>
<td>• Dependent SAP system — A system that is connected to an SAP Admin module.</td>
</tr>
<tr>
<td></td>
<td>• Independent SAP system — A system that is not connected to an SAP Admin module.</td>
</tr>
<tr>
<td></td>
<td>• Non-SAP system — A system that communicates with one of your SAP systems, but that is not an SAP system itself.</td>
</tr>
<tr>
<td></td>
<td>• SAP Admin module — A system that collects data from its dependent SAP systems for analysis in IT Asset Management.</td>
</tr>
</tbody>
</table>

## 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 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.

Because you are using FlexNet Manager for SAP Applications in a Cloud implementation, you define, edit, and delete
SAP systems on an inventory beacon. For more information, 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 IT Asset Management. 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 IT Asset Management beforehand (using the options under Organization).

**To edit a system landscape:**

1. Go to the SAP System Landscapes page (Data Collection > IT Assets Inventory Tasks > SAP 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. 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.

**To add a system landscape:**

1. Go to the SAP System Landscapes page (Data Collection > IT Assets Inventory Tasks > SAP System Landscapes).
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 IT Asset Management beforehand (using the options under Organization).

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. Go to the SAP System Landscapes page (Data Collection > IT Assets Inventory Tasks > SAP 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 IT Asset Management 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 IT Asset Management:

1. Go to the SAP System Landscapes page (Data Collection > IT Assets Inventory Tasks > SAP System Landscapes).

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.

<table>
<thead>
<tr>
<th>Field Name</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>System ID</td>
<td>The unique identifier of the SAP system to which you want to connect.</td>
</tr>
<tr>
<td>Client ID</td>
<td>The client ID of the SAP system to which you want to connect.</td>
</tr>
<tr>
<td>Description</td>
<td>The description of the SAP system to which you want to connect (optional).</td>
</tr>
<tr>
<td>Parent group</td>
<td>Click the ellipsis button to assign the system to a parent group.</td>
</tr>
<tr>
<td>SAP Admin Module</td>
<td>You selected this option above because you are adding an SAP Admin module system.</td>
</tr>
<tr>
<td>Server name</td>
<td>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.</td>
</tr>
<tr>
<td>System number</td>
<td>The SAP system number. This value will be used by the RFC connection.</td>
</tr>
<tr>
<td>User name</td>
<td>The user name that is to be used when connecting to the SAP system and making RFC calls.</td>
</tr>
<tr>
<td>Password</td>
<td>The password that is to be used when connecting to the SAP system and making RFC calls.</td>
</tr>
<tr>
<td>Repeat password</td>
<td>Re-enter the password.</td>
</tr>
<tr>
<td>Test Connection</td>
<td>Click this button to test whether the connection details you entered are correct.</td>
</tr>
<tr>
<td>First name</td>
<td>The first name of the owner of the system.</td>
</tr>
<tr>
<td>Last name</td>
<td>The last name of the owner of the system.</td>
</tr>
<tr>
<td>Business phone number</td>
<td>The business phone number of the owner of the system.</td>
</tr>
<tr>
<td>Mobile phone number</td>
<td>The mobile phone number of the owner of the system.</td>
</tr>
<tr>
<td>Email</td>
<td>The email address of the owner of the system.</td>
</tr>
<tr>
<td>Location</td>
<td>The location of the owner of the system.</td>
</tr>
</tbody>
</table>

7. 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:

1. Go to the SAP System Landscapes page (Data Collection > IT Assets Inventory Tasks > SAP 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 add is connected.
   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.

<table>
<thead>
<tr>
<th>Field Name</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>System ID</td>
<td>The unique identifier of the SAP system to which you want to connect.</td>
</tr>
<tr>
<td>Client ID</td>
<td>The client ID of the SAP system to which you want to connect.</td>
</tr>
<tr>
<td>Description</td>
<td>The description of the SAP system to which you want to connect (optional).</td>
</tr>
<tr>
<td>System landscape</td>
<td>The name of the system landscape to which you are adding a system. This information is non-editable.</td>
</tr>
<tr>
<td>Parent group</td>
<td>Click the ellipsis button to assign the system to a parent group.</td>
</tr>
<tr>
<td>Field Name</td>
<td>Description</td>
</tr>
<tr>
<td>-------------------------</td>
<td>---------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td><strong>Independent SAP System</strong></td>
<td>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.</td>
</tr>
<tr>
<td>The SAP system number. This value will be used by the RFC connection.</td>
<td></td>
</tr>
<tr>
<td>The user name that is to be used when connecting to the SAP system and making RFC calls.</td>
<td></td>
</tr>
<tr>
<td><strong>Test Connection</strong></td>
<td>Click this button to test whether the connection details you entered are correct.</td>
</tr>
<tr>
<td><strong>First name</strong></td>
<td>The first name of the owner of the system.</td>
</tr>
<tr>
<td><strong>Last name</strong></td>
<td>The last name of the owner of the system.</td>
</tr>
<tr>
<td><strong>Business phone number</strong></td>
<td>The business phone number of the owner of the system.</td>
</tr>
<tr>
<td><strong>Mobile phone number</strong></td>
<td>The mobile phone number of the owner of the system.</td>
</tr>
<tr>
<td><strong>Email</strong></td>
<td>The email address of the owner of the system.</td>
</tr>
<tr>
<td><strong>Location</strong></td>
<td>The location of the owner of the system.</td>
</tr>
</tbody>
</table>
| **SAP suite type** | Choose one of: `• Classic Business Suite`  
`• S/4Hana.`                                                                                                                                   |

**Note:** Dependent SAP systems set to S/4HANA will not be imported into the SAP Admin module for SAP transport requests that run based on IT Asset Management version 2018 R2 or earlier. We recommend that you upgrade to the IT Asset Management 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.
<table>
<thead>
<tr>
<th>Field Name</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Migration status</td>
<td>This control is only available when the <strong>SAP suite type</strong> is set to <strong>Classic Business Suite</strong>. You may then choose one of:</td>
</tr>
<tr>
<td></td>
<td>• Not planned</td>
</tr>
<tr>
<td></td>
<td>• Planned</td>
</tr>
<tr>
<td></td>
<td>• In progress</td>
</tr>
<tr>
<td></td>
<td>• Completed.</td>
</tr>
</tbody>
</table>

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

7. 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**.

8. 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**.

9. On the **SAP System: name** page, scroll down to the **Dependent SAP Systems** grid.

10. In the **Dependent SAP Systems** grid, click **Add**.

    The **Select SAP Systems** dialog displays.

11. 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.

12. 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. Go to the **SAP System Landscapes** page (**Data Collection** > **IT Assets Inventory Tasks** > **SAP System Landscapes**).

2. On the **SAP System Landscapes** page, double-click the landscape to which you want to add an independent SAP
The **System Landscape** 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.

<table>
<thead>
<tr>
<th>Field Name</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>System ID</strong></td>
<td>The unique identifier of the SAP system to which you want to connect.</td>
</tr>
<tr>
<td><strong>Client ID</strong></td>
<td>The client ID of the SAP system to which you want to connect.</td>
</tr>
<tr>
<td><strong>Description</strong></td>
<td>The description of the SAP system to which you want to connect.</td>
</tr>
<tr>
<td><strong>System landscape</strong></td>
<td>The name of the system landscape to which you are adding a system. This</td>
</tr>
<tr>
<td></td>
<td>information is non-editable.</td>
</tr>
<tr>
<td><strong>Parent group</strong></td>
<td>Click the ellipsis button to assign the system to a parent group.</td>
</tr>
<tr>
<td>**Independent SAP</td>
<td>This option which is selected by default (as detailed in Step 4 above)</td>
</tr>
<tr>
<td><strong>system</strong></td>
<td>indicates that the new system is an independent SAP system.</td>
</tr>
<tr>
<td><strong>Server name</strong></td>
<td>The DNS name of the SAP system. This value will be used by the RFC connection.</td>
</tr>
<tr>
<td></td>
<td>This field can also store the SAP system’s IP address.</td>
</tr>
<tr>
<td><strong>System number</strong></td>
<td>The SAP system number. This value will be used by the RFC connection.</td>
</tr>
<tr>
<td><strong>User name</strong></td>
<td>The user name that is to be used when connecting to the SAP system and making</td>
</tr>
<tr>
<td></td>
<td>RFC calls.</td>
</tr>
<tr>
<td>Field Name</td>
<td>Description</td>
</tr>
<tr>
<td>--------------</td>
<td>----------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td><strong>Password</strong></td>
<td>The password that is to be used when connecting to the SAP system and making RFC calls.</td>
</tr>
<tr>
<td></td>
<td><strong>Important:</strong> The password should not contain any backward slashes (). Otherwise, the connection to the SAP system cannot be established.</td>
</tr>
<tr>
<td></td>
<td><strong>Important:</strong> 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.</td>
</tr>
<tr>
<td><strong>Repeat password</strong></td>
<td>Re-enter the password.</td>
</tr>
<tr>
<td><strong>Test Connection</strong></td>
<td>Click this button to test whether the connection details you entered are correct.</td>
</tr>
<tr>
<td><strong>First name</strong></td>
<td>The first name of the owner of the system.</td>
</tr>
<tr>
<td><strong>Last name</strong></td>
<td>The last name of the owner of the system.</td>
</tr>
<tr>
<td><strong>Business phone number</strong></td>
<td>The business phone number of the owner of the system.</td>
</tr>
<tr>
<td><strong>Mobile phone number</strong></td>
<td>The mobile phone number of the owner of the system.</td>
</tr>
<tr>
<td><strong>Email</strong></td>
<td>The email address of the owner of the system.</td>
</tr>
<tr>
<td><strong>Location</strong></td>
<td>The location of the owner of the system.</td>
</tr>
</tbody>
</table>
| **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. Go to the SAP System Landscapes page (Data Collection > IT Assets Inventory Tasks > SAP 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.

<table>
<thead>
<tr>
<th>Field Name</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>System ID</td>
<td>The unique identifier of the SAP system to which you want to connect.</td>
</tr>
<tr>
<td>Client ID</td>
<td>The client ID of the SAP system to which you want to connect.</td>
</tr>
<tr>
<td>Description</td>
<td>The description of the SAP system to which you want to connect (optional).</td>
</tr>
<tr>
<td>Parent group</td>
<td>Click the ellipsis button (<em>·</em>) to assign the system to a different parent group.</td>
</tr>
<tr>
<td>SAP Admin module</td>
<td>Select this option if the system is an SAP Admin module system.</td>
</tr>
<tr>
<td>Independent SAP system</td>
<td>Select this option if the system is an independent SAP system.</td>
</tr>
<tr>
<td>Server name</td>
<td>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.</td>
</tr>
<tr>
<td>User name</td>
<td>The user name that is to be used when connecting to the SAP system. This field is editable only for independent SAP systems.</td>
</tr>
<tr>
<td>System number</td>
<td>The SAP system number. This value will be used by the RFC connection.</td>
</tr>
<tr>
<td>Password</td>
<td>The password that is to be used when connecting to the SAP system. This field is editable only for independent SAP systems.</td>
</tr>
<tr>
<td>Repeat password</td>
<td>Re-enter the password. This field is editable only for independent SAP systems.</td>
</tr>
<tr>
<td>First name</td>
<td>The first name of the owner of the system.</td>
</tr>
<tr>
<td>Last name</td>
<td>The last name of the owner of the system.</td>
</tr>
<tr>
<td>Field Name</td>
<td>Description</td>
</tr>
<tr>
<td>-------------------</td>
<td>-----------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Business phone number</td>
<td>The business phone number of the owner of the system.</td>
</tr>
<tr>
<td>Mobile phone number</td>
<td>The mobile phone number of the owner of the system.</td>
</tr>
<tr>
<td>Email</td>
<td>The email address of the owner of the system.</td>
</tr>
<tr>
<td>Location</td>
<td>The location of the owner of the system.</td>
</tr>
<tr>
<td>SAP suite type</td>
<td>This control is not available for an SAP Admin module. For an Independent SAP System, choose one of:</td>
</tr>
<tr>
<td></td>
<td>• Classic Business Suite</td>
</tr>
<tr>
<td></td>
<td>• S/4HANA.</td>
</tr>
<tr>
<td>Migration status</td>
<td>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:</td>
</tr>
<tr>
<td></td>
<td>• Not planned</td>
</tr>
<tr>
<td></td>
<td>• Planned</td>
</tr>
<tr>
<td></td>
<td>• In progress</td>
</tr>
<tr>
<td></td>
<td>• Completed</td>
</tr>
</tbody>
</table>

5. Click Save to update the SAP system details.

**Editing a Dependent SAP System**

To edit a dependent SAP system:

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

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

**Deleting an SAP System**

*To delete an SAP system:*

1. Go to the SAP System Landscapes page (Data Collection > IT Assets Inventory Tasks > SAP 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).

<table>
<thead>
<tr>
<th>Column Name</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>User Name</td>
<td>The user ID of the user on the remote system.</td>
</tr>
<tr>
<td>First Name</td>
<td>The first name of the user on the remote system.</td>
</tr>
<tr>
<td>Last Name</td>
<td>The last name of the user on the remote system.</td>
</tr>
<tr>
<td>License Type</td>
<td>The license type that is currently assigned to the user.</td>
</tr>
<tr>
<td>Number of Roles</td>
<td>The number of roles that are currently allocated to the user.</td>
</tr>
<tr>
<td></td>
<td>If the number is blue, you can click on it to see which roles are allocated to the user.</td>
</tr>
<tr>
<td>Valid From</td>
<td>The start date of the user's validity period.</td>
</tr>
<tr>
<td>Valid To</td>
<td>The end date of the user's validity period.</td>
</tr>
<tr>
<td>User Type</td>
<td>The user type of the user.</td>
</tr>
<tr>
<td>User Group</td>
<td>The group to which the user belongs.</td>
</tr>
<tr>
<td>Last Logon Date</td>
<td>The date when the user last logged on to the SAP system.</td>
</tr>
<tr>
<td>Developer</td>
<td>Indicates whether the user currently has a developer license.</td>
</tr>
</tbody>
</table>

*Note:* This field is currently not supported for S/4HANA systems.

<table>
<thead>
<tr>
<th>Created On</th>
<th>The user's creation date.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Account No.</td>
<td>The accounting number of the user.</td>
</tr>
<tr>
<td>Assign. To Special Version</td>
<td>The user's special version, if the user has been assigned one.</td>
</tr>
<tr>
<td>Chargeable Client</td>
<td>The two-character ID of the chargeable user's system client.</td>
</tr>
<tr>
<td>Chargeable System ID</td>
<td>The three-character ID of the chargeable user's system.</td>
</tr>
<tr>
<td>Chargeable User Name</td>
<td>The user name of another user who is representing this user.</td>
</tr>
<tr>
<td>Company Name 1</td>
<td>The company name 1 of the user.</td>
</tr>
<tr>
<td>Company Name 2</td>
<td>The company name 2 of the user.</td>
</tr>
<tr>
<td>Cost Center</td>
<td>The user's cost center.</td>
</tr>
<tr>
<td>Column Name</td>
<td>Description</td>
</tr>
<tr>
<td>---------------------</td>
<td>-----------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Country Surcharge</td>
<td>The user's country surcharge, if the user has been assigned one.</td>
</tr>
<tr>
<td>Division</td>
<td>The user's division.</td>
</tr>
<tr>
<td>Email</td>
<td>The email address of the user on the system on which the user was identified.</td>
</tr>
<tr>
<td>Locked Status</td>
<td>Indicates whether the user is currently locked. Possible values:</td>
</tr>
<tr>
<td></td>
<td>• 0: Not locked</td>
</tr>
<tr>
<td></td>
<td>• 32: Locked by CUA administrator</td>
</tr>
<tr>
<td></td>
<td>• 64: Locked by administrator</td>
</tr>
<tr>
<td></td>
<td>• 128: Locked after failed logon</td>
</tr>
<tr>
<td>Max. Multiple Logon</td>
<td>The maximum number of simultaneous multiple logons that the user had in the specified period.</td>
</tr>
<tr>
<td>No. Multiple Logon</td>
<td>Displays how often the user was logged on multiple times in the specified period.</td>
</tr>
<tr>
<td>Representative From Date</td>
<td>The start date of the period during which this user is representing another user.</td>
</tr>
<tr>
<td>Representative To Date</td>
<td>The end date of the period during which this user is representing another user.</td>
</tr>
<tr>
<td>Tel. Extension</td>
<td>The user's phone extension.</td>
</tr>
<tr>
<td>Tel. Number</td>
<td>The user's phone number.</td>
</tr>
</tbody>
</table>

**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. Go to the SAP System Landscapes page (Data Collection > IT Assets Inventory Tasks > SAP 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.
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. Go to the **SAP System Landscapes** page (Data Collection > IT Assets Inventory Tasks > SAP 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**

IT Asset Management 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 IT Asset Management using the SAP Inventory Agent.** The SAP Inventory Agent is executed on an inventory beacon. It connects to the staging database and loads the data into the IT Asset Management 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 IT Asset Management 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.

**Access Rights to SAP Functionality**

The main security model for the FlexNet Manager for SAP Applications web interface in IT Asset Management is based on the existing access-rights infrastructure that is used in IT Asset Management.

**IT Asset Management Access Rights**

You can manage access rights separately for the following security sections in SAP mode in IT Asset Management:

- License Position
- Optimization
- Analysis Tools
- Configuration

The first step to managing access rights in IT Asset Management is to create one or more accounts. Every user who wants to use IT Asset Management within your enterprise needs an account.

You then assign the account specific roles and define the specific access rights for each role. This is done on the **IT Asset Accounts** page in IT Asset Management.

To configure access rights for SAP mode:

1. Go to the IT Asset Accounts page.
2. Click the All Accounts tab and then click the name of the account that you want to configure.
3. From the Role drop-down list, select an appropriate role from the that enables access to the SAP mode in the IT Asset Management web interface.
4. Expand the SAP section.
   
   The main sections within the SAP mode for which you can configure access rights display.
5. Select the corresponding check boxes to allow or deny access to specific features.

**Account-Specific Access Rights in SAP Mode**

In addition to the IT Asset Management access rights, you can set specific access rights for specific accounts in SAP mode. These SAP mode access rights override the access rights that have been assigned to the role(s) that the accounts belong to in IT Asset Management.

You can manage access rights separately for the following sections in SAP mode:
• System Landscapes—see Managing Access Rights for System Landscapes

• Systems—see Managing Access Rights for Systems

• License Assignment Rule Sets—see Managing Access Rights for License Assignment Rule Sets.

Each details page for these sections contains a link called Configure access. Click this link to open a relevant security dialog.

**Important:** Be careful when setting access rights, because it is possible to set permissions in such a way that you effectively lock yourself out of IT Asset Management. In most cases, this will simply require the resetting of access rights by an operator with appropriate access rights.

### Managing Access Rights for System Landscapes

When you configure access rights for system landscapes, you can do so on a role-based model (based on the account’s roles in IT Asset Management), or you can manage access for specific accounts and specific security sections of a system landscape.

**To manage access rights for system landscapes:**

1. Go to the SAP System Landscapes page (Data Collection > IT Assets Inventory Tasks > SAP System Landscapes).
2. On the SAP System Landscapes page, double-click the system landscape that you want to configure. Alternatively, select the system landscape and click View.
3. The System Landscape: name page is displayed. In the Tasks section, click Configure access.
4. In the Configure Access dialog, select one of the following options:
   - **Use role-based access rights**—Select this option if the access rights that are assigned to the account’s role from IT Asset Management should be used for this landscape. This is the default option for system landscapes. Click Save.
   - **Restricted to specific accounts**—Select this option to manage access rights for specific accounts and for specific security sections of the landscape. The Configure Access dialog displays a list of accounts. By default, each security section is set to No Access (the account is restricted from the specific section).
     a. In the grid, select the account whose access rights you want to configure and click Edit.
     b. In the Define Access Levels dialog, configure the access rights for each security section by selecting the appropriate value from each list. See Table 1 for available access levels for each section.
     c. Click OK.

### Access Levels for System Landscapes

Use this table to determine the access level of specific accounts for each security section of the system landscape in which you are currently working.
Table 3: Access levels for system landscapes

<table>
<thead>
<tr>
<th>Section</th>
<th>Access Level</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>License Position</td>
<td>No Access</td>
<td>Account has no access to the License Position section.</td>
</tr>
<tr>
<td></td>
<td>Read-Only</td>
<td>Account rights only allow to view license position data.</td>
</tr>
<tr>
<td></td>
<td>Normal</td>
<td>Account rights allow to view and recalculate the license position, and make recommendations available to the SAP Admin module.</td>
</tr>
<tr>
<td></td>
<td>Administrator</td>
<td>Account rights allow to view and recalculate the license position, make recommendations available to the SAP Admin module, and delete archived recommendation sets.</td>
</tr>
<tr>
<td>Optimization</td>
<td>No Access</td>
<td>Account has no access to the Optimization section.</td>
</tr>
<tr>
<td></td>
<td>Read-Only</td>
<td>Account rights only allow to view rules and transaction profiles.</td>
</tr>
<tr>
<td></td>
<td>Normal</td>
<td>Account rights allow to view, create, and modify rules and transaction profiles, and run simulations.</td>
</tr>
<tr>
<td></td>
<td>Administrator</td>
<td>Account rights allow to view, create, modify, and delete rules and transaction profiles, and run simulations.</td>
</tr>
<tr>
<td>Analysis Tools</td>
<td>No Access</td>
<td>Account has no access to the Analysis Tools section.</td>
</tr>
<tr>
<td></td>
<td>Full Access</td>
<td>Account rights only allow to view analysis results.</td>
</tr>
<tr>
<td>Configuration</td>
<td>No Access</td>
<td>Account has no access to the Configuration section.</td>
</tr>
<tr>
<td></td>
<td>Read-Only</td>
<td>Account rights only allow to view system landscapes and systems.</td>
</tr>
<tr>
<td></td>
<td>Normal</td>
<td>Account rights allow to view, create, and modify system landscapes and systems.</td>
</tr>
<tr>
<td></td>
<td>Administrator</td>
<td>Account rights allow to view, create, modify, and delete system landscapes and systems.</td>
</tr>
</tbody>
</table>

Managing Access Rights for Systems

When you configure access rights for systems, you have the following options:

- Access rights can be inherited from those set for the system landscape to which the system belongs.
- You can manage access for specific accounts and specific security sections of a system.

To manage access rights for systems:

1. Go to the SAP System Landscapes page (Data Collection > IT Assets Inventory Tasks > SAP System Landscapes).
2. On the **SAP System Landscapes** page, double-click the system landscape that contains the system that you want to configure. Alternatively, select the system landscape and click **View**.

3. The **System Landscape: name** page is displayed. Double-click the system that you want to configure. Alternatively, select the system and click **View**.

4. The **SAP System: name** page is displayed. In the **Tasks** section, click **Configure access**.

5. In the **Configure Access** dialog, select one of the following options:

   - **Inherit access configuration from system landscape**—Select this option if the access rights should be inherited from those set on the system landscape to which the system belongs. This is the default option for system landscapes. Click **Save**.

   - **Restricted to specific accounts**—Select this option to manage access rights for specific accounts and for specific security sections of the landscape. The **Configure Access** dialog displays a list of accounts that have had an access level assigned to at least one of the four security sections in the system landscape. By default, each security section is set to **No Access** (the account is restricted from the specific section).

     a. In the grid, select the account whose access rights you want to configure and click **Edit**.

     b. In the **Define Access Levels** dialog, configure the access rights for each security section by selecting the appropriate value from each list. See the table **Table 1** for available access levels for each section.

     c. Click **OK**.

### Access Levels for Systems

Use this table to determine the access level of specific accounts for each security section of an SAP system.

**Table 4**: Access levels for systems

<table>
<thead>
<tr>
<th>Section</th>
<th>Access Level</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>License Position</td>
<td>No Access</td>
<td>Account has no access to the data for this system in the License Position section.</td>
</tr>
<tr>
<td></td>
<td>Full Access</td>
<td>Account has full access to the data for this system in the License Position section.</td>
</tr>
<tr>
<td>Optimization</td>
<td>No Access</td>
<td>Account has no access to the data for this system in rule previews, simulations, and transaction profiles.</td>
</tr>
<tr>
<td></td>
<td>Full Access</td>
<td>Account has full access to the data for this system in rule previews, simulations, and transaction profiles.</td>
</tr>
<tr>
<td>Analysis Tools</td>
<td>No Access</td>
<td>Account has no access to the analysis results for this system in the Analysis Tools section.</td>
</tr>
<tr>
<td></td>
<td>Full Access</td>
<td>Account has full access to the analysis results for this system in the Analysis Tools section.</td>
</tr>
<tr>
<td>Configuration</td>
<td>No Access</td>
<td>Account has no access to the system in the Configuration section.</td>
</tr>
</tbody>
</table>
### Managing Access Rights for License Assignment Rule Sets

Managing access rights for license assignment rule sets is similar to managing rights for systems. When you configure access rights for license assignment rule sets, you have the following options:

- Access rights can be inherited from those set for the system or system landscape to which the license assignment rule set has been assigned to.
- You can manage access for specific accounts and specific security sections of a system.

To manage access rights for license assignment rule sets:

1. Go to the License Assignment Rules page (Licenses > SAP Optimization > License Assignment Rules).
2. Click a system landscape name.
   - The License Assignment Rules: system Landscape name page is displayed.
3. If you want to switch to a different landscape, click Change Landscape in the top-right corner of the page.
4. On the License Assignment Rules: system Landscape name page, double-click the rule set for which you want to configure access rights.
5. The License Assignment Rule Set: rule set name page opens. In the Tasks section, click Configure access.
6. In the Configure Access dialog, select one of the following options:
   - **Inherit access configuration from system landscape**—Select this option if the access rights should be inherited from those set on the system or system landscape to which the license assignment rule set has been assigned. Click Save.
   - **Restricted to specific accounts**—Select this option to manage access rights for specific accounts. The Configure Access dialog displays a list of accounts that have had an access level assigned to at least one of the four security sections in the system landscape. By default, each section is set to No Access (the account is restricted from the specific section).
     a. In the grid, select the account whose access rights you want to configure and click Edit.
     b. In the Define Access Levels dialog, configure the access rights for the Optimization section by selecting the appropriate value from the list. See the table above for available access levels.
     c. Click OK.
Access Levels for License Assignment Rule Sets

Use this table to determine the access level of specific accounts for each security section for the license rule set.

Table 5: Access levels for license assignment rule sets

<table>
<thead>
<tr>
<th>Section</th>
<th>Access Level</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>License Position</td>
<td>Not Applicable</td>
<td>No applicable access rights to set.</td>
</tr>
<tr>
<td>Optimization</td>
<td>No Access</td>
<td>Account has no access to the license assignment rule set.</td>
</tr>
<tr>
<td>Read-Only</td>
<td></td>
<td>Account rights only allow to view the license assignment rule set and details of the rules within the license assignment rule set.</td>
</tr>
<tr>
<td>Normal</td>
<td></td>
<td>Accounts rights allow to view and modify the license assignment rule set, run simulations, and view, create, and modify the rules of the license assignment rule set.</td>
</tr>
<tr>
<td>Administrator</td>
<td></td>
<td>Accounts rights allow to view, modify, and delete the license assignment rule set, run simulations, and view, create, modify, and delete the rules of the license assignment rule set.</td>
</tr>
<tr>
<td>Analysis Tools</td>
<td>Not Applicable</td>
<td>No applicable access rights to set.</td>
</tr>
<tr>
<td>Configuration</td>
<td>Not Applicable</td>
<td>No applicable access rights to set.</td>
</tr>
</tbody>
</table>

Licensing Information Setup

Use the following features to define the licensing information as specified in your SAP license contract in FlexNet Manager for SAP Applications:

- Define the priority of SAP license types by setting up the license-type hierarchy.
- Specify whether spare superior license-types can be used to cover over-consumed license types that are a sub-type of the superior license type.
- If your SAP contract stipulates a minimum ratio among specific license types, specify that license ratio so that it can be taken into account during license-type optimization.

License-Type Hierarchy

The license-type hierarchy defines the strict hierarchical order of license types; that is, it defines the child license types that are contained in specific parent license types.

The SAP Inventory Agent imports the license-type hierarchy—along with other data—from the SAP Admin module for each dependent SAP system. When you set up FlexNet Manager for SAP Applications for the first time, you need to specify from which system the license-type hierarchy should be loaded. Usually you load the hierarchy from the SAP system on which the LAW is run. You should ensure that the license data is maintained accurately in the LAW.
When FlexNet Manager for SAP Applications calculates the license position, it consolidates the user accounts across systems into logical users. Based on the license-type hierarchy, it then assigns the highest required license type to each user. It is therefore essential that the license-type hierarchy is set up properly.

The most expensive license types are usually identified using the SAP table LAW_CONT, which lists the additional license types that are contained in a license type. The validity of this table is dependent on the patch level of the LAW system. After new license types have been specified by SAP, it can take some time before an appropriate patch is provided.

You can import, view, and modify the license-type hierarchy using the License Types feature under Optimization.

When you define a license type as a sub-license type of a higher license type, you must ensure that this relationship is well formed. This means that there must be no cyclical references between license types in the hierarchy. For example, license type A cannot be a sub-license type of license type B, if license type B is already a sub-license of license type A. If FlexNet Manager for SAP Applications detects a cycle in the license-type hierarchy, it displays an alert message. You should remove the cycle (for example, by removing the incorrect sub-license type), otherwise the consolidated users might be assigned insufficient license types, and the license position might not be calculated correctly.

The license types that are defined under License Types will be available for selection when you configure license rules.

### Loading the License-Type Hierarchy

Usually you load the hierarchy from the SAP system on which the LAW is run.

*To load the license-type hierarchy:*

1. Go to the License Types page (Licenses > SAP Optimization > License Types).
2. If you want to switch to a different landscape, click **Change Landscape** in the top-right corner of the page.

3. On the **License Types: system Landscape name** page, in the **Tasks** section, click **Load Hierarchy**.

4. In the **Load SAP License-Type Hierarchy** dialog, click the name of the SAP system from which the license-type hierarchy should be loaded.

5. Click **Create**.

The **License Types: system Landscape name** page displays the license-type hierarchy in the **License Types** grid.

After you loaded the license-type hierarchy from an SAP system, you can view its details and edit it, if necessary.

### Viewing the License-Type Hierarchy

After you have loaded the license-type hierarchy from an SAP system, you can view its details and edit it, if necessary.

#### To display the license-type hierarchy:

1. Go to the **License Types** page (Licenses > SAP Optimization > License Types).

2. If you want to switch to a different landscape, click **Change Landscape** in the top-right corner of the page.

The **License Types: system Landscape name** page shows the license-type hierarchy.

You can double-click a license type in the grid to see its license sub-types.

### License-Type Hierarchy Details

On the **License Types: system Landscape name** page, the **Details** section informs you from which system the hierarchy was loaded, when it was loaded, and which operator loaded it.

The **License Types** section contains an overview of all defined license types.

<table>
<thead>
<tr>
<th>Option</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Code</strong></td>
<td>The license-type identifier.</td>
</tr>
<tr>
<td><strong>Short Name</strong></td>
<td>The short name of the license type.</td>
</tr>
<tr>
<td><strong>Long Name</strong></td>
<td>The long name of the license type.</td>
</tr>
<tr>
<td><strong>Active</strong></td>
<td><strong>Yes</strong> indicates that you are entitled to use the license type; <strong>No</strong> indicates that you are not entitled to use it. This value is automatically set when you import a license-type hierarchy from the LAW. It does not affect which license types can be recommended during license optimization.</td>
</tr>
<tr>
<td><strong>Number Purchased</strong></td>
<td>The number of licenses that were purchased.</td>
</tr>
<tr>
<td><strong>Unit Price</strong></td>
<td>The unit price for a license type.</td>
</tr>
</tbody>
</table>
### Option

This column indicates how FlexNet Manager for SAP Applications calculates the license position for license types that are over-consumed. Possible values:

- **Recommend promotion** — Over-consumed licenses can be covered by spare licenses of a superior license type of which the over-consumed license is a sub-type.

- **Show deficits/risks** — Spare superior licenses are not used to cover over-utilized licenses. Instead, the license is displayed as at risk, and the resulting license deficit can be viewed on the License Position page.

For more information, see Handling Over-Consumption of License Types.

<table>
<thead>
<tr>
<th>Option</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Over-Consumption</td>
<td></td>
</tr>
</tbody>
</table>

### Created By

The name of the user who created the license type.

### Created At

The date and time when the license type was created.

### Last Updated By

The name of the user who last updated the license type.

### Last Updated At

The date and time when the license type was last updated.

### Drilling into the License-Type Hierarchy

On the License Types: system Landscape name page, you can double-click a license type in the grid to see its license sub-types.

**To display sub-types of a license type:**

1. Go to the License Types page (Licenses > SAP Optimization > License Types).
2. If you want to switch to a different landscape, click Change Landscape in the top right corner of the page.
3. On the License Types: system Landscape name page, select the license type in the grid whose sub-types you want to display and click View. Alternatively, double-click the license type.

See License-Type Details for detailed listings of controls and descriptions for license types.

### License-Type Details

The License Type: name page displays detailed information for a particular license type.

#### Table 6: Details section

<table>
<thead>
<tr>
<th>Control</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Code</td>
<td>The license type identifier.</td>
</tr>
<tr>
<td>Short name</td>
<td>The short name of the license type.</td>
</tr>
<tr>
<td>Long name</td>
<td>The long name of the license type.</td>
</tr>
<tr>
<td>Control</td>
<td>Description</td>
</tr>
<tr>
<td>--------------------------------------------------</td>
<td>-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td><strong>Include in recommended license types for S/4HANA</strong></td>
<td>This option should be selected if you want the license type to appear in the list of options meant for S/4HANA license types on the License Assignment Rules page.</td>
</tr>
<tr>
<td><strong>Active</strong></td>
<td>A license type is marked as active if you are entitled to use it. The status of this check box is automatically set when you import a license-type hierarchy from the LAW. This check box does not affect which license types can be recommended during license optimization.</td>
</tr>
<tr>
<td><strong>Number purchased</strong></td>
<td>The number of licenses that were purchased.</td>
</tr>
<tr>
<td><strong>Unit price</strong></td>
<td>The unit price for a license type.</td>
</tr>
<tr>
<td><strong>Handling over-consumption of license types</strong></td>
<td>This option indicates how FlexNet Manager for SAP Applications calculates the license position for license types that are over-consumed.</td>
</tr>
<tr>
<td>• <strong>Recommend promoting users to spare superior licenses</strong> — 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.</td>
<td></td>
</tr>
<tr>
<td>• <strong>Show deficits against this license (license is at risk)</strong> — Spare superior licenses are not used to cover over-utilized licenses. Instead, the over-consumed license is over-utilized, and the resulting license deficit can be viewed on the License Position page.</td>
<td>For more information, see Handling Over-Consumption of License Types.</td>
</tr>
<tr>
<td><strong>Created by</strong></td>
<td>The name of the user who created the license type.</td>
</tr>
<tr>
<td><strong>Created at</strong></td>
<td>The date and time when the license type was created.</td>
</tr>
<tr>
<td><strong>Last updated by</strong></td>
<td>The name of the user who last updated the license type.</td>
</tr>
<tr>
<td><strong>Last updated at</strong></td>
<td>The date and time when the license type was last updated.</td>
</tr>
</tbody>
</table>

The License Sub-Types section lists the sub-types of the license type that is specified in the Details section in the Code field, including the following information:

• **Identifier** — Shows the identifier of the sub-type.

• **Short Name** — Shows the short name of the sub-type.

**Recommended Settings for Recommended License Types**

The **Recommended license type for S/4HANA** field is available in all license assignment rule types (except the "Developer" rule).

You can set the **Recommended license type** and **Recommended license type for S/4HANA** to recommend different license types to users for the same license assignment rule.

**Note:** The **Recommended license type** drop-down list includes all license types from the loaded license type.
hierarchy, whereas the **Recommended license type for S/4HANA** drop-down includes license types that are marked as recommended for S/4HANA. See **License-Type Details** for more information on license types.

Depending on the system composition in your landscape, here are some recommendations for setting these options:

**Landscape with only classic Business Suite systems**

If you have only classic systems in the system landscape, and are therefore using only classic license types:

1. Set the **Recommended license type** field to an applicable classic license type
2. Leave the **Recommended license type for S/4HANA** field to **Same as above** (the default value).

**Landscape with only S/4HANA systems**

If you have only S/4HANA systems in the system landscape, and are therefore using only S/4HANA license types:

1. Set the **Recommended license type** field to an applicable classic license type
2. Leave the **Recommended license type for S/4HANA** field to **Same as above** (the default value).

**Landscape with both classic Business Suite and S/4HANA systems**

If you have a mix of S/4HANA and classic systems in the system landscape, and are therefore using both classic and S/4HANA license types in the same landscape

1. Set the **Recommended license type** field to an applicable classic license type
2. Set the **Recommended license type for S/4HANA** field to an applicable S/4HANA license type (not **Same as above**).

*Note: You cannot select the same license type for both **Recommended license type** and **Recommended license type for S/4HANA**.*

**Segregating license assignment rules between classic Business Suite and S/4HANA systems**

You may choose to segregate your license assignment rules between classic Business Suite and S/4HANA systems. To segregate your license assignment rules between classic Business Suite and S/4HANA:

1. Identify the license assignment rule you want to segregate.
2. Create a new license assignment rule which is the same type as the one you want to segregate.
3. Assign the new rule to S/4HANA systems using the **Assign to systems** action link on the rule details page.
4. Assign the existing rule to Classic systems using the **Assign to systems** action link on the rule details page.

*Note: An alternative to steps 2-4 above would be to create separate rule sets and assign one to Classic systems and the other to S/4HANA systems, using **Change default system assignment** action link on the rule set details page. See **Assigning Rules and Rule Sets to Systems**.*

5. Review the order of rules or rule sets to ensure rules which apply to S/4HANA or Classic system are ordered before rules or rule sets that apply to all systems. This is required to prevent users from being matched against
rules that apply to all systems. See Changing the Order of Rule Sets.

### Adding License Types to the Hierarchy

You can edit the license-type hierarchy you loaded. For example, you could add new license types that include sub-types.

**To add license types to the hierarchy:**

1. Go to the License Types page (Licenses > SAP Optimization > License Types).
2. If you want to switch to a different landscape, click Change Landscape in the top-right corner of the page.
3. On the License Types: system landscape name page, click Add.
4. In the Add SAP License Type dialog:
   a. Enter the code and short name of the license type (required) and a long name (optional).
   b. Select or deselect the Active check box to indicate whether you are entitled to use the license type.
   c. Click Create.

The License Type: name page opens.

5. If you wish to edit the information in the Details section:
   a. Click Edit.
   b. Modify the details
   c. Click Save.

6. To add sub-types to the license type you just created:
   a. Click Add in the License Sub-Types section.
   b. In the Add SAP License Type dialog, select the check box for one or more license types that you want to add as sub-types to the current license type.
   c. Click Create to add the sub-types to the license type you created.

### Deleting License Types in the Hierarchy

You can delete unwanted license types from the hierarchy.

**To delete a license type in the hierarchy:**

1. Go to the License Types page (Licenses > SAP Optimization > License Types).
2. If you want to switch to a different landscape, click Change Landscape in the top-right corner of the page.
3. On the License Types: system landscape name page, select the license type that you want to delete, and click Delete.
4. In the dialog box, click Delete to confirm.
Deleting License Types in S/4HANA systems

You can delete unwanted license types in S/4HANA systems.

**To delete a license type in an S/4HANA system:**

1. Go to the License Types page (Licenses > SAP Optimization > License Types).
2. If you want to switch to a different landscape, click Change Landscape in the top-right corner of the page.
3. On the License Types: system landscape name page, select the license type that you want to delete, and click Delete.
4. In the dialog box, click Delete to confirm.

Editing License Types in the License-Type Hierarchy

You might want to edit the license-type hierarchy you loaded.

For example, you could add unit price information for license types to enable the visual presentation of SAP license utilization in the dashboard.

**To edit the license-type hierarchy:**

1. Go to the License Types page (Licenses > SAP Optimization > License Types).
2. If you want to switch to a different landscape, click Change Landscape in the top right corner of the page.
3. On the License Types: system landscape name page, select the license type that you want to edit and click View. Alternatively, double-click the license type.
4. To edit the information in the Details section, click Edit to open the page in write-enabled mode. You can edit the following fields:

<table>
<thead>
<tr>
<th>Control</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Code</td>
<td>The license type identifier.</td>
</tr>
<tr>
<td>Short name</td>
<td>The short name of the license type.</td>
</tr>
<tr>
<td>Long name</td>
<td>The long name of the license type.</td>
</tr>
<tr>
<td>Active</td>
<td>A license type is marked as active if you are entitled to use it.</td>
</tr>
<tr>
<td></td>
<td>The status of this check box is automatically set when you import a license-type hierarchy from the LAW. This check box does not affect which license types can be recommended during license optimization.</td>
</tr>
<tr>
<td>Number purchased</td>
<td>The number of licenses that were purchased.</td>
</tr>
<tr>
<td>Control</td>
<td>Description</td>
</tr>
<tr>
<td>-------------------------------</td>
<td>-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Unit price</td>
<td>You can specify and store a unit price for each license type. This information can then be used by the dashboard for the license utilization overview and for the Details section on the License Position page.</td>
</tr>
</tbody>
</table>

**Note:**

_The available currency values depend on the settings you selected when you installed IT Asset Management. If required, you can change the available currencies._

<table>
<thead>
<tr>
<th>Handling over-consumption of this license type</th>
<th>This option indicates how FlexNet Manager for SAP Applications calculates the license position for license types that are over-consumed.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td><strong>Recommend promoting users to spare superior licenses</strong>—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.</td>
</tr>
<tr>
<td></td>
<td><strong>Show deficits against this license (license is at risk)</strong>—Spare superior licenses are not used to cover <em>over-utilized</em> licenses. Instead, the over-consumed license is <em>over-utilized</em>, and the resulting license deficit can be viewed on the License Position page.</td>
</tr>
</tbody>
</table>

For more information, see **Handling Over-Consumption of License Types**.

5. Click **Save**.

6. To add license sub-types:
   a. In the **License Sub Types** section, click **Add**.
   b. In the **Add SAP License Type** dialog, enter the code and short name of the license type (required) and a long name (optional).
   c. Select or deselect the **Active** check box to indicate that you are entitled to use the license type.
   d. Click **Create**.

7. To delete license sub-types:
   a. In the **License Sub Types** section, select the license sub-type that you want to remove and click **Delete**.
   b. In the dialog box, click **Delete** to confirm.

### Handling Over-Consumption of License Types

You can specify how FlexNet Manager for SAP Applications should calculate the license position for license types that are over-consumed.

To use this feature, the license-type hierarchy must have been defined.

You can either let over-consumed licenses be _over-utilized_, or you can use spare licenses of a superior license type of
which the over-consumed license is a sub-type, to cover these licenses. The latter option can help you avoid the need to purchase additional licenses. Licenses that are over-utilized are displayed on the License Position page in the License Deficit column.

When a license type that can be covered by spare superior licenses exceeds its purchase count, FlexNet Manager for SAP Applications will use spare licenses of the license type that is on the next level in the license hierarchy to cover it.

You can specify for an entire landscape that spare superior licenses be consumed to prevent lower-priority license types from being over-utilized. You can also fine-tune this setting for individual license types within a landscape. For more information, see Landscape-Wide Handling of Over-Consumption of License Types and Handling of Over-Consumption of Specific License Types, respectively.

### Examples for Over-Consumption of License Types

The following examples illustrate the effect that the consumption of spare superior licenses can have on your license position.

#### Example 1: Spare Licenses Available

This example assumes the following:

- The mySAP Limited Professional (53) license type was defined in the license-type hierarchy as a sub-license type of mySAP Professional (52).
- Spare superior licenses of type mySAP Professional (52) can be consumed if lower-priority licenses of type mySAP Limited Professional (53) are over-utilized.
- No license ratio is active. (For more information on license ratios, see Managing SAP License Ratios.)

<table>
<thead>
<tr>
<th>License Type</th>
<th>Purchased</th>
<th>Used (Current)</th>
<th>Used (Optimal)</th>
<th>Used (Contractual)</th>
<th>License Deficit</th>
</tr>
</thead>
<tbody>
<tr>
<td>mySAP Limited Prof. (53)</td>
<td>5</td>
<td>3</td>
<td>7</td>
<td>5</td>
<td>0</td>
</tr>
<tr>
<td>mySAP Professional (52)</td>
<td>15</td>
<td>9</td>
<td>5</td>
<td>7</td>
<td>0</td>
</tr>
</tbody>
</table>

In the previous example, the Used (Optimal) column shows the optimal usage (the number of licenses required after optimization rules have been applied): seven mySAP Limited Professional (53) licenses and five mySAP Professional (52) licenses are required. This optimal usage does not factor in spare licenses of a higher type that could cover licenses that are lower in the license-type hierarchy.

However, according to the Purchased column, only five mySAP Limited Professional (53) licenses have been purchased. As a result, another two licenses of type 53 are required. Because only five licenses of type mySAP Professional (52) are required, and 15 have been purchased, 10 spare licenses are available. Therefore, two licenses of type mySAP Professional (52) can be used to cover the two additional licenses of type mySAP Limited Professional (53).

The Used (Contractual) column shows the best-case licensing scenario that can be achieved within your contractual obligations, with five licenses of type mySAP Limited Professional (53) and seven licenses of type mySAP Professional (52) being used.

The License Deficit column shows that no additional licenses need to be purchased.
Example 2: No Spare Licenses Available

This example assumes the following:

• The mySAP Limited Professional (53) license type was defined in the license-type hierarchy as a sub-license type of mySAP Professional (52).

• Spare superior licenses of type mySAP Professional (52) can be consumed if lower-priority licenses of type mySAP Limited Professional (53) are over-utilized.

• No license ratio is active. (For more information on license ratios, see Managing SAP License Ratios.)

<table>
<thead>
<tr>
<th>License Type</th>
<th>Purchased</th>
<th>Used (Current)</th>
<th>Used (Optimal)</th>
<th>Used (Contractual)</th>
<th>License Deficit</th>
</tr>
</thead>
<tbody>
<tr>
<td>mySAP Limited Prof. (53)</td>
<td>5</td>
<td>3</td>
<td>8</td>
<td>6</td>
<td>1</td>
</tr>
<tr>
<td>mySAP Professional (52)</td>
<td>15</td>
<td>13</td>
<td>13</td>
<td>15</td>
<td>0</td>
</tr>
</tbody>
</table>

Here, the Used (Optimal) column indicates that in the best-case scenario, eight licenses of type mySAP Limited Professional (53) and 13 licenses of type mySAP Professional (52) are required. This optimal usage does not factor in spare licenses of a higher type that could cover licenses that are lower in the license-type hierarchy.

However, only five mySAP Limited Professional (53) licenses have been purchased, which means that another three licenses are required.

But because only 13 mySAP Professional (52) licenses are required, and 15 have been purchased, two spare licenses are available. Licenses of type mySAP Limited Professional (53) are sub-licenses of type mySAP Professional (52); therefore, the two spare licenses of type mySAP Professional (52) can be used to cover two of the three licenses of type mySAP Limited Professional (53) that are required.

This is summed up in the Used (Contractual) column, which shows the optimal license position with spare licenses factored in. In this example, the organization could use six licenses of type mySAP Limited Professional (53), and 15 licenses of type mySAP Professional (52). This column should be viewed in combination with the License Deficit column.

As shown in the License Deficit column, only one additional license of type mySAP Limited Professional (53) is required to stay compliant.

<table>
<thead>
<tr>
<th>License Type</th>
<th>Purchased</th>
<th>License Deficit</th>
<th>Used (Contractual)</th>
</tr>
</thead>
<tbody>
<tr>
<td>mySAP Limited Prof. (53)</td>
<td>5</td>
<td>1</td>
<td>6</td>
</tr>
<tr>
<td>mySAP Professional (52)</td>
<td>15</td>
<td>0</td>
<td>15</td>
</tr>
</tbody>
</table>

Landscape-Wide Handling of Over-Consumption of License Types

You use the Handling over-consumption of license types option on the System Landscape: name page to specify how FlexNet Manager for SAP Applications should handle the over-consumption of license types across the landscape.
To specify landscape-wide over-consumption settings:

1. Go to the SAP System Landscapes page (Data Collection > IT Assets Inventory Tasks > SAP System Landscapes).

2. On the SAP System Landscapes page, double-click the system landscape for which you set over-consumption options. Alternatively, select the system landscape and click View.

3. In the Details pane, click Edit to switch into edit mode.

4. In the Compliance section, for the Handling over-consumption of license types option, indicate how you want FlexNet Manager for SAP Applications to handle over-consumed license types:
   - Select Recommend promoting users to spare superior licenses if over-consumed licenses should be covered by spare licenses of a superior license type of which the over-consumed license is a sub-type.
   - Select Show deficits against assigned license (license appears at risk) if spare superior licenses should not be used to cover over-utilized licenses.

5. Click Save.

On the System Landscape: name page, if the Recommend promoting users to spare superior licenses option is selected for the Handling over-consumption of license types setting (landscape-wide setting), you can prevent specific license types from consuming spare superior license types by specifying the appropriate setting on the corresponding License Type: name page. For more information, see Handling of Over-Consumption of Specific License Types.

Handling of Over-Consumption of Specific License Types

If the Recommend promoting users to spare superior licenses option is selected for the Handling over-consumption of license types setting on the System Landscape: name page, you can select the Show deficits against this license (license appears at risk) option on the License Type: name page to prevent specific license types from consuming spare superior license types.

If the Show deficits against assigned license (license appears at risk) option on the System Landscape: name page is selected, this overrides the option that is selected for the Handling over-consumption of this license type setting on the License Type: name page. Spare superior licenses will not be used to cover over-utilized licenses on a landscape-wide level.

To specify over-consumption settings for specific license types:

1. Go to the License Types page (Licenses > SAP Optimization > License Types).

2. If you want to switch to a different landscape, click Change Landscape in the top-right corner of the page.

3. On the License Types: system landscape name page, select the license type for which you want set over-consumption options, and click View. Alternatively, double-click the license type.

4. On the License Type: name page, below the Handling over-consumption of this license type option, select one of the following options:
   - Select Recommend promoting users to spare superior licenses if over-consumed licenses should be
covered by spare licenses of a superior license type of which the over-consumed license is a sub-type.

- Select Show deficits against this license (license is at risk) if spare superior licenses should not be used to cover over-utilized licenses.

On the License Types page, the Over-Consumption column in the License Types grid indicates whether a spare superior license type can be consumed by a lower-priority license type.

For more information on license types in the hierarchy, see License-Type Hierarchy.

Managing SAP License Ratios

If your SAP license contract contains a license ratio, you can specify this ratio to ensure that it is taken into account during license-type optimization.

Your organization’s SAP license contract might contain a clause that enforces a minimum ratio between specific license types. For example, the license contract might stipulate that the minimum ratio of mySAP Limited Professional licenses (license type 53) to mySAP Professional licenses (license type 52) must be 25% to 75%.

With FlexNet Manager for SAP Applications, you can specify a license ratio on the License Ratio page (in the Optimization section) that will be taken into account when the license position is calculated.

The specified license ratio (if activated) will be reflected in the results on the License Position page and in the License Ratio diagram on the dashboard. For more information, see Current License Position and License Ratios, respectively.

License Ratio Examples

The effects of license ratios are described using example scenarios.

In the following examples, the columns contain the following information:

- License Type—Shows the license types on which the example is based.
- Purchased—Shows the number of licenses of each type that have been purchased.
- Used (Current)—Shows the number of licenses of each type that are currently consumed.
- Used (Optimal)—Shows the optimal usage for each license type—the number of licenses that would be consumed if all recommendations made by FlexNet Manager for SAP Applications (based on the active optimization rules and user consolidation) were accepted.
- Used (Contractual)—Shows the best possible license position within your contractual obligations. That means that FlexNet Manager for SAP Applications analyzes the following factors:
  - All active optimization rules
  - The active license ratio
  - Settings for over-consumption of licenses
  For information about consuming spare superior licenses, see Handling Over-Consumption of License Types.

**Note:** The value in the Used (Contractual) column takes into consideration available licenses and licenses that are yet to be purchased to reach the displayed license position. It should always be viewed in combination with
the **License Deficit** column.

- **License Deficit**—This column should always be viewed in combination with the **Used (Contractual)** column, because it shows the number of additional licenses that might be required to achieve the best possible license position within your contractual obligations.

**Example 1: License Ratio Inactive**

This example assumes the following:

- No license ratio is active.
- Spare superior licenses of type mySAP Professional (52) can be consumed, to avoid lower-priority licenses of type mySAP Limited Professional (53) being over-utilized.

<table>
<thead>
<tr>
<th>License Type</th>
<th>Purchased</th>
<th>Used (Current)</th>
<th>Used (Optimal)</th>
<th>Used (Contractual)</th>
<th>License Deficit</th>
</tr>
</thead>
<tbody>
<tr>
<td>mySAP Limited Prof. (53)</td>
<td>5</td>
<td>3</td>
<td>7</td>
<td>5</td>
<td>0</td>
</tr>
<tr>
<td>mySAP Professional (52)</td>
<td>15</td>
<td>9</td>
<td>5</td>
<td>7</td>
<td>0</td>
</tr>
</tbody>
</table>

In this example, the optimal license position (**Used (Optimal)** column) would include seven licenses of type mySAP Limited Professional (53) and five licenses of type mySAP Professional (52). However, only five licenses of type mySAP Professional (52) have been purchased (**Purchased** column).

As a result, another two licenses of type mySAP Limited Professional (53) are required to reach the optimal value of seven licenses of type mySAP Limited Professional (53). Because only five licenses of type mySAP Professional (52) are needed, and 15 have been purchased, there are 10 spare licenses of type mySAP Professional (52) available.

Therefore, two licenses of type mySAP Professional (52) can be used to cover the two additional licenses of type mySAP Limited Professional (53) (because license type mySAP Limited Professional (53) is a sub-type of license type mySAP Professional (52)). As seen in the **Used (Contractual)** column, this brings the number of the contractually used mySAP Professional (53) licenses to seven (five licenses to cover mySAP Professional (52) licenses, plus two licenses to cover mySAP Limited Professional (53) licenses).

**Example 2: License Ratio Active, Spare Licenses Available**

This example assumes the following:

- A minimum license ratio of 25% of mySAP Limited Professional (53) to 75% of mySAP Professional (52) has been set and activated.
- Spare superior licenses of type mySAP Professional (52) can be consumed, to avoid lower-priority licenses of type mySAP Limited Professional (53) being over-utilized.

<table>
<thead>
<tr>
<th>License Type</th>
<th>Purchased</th>
<th>Used (Current)</th>
<th>Used (Optimal)</th>
<th>Used (Contractual)</th>
<th>License Deficit</th>
</tr>
</thead>
<tbody>
<tr>
<td>mySAP Limited Prof. (53)</td>
<td>5</td>
<td>3</td>
<td>7</td>
<td>3</td>
<td>0</td>
</tr>
<tr>
<td>mySAP Professional (52)</td>
<td>15</td>
<td>9</td>
<td>5</td>
<td>9</td>
<td>0</td>
</tr>
</tbody>
</table>

In this example, the optimal license position (**Used (Optimal)** column) would include seven licenses of type mySAP Limited Professional (53) and five licenses of type mySAP Professional (52). However, only five licenses of type mySAP Professional (52) have been purchased (**Purchased** column).

As a result, another two licenses of type mySAP Limited Professional (53) are required to reach the optimal value of seven licenses of type mySAP Limited Professional (53). Because only five licenses of type mySAP Professional (52) are needed, and 15 have been purchased, there are 10 spare licenses of type mySAP Professional (52) available.

Therefore, two licenses of type mySAP Professional (52) can be used to cover the two additional licenses of type mySAP Limited Professional (53) (because license type mySAP Limited Professional (53) is a sub-type of license type mySAP Professional (52)). As seen in the **Used (Contractual)** column, this brings the number of the contractually used mySAP Professional (53) licenses to seven (five licenses to cover mySAP Professional (52) licenses, plus two licenses to cover mySAP Limited Professional (53) licenses).
Limited Professional (53) and five licenses of type mySAP Professional (52). However, only five licenses of type mySAP Limited Professional (53) have been purchased (Purchased column).

As a result, another two licenses of type mySAP Limited Professional (53) are required to reach the optimal value of seven licenses of type mySAP Limited Professional (53). Because only five licenses of type mySAP Professional (52) are needed, and 15 have been purchased, there are 10 spare licenses of type mySAP Professional (52) available.

If no license ratio had been set, only two spare licenses of type mySAP Professional (52) could be used to cover the two additional licenses of type mySAP Limited Professional (53) (because license type mySAP Limited Professional (53) is a sub-type of license type mySAP Professional (52)).

However, due to the license ratio of 25% to 75% (1:3), four of the spare licenses of type mySAP Professional (52) need to be used along with only three licenses of type mySAP Limited Professional (53), to ensure that the license ratio is met (see the Used (Contractual) column).

**Example 3: License Ratio Active, No Spare Licenses Available**

This example assumes the following:

- A license ratio of 25% of mySAP Limited Professional (53) to 75% of mySAP Professional (52) has been set and activated.
- Spare superior licenses of type mySAP Professional (52) can be consumed, to avoid lower-priority licenses of type mySAP Limited Professional (53) being over-utilized.

<table>
<thead>
<tr>
<th>License Type</th>
<th>Purchased</th>
<th>Used (Current)</th>
<th>Used (Optimal)</th>
<th>Used (Contractual)</th>
<th>License Deficit</th>
</tr>
</thead>
<tbody>
<tr>
<td>mySAP Limited Prof. (53)</td>
<td>5</td>
<td>3</td>
<td>11</td>
<td>6</td>
<td>1</td>
</tr>
<tr>
<td>mySAP Professional (52)</td>
<td>15</td>
<td>13</td>
<td>13</td>
<td>18</td>
<td>3</td>
</tr>
</tbody>
</table>

In this example, the optimal license position (Used (Optimal) column) would include eleven licenses of type mySAP Limited Professional (53) and thirteen licenses of type mySAP Professional (52). However, only five licenses of type mySAP Limited Professional (53) have been purchased (Purchased column).

As a result, another six licenses of type mySAP Limited Professional (53) are required to reach the optimal value of 11 licenses of type mySAP Limited Professional (53).

Because only 13 licenses of type mySAP Professional (52) are needed, and 15 have been purchased, there are two spare licenses of type mySAP Professional (52) available. These two licenses could be used to cover two of the six required additional licenses of type mySAP Limited Professional (53) (because license type mySAP Limited Professional (53) is a sub-type of license type mySAP Professional (52)).

This means that only four additional licenses of type mySAP Limited Professional (53) would have to be purchased. However, if four licenses of type mySAP Limited Professional (53) were to be purchased, then 12 licenses of type mySAP Professional (52) would also need to be purchased to maintain the required license ratio. Using spare superior licenses would therefore not be the most cost-effective solution.

Instead, it would be preferable to purchase one license of type mySAP Limited Professional (53) and three licenses of type mySAP Professional (52), as illustrated in the following table.
License Type | Purchased | License Deficit | Used (Contractual)
--- | --- | --- | ---
mySAP Limited Prof. (53) | 5 | 1 | 6
mySAP Professional (52) | 15 | 3 | 18

This fulfills the requirement of four extra licenses while maintaining the contractual license ratio.

**Specifying the License Ratio**

You can change the license types and ratio values to model the ratio that is defined in your organization’s SAP license contract.

By default, the license ratio in FlexNet Manager for SAP Applications is set to mySAP Limited Professional (CAT III) (53) and mySAP Professional (CAT II) (52) licenses. The default ratio value is 50% to 50%.

When you specify the license ratio, you also need to enter the number of licenses that have been purchased, to enable IT Asset Management to calculate the license position and provide accurate information on a potential license deficit.

Only active license ratios will be taken into account when the license position is calculated. By default, the license ratio is inactive.

1. Go to the License Ratio page (Licenses > SAP Optimization > License Ratio).
2. On the License Ratio page, click Edit to switch into edit mode.
3. In the Ratio section, specify the ratio for the license types according to your SAP license contract by selecting the appropriate numbers and license types.
   
   **Example:**
   
   Ratio of 25% mySAP Limited Prof. (Cat. III) (53) to a minimum of 75% mySAP Professional (Cat. II) (52)
   
   When you change one of the percentage values, the other value changes accordingly to equal 100%.
4. Select the Active check box to activate the license ratio.
5. In the Purchased section, enter the number of licenses (of the license types that are affected by the license ratio) that your organization has purchased.
6. Click Save.

The purchase counts that you specify on the License Ratio page will automatically be entered on the License Types page, and vice versa, to ensure that the values are consistent.

**Important:** FlexNet Manager for SAP Applications allows you to specify a number of purchased licenses that does not match the license ratio. This is to minimize restrictions when you are modelling your organization’s licensing position. However, it is your responsibility to ensure that the number of purchased licenses and the license ratio are entered correctly on the License Ratio page, to enable FlexNet Manager for SAP Applications to accurately calculate your licensing situation.
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 IT Asset Management 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 IT Asset Management. For more information, see Register an Inventory Beacon.
2. You register the inventory beacon to enable it to communicate with IT Asset Management. 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 IT Asset Management 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 ID][SAP Client ID]_Inventory Timestamp.zip.

7. Immediately after data collection has been completed, the inventory packages are uploaded to the IT Asset Management server and resolved into the database. The data is now ready for analysis in FlexNet Manager for SAP Applications.

8. 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 IT Asset Management 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 in the FlexNet Manager for SAP Applications Installation Guide PDF.

For details of the scheduled tasks controlling these processes on the inventory beacon, see Scheduled Tasks for Inventory Beacon in the IT Asset Management 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 IT Asset Management.

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, 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, or does it report to another inventory beacon in your hierarchy?
   • If this beacon reports to the central application server, skip the Parent beacon field, ensuring that it is empty.
   • If this beacon reports to another inventory beacon in your hierarchy, identify that higher beacon in the Parent beacon field:
     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 IT Asset Management.

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 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 server can still access your central application server (for the North American instance, `app.flexera.com`, for the European instance, `app.flexera.eu`, or for the APAC instance, `app.flexera.au`), to validate that the network has not gone down.

   All communications from the inventory adapter to `app.flexera.com`, `app.flexera.eu` or `app.flexera.au` require the HTTPS protocol. For example `https://app.flexera.com`. 
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 IT Asset Management.

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 IT Asset Management. By default it is enabled at both ends.

### 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 IT Asset Management online help.
Configuring the Web Service on the SAP Admin Module System for Communication with an Inventory Beacon

Communication between an inventory beacon 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 an inventory beacon 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 the inventory beacon 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 inventory beacon service account. For more information, see the relevant *Accounts and Privileges* section in *Gathering FlexNet Inventory*. For more information on basic authentication, see the 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 the inventory beacon 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 IT Asset Management 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 the inventory beacon 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 on the inventory beacon.

   The recommended format is domain\user name.

   **Note:** If the user name and password of the service account changes on the inventory beacon, 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 inventory beacon.
   - **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.

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**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.


   Note: If the user name and password change on the inventory beacon, 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 on the inventory beacon.

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 inventory beacon server.
   • 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.

   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 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 on the inventory beacon.
   The recommended format is domain\user name.

   Note: If the user name and password of the service account changes on the inventory beacon, 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 inventory beacon server.
    - 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:
    - Select the operation from the Operations grid.
    - 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.
    - 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 an inventory beacon 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 inventory beacon 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 the inventory beacon 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 on the inventory beacon.

   The recommended format is domain\user name.

   **Note**: If the user name and password of the service account changes on the inventory beacon, 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 inventory beacon 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**.

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.


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 inventory beacon 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.


10. In the User ID/Password section, provide the case-sensitive login credentials of the service account that are used on the inventory beacon.

   The recommended format is domain\user name.

   Note: If the user name and password of the service account changes on the inventory beacon, 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 inventory beacon server.
   - 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.

   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 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.
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.


   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 inventory beacon 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 7.5:*

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 SAPSremoteSoap.

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 IT Asset Management.

**Important:** If the user name and password change in IT Asset Management, 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 inventory beacon server.
    - **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.


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.


**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 7: SOAP actions for the web-service operation**

<table>
<thead>
<tr>
<th>Web Service Operation</th>
<th>SOAP Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>GetAllActiveSapLandscapes</td>
<td><a href="http://www.flexera.com/webservices/">http://www.flexera.com/webservices/</a></td>
</tr>
<tr>
<td></td>
<td>GetAllActiveSapLandscapes</td>
</tr>
<tr>
<td>GetSapLandscapeMembers</td>
<td><a href="http://www.flexera.com/webservices/">http://www.flexera.com/webservices/</a></td>
</tr>
<tr>
<td></td>
<td>GetSapLandscapeMembers</td>
</tr>
<tr>
<td>GetAvailableSapRecommendationSummary</td>
<td><a href="http://www.flexera.com/webservices/">http://www.flexera.com/webservices/</a></td>
</tr>
<tr>
<td></td>
<td>GetAvailableSapRecommendationSummary</td>
</tr>
<tr>
<td>GetSapRecommendationsByLandscapeUID</td>
<td><a href="http://www.flexera.com/webservices/">http://www.flexera.com/webservices/</a></td>
</tr>
<tr>
<td></td>
<td>GetSapRecommendationsByLandscapeUID</td>
</tr>
<tr>
<td>GetSapConsumptionByLicenseRecommendationUID</td>
<td><a href="http://www.flexera.com/webservices/">http://www.flexera.com/webservices/</a></td>
</tr>
<tr>
<td></td>
<td>GetSapConsumptionByLicenseRecommendationUID</td>
</tr>
<tr>
<td>AcknowledgeSapRecommendationsUploaded</td>
<td><a href="http://www.flexera.com/webservices/">http://www.flexera.com/webservices/</a></td>
</tr>
<tr>
<td></td>
<td>AcknowledgeSapRecommendationsUploaded</td>
</tr>
<tr>
<td>AcknowledgeSapRecommendation</td>
<td><a href="http://www.flexera.com/webservices/">http://www.flexera.com/webservices/</a></td>
</tr>
<tr>
<td></td>
<td>AcknowledgeSapRecommendation</td>
</tr>
<tr>
<td>AcknowledgeSapRecommendations</td>
<td><a href="http://www.flexera.com/webservices/">http://www.flexera.com/webservices/</a></td>
</tr>
<tr>
<td></td>
<td>AcknowledgeSapRecommendations</td>
</tr>
</tbody>
</table>

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 IT Asset Management, 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 IT Asset Management connections and Satellite connections.

The IT Asset Management connections grid shows the status of the web-service connections between the SAP Admin
module and IT Asset Management.

**Table 8: IT Asset Management connections**

<table>
<thead>
<tr>
<th>Option</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Status</td>
<td>Indicates that the connection works correctly (green status) or that an error has occurred (red status).</td>
</tr>
<tr>
<td>Test type</td>
<td>Shows a meaningful description of the test type that was performed.</td>
</tr>
<tr>
<td>SOAP action</td>
<td>Displays the SOAP action that is associated with the method that was called.</td>
</tr>
<tr>
<td>Error</td>
<td>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.</td>
</tr>
</tbody>
</table>

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 9: Satellite connections**

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

**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 IT Asset Management, 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 IT Asset Management 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 IT Asset Management. For procedural information, see Adding an SAP Admin Module System, Adding a Dependent SAP System, and Adding an Independent SAP System.

Tasks for managing connections through inventory beacons

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 IT Asset Management 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), complete the following fields in the Secure Network Communication (SNC) configuration section.

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 strange numbering follows the SAP conventions for these options):
Inventory Beacons

- 1. Authentication only – verifies the identity of the communication partners (in this case, IT Asset Management 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 IT Asset
Management where a new SAP system is created.

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

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 IT Asset Management 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**.
System Tasks Status Monitoring

In IT Asset Management, use the **System Tasks** page to monitor the current status of specific running tasks that have been initiated by an operator or by a scheduled task.

For each task that has completed during a specified period (7, 14, or 30 days), you can see a short summary of the task, its steps, and its outcome. If a task failed or completed with errors, a message informs you about the nature of the issue and how you can remedy it. You can also download a log with additional information.

All system task information is automatically deleted after 30 days.

To see the **System Tasks** page and the status indicator for system tasks in the navigation bar, you must have appropriate access rights. For more information, see [Accessing System Task Information](#).

The information in this section describes only the monitoring of the SAP-related task **SAP import** and its steps.

**SAP Import Task**

The system task **SAP import** includes the following steps:

- Gathering of inventory data (user and license data, and SAP package data)
- Upload of inventory data to the inventory beacon
- Upload of inventory data to the IT Asset Management application server
- Import of inventory data into the IT Asset Management application server.

**Status Indicator for System Tasks**

On the right side of the navigation bar, the status indicator for system tasks shows whether tasks need your attention. The indicator shows the status of the tasks that you have chosen to monitor. For more information, see [My Preferences](#). For more information on selecting the tasks that should be monitored, see [Selecting the Monitored Tasks](#).

The status indicator for system tasks is displayed only if you have appropriate access rights. For more information,
see Accessing System Task Information.

The indicator shows the following status:

- Animated — Tasks are running
- Red — One or more tasks have failed
- Orange — Tasks completed, but errors have occurred.

**Note:** The task **SAP import** cannot complete with errors; it either succeeds or fails.

## Selecting the Monitored Tasks

You can select the tasks for which the status indicator for system tasks should show the status. For example, you could specify that the indicator should show status information only for tasks of the type **SAP import**.

**To select the tasks that should be monitored:**

1. Go to the **My IT Asset Preferences** page.
2. Under **Task monitoring**, select the check boxes for the tasks that should be monitored.
3. Under **Indicate status of tasks for**, select the period for which the indicator should show the task status.

## Displaying System Tasks

To display the **System Tasks** page, you need appropriate access rights. For more information, see Accessing System Task Information.

You can monitor all system tasks that have been run in the last 30 days on the **System Tasks** page.

**To display the system tasks, do one of the following:**

- Click the status indicator located on the right of the modal navigation bar.
- Go to the **System Tasks** page (Data Collection > IT Assets Inventory Status > System Tasks).

## System Task Information

To display the **System Tasks** page, you need appropriate access rights. For more information, see Accessing System Task Information.

### Choosing what is visible

The items listed on this page are filtered by the settings at the top left:
• The **Tasks run in the last** drop-down list enables you to select the age of the tasks that appear on this page. For example, if you select **30 days**, IT Asset Management displays only those system tasks that are not older than 30 days in the system.

• The **Only show last run** drop-down list enables you to limit the records for recurring system tasks. The default value of this field is **Yes**, which restricts this page to show details of only the latest execution of a recurring system task. For example, if a discovery and inventory rule has been scheduled to run every day, this page would display the status of the latest execution of the rule.

You can also apply additional filters to restrict the number of records on this page. For more information about using filters, see the topics under **Using Lists in IT Asset Management**. For more information about using filters, see the topics in online help under **Using Lists in IT Asset Management**. The **Save view as** feature of IT Asset Management enables you to create customized management views of a page by saving the applied user interface settings. For more information, see **Creating Management Views**. For more information, see **Creating Management Views** in the online help.

---

**Tip:** The **Task monitoring** section under **My Preferences** page enables you to customize the task types for which IT Asset Management displays the color-coded notifications in the navigation bar. This setting does not affect the records on the **System Tasks** page. For more information, see **My Preferences**. For more information, see “My Preferences” within the online help topic **My Account**.

### Available properties

This page displays the following **read-only** task properties, listed here in alphabetical order. Some of these are displayed by default, and the remainder are available in the column chooser:

<table>
<thead>
<tr>
<th>Column</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Task/Step</strong></td>
<td>The task that is monitored. To see the steps that are included in the task, click the plus (+) sign in front of the task name. For tasks of type &quot;SAP import&quot;, the task name indicates the system name and client ID of the SAP system from which user or license data was imported, in the format <strong>SystemName-ClientID</strong>.</td>
</tr>
<tr>
<td><strong>Beacon</strong></td>
<td>The name of an inventory beacon involved in this task. One or more inventory beacons may be involved in a task.</td>
</tr>
<tr>
<td></td>
<td>When multiple inventory beacons are involved in a <strong>Discovery and inventory rule</strong> task, the task will appear in multiple rows at the top level, with each row corresponding to an individual beacon involved.</td>
</tr>
<tr>
<td></td>
<td>This property is displayed by default. Best practice is to keep this property visible in the listing so that you can easily distinguish rows with the same task name but operating through different inventory beacons.</td>
</tr>
<tr>
<td></td>
<td><strong>Editable in the General tab</strong> of the inventory beacon properties.</td>
</tr>
<tr>
<td>Column</td>
<td>Description</td>
</tr>
<tr>
<td>----------------</td>
<td>--------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td><strong>Connection type</strong></td>
<td>The type of the connection used for this task. It can have any of the following values:</td>
</tr>
<tr>
<td></td>
<td>• CSV</td>
</tr>
<tr>
<td></td>
<td>• One-off upload</td>
</tr>
<tr>
<td></td>
<td>• Other</td>
</tr>
<tr>
<td></td>
<td>• PowerShell</td>
</tr>
<tr>
<td></td>
<td>• SQL Server</td>
</tr>
<tr>
<td></td>
<td><strong>Note:</strong> You cannot currently filter for these values.</td>
</tr>
<tr>
<td><strong>Created by</strong></td>
<td>The name of an operator who started this task or step.</td>
</tr>
<tr>
<td><strong>End date</strong></td>
<td>The date and time when this step or task was completed.</td>
</tr>
<tr>
<td><strong>Logs</strong></td>
<td>For tasks of the type SAP import, a text file with detailed information is available for the step &quot;Gathering inventory data&quot; and &quot;Importing into application server&quot;. Click <strong>Download log</strong> to download. Use the log file to find out which SAP tables have been read and if the action was successful.</td>
</tr>
<tr>
<td><strong>Server name</strong></td>
<td>The name of the inventory beacon where this task or step is running.</td>
</tr>
<tr>
<td><strong>Start date</strong></td>
<td>The date and time when this step or task was initiated.</td>
</tr>
</tbody>
</table>
### Status

The status of this step or system task. For any Discovery and inventory rule task or step, the displayed status is the status of this task or step on the inventory beacon identified in this row. When this task/step runs on only one inventory beacon, this value becomes the overall status of the task/step. It can have any of the following values:

- Completed
- Completed with errors
- Failed
- In progress
- In progress with errors
- Pending
- Scheduled
- Skipped
- Started
- Timed out
- Unknown.

**Tip:** An overnight clean-up process marks any individual step as timed out if it has already been running for more than 24 hours. The parent system task is marked as timed out as soon as any individual child step has timed out.

### Instance region

A short description of the outcome of the task or task step. You may also notice the See details link for some tasks. You can click this link to view a detailed summary of activities performed within that task.

### Task type

The type of the task that is monitored. For SAP data, the task types SAP import and SAP license position.

---

### Filtering for SAP-Related System Tasks

To display the System Tasks page, you need appropriate access rights. For more information, see Accessing System Task Information.

On the System Tasks page, you can filter the system tasks to display only the SAP-specific tasks of type SAP import. The filter settings persist when you leave the System Tasks page and return to it later.
To display only SAP-related system tasks:

1. Go to the IT Assets Inventory Status System Tasks page.
2. On the System Tasks page, set the following filter settings:
   a. For Tasks run in the last, select the period for which tasks should be displayed, or accept the default value.
   b. For Only show last run, select Yes if only the last task that was run on a specific SAP system should be displayed, or select No if all tasks should be displayed.
   c. Click Add filter to enable additional filter options.
   d. In the next drop-down list, select Task type.
   e. In the last drop-down list, select the task type SAP import.
   f. Click the blue check mark to apply your filter settings.

Accessing System Task Information

The system task information only displays for users with appropriate account properties. You define these account properties on the Account Properties page.

To configure access to system task information:

1. Go to the IT Asset Accounts page.
2. Click the All Accounts tab and then click the name of the account for which you want to configure access rights.
3. Under Permissions, select an appropriate role that enables access to administration features in the IT Asset Management web interface.
4. Click Administration and select one the following options:
   - Select Troubleshooting: access to System Tasks page to enable access to the System Tasks page. If this check box is cleared, the status indicator for system tasks in the navigation bar and the System Tasks page are not visible for the user.
   - Select Troubleshooting: advanced access and log downloads if the user should be able to download logs on the System Tasks page.
5. Click Save.
The Dashboard (SAP Overview Page)

The SAP Overview page, also known as the dashboard, displays a visual overview of your SAP licensing situation.

To display the SAP Overview page, do any of the following:

- Go to the SAP Overview page (Dashboards > SAP Overview).
- From any page in SAP mode, click SAP in the bread crumbs.

Compliance Position

This section of the SAP Overview page displays a graph that compares the purchase quantity and license consumption for your largest SAP licenses. A license is over-utilized when the quantity consumed is greater than the quantity purchased.

The quantity purchased value is as entered in SAP mode, drilling down through the License Types page, and is not calculated from purchase order lines recorded in IT Asset Management.

Named User Licenses

This graph in the SAP Overview page summarizes the trends over time in total purchase quantity and license consumption for all SAP licenses combined. Each bar is the relevant count in the last valid record of inventory in the period. Include several periods in the graph to make trending more apparent.

The quantity purchase values are as entered in SAP mode, drilling down through the License Types page (see Editing License Types in the License-Type Hierarchy), and are not calculated from purchase order lines recorded in IT Asset Management.

Tasks You Can Perform in This Section

To change the period that the graph covers or the intervals displayed, click Change period. For more information, see Changing the Period for the SAP Overview Page.
**Current vs. Optimal**

This graph in the SAP Overview page compares the actual license consumption with a usage-based recommendation by FlexNet Manager for SAP Applications. Current consumption figures are calculated by FlexNet Manager for SAP Applications to match what the SAP LAW would calculate given the same data. The five licenses with the largest consumption are shown, as these are the licenses where you are most likely to save money.

**License Utilization**

This graph in the SAP Overview page compares your current SAP license value against a projected SAP license value if you accepted all license-type recommendations made by FlexNet Manager for SAP Applications. The graph shows the net value of all licenses that are currently assigned to users (baseline, current position) and the license value based on the license rules (optimal position).

The information in this graph is based on the data from the License Types section. Therefore, it will provide a comprehensive picture of your SAP licensing cost only if you assigned a unit price to each license type in the license hierarchy (see Editing License Types in the License-Type Hierarchy).

**Tasks You Can Perform in This Section**

To change the period that the graph covers or the intervals displayed, click Change period. For more information, see Changing the Period for the SAP Overview Page.

**License Ratios**

This graph in the SAP Overview page shows the monetary value of the following positions:

- Current license usage
- Optimal license usage (if all recommendations made by FlexNet Manager for SAP Applications were accepted)
- Contractual license usage, including current purchases and purchases that are required in order to remain compliant (consumption of spare superior licenses and active license ratios are factored in)
- Contractual license usage excluding license ratios (the calculation takes spare superior licenses into account, but does not factor in an active license ratio).

Current consumption figures are calculated by FlexNet Manager for SAP Applications to match what the SAP LAW would calculate given the same data.

You specify and activate a license ratio on the License Ratio page. For more information, see Managing SAP License Ratios.

The information in this graph is based on the data from the License Types section. Therefore, it will provide a comprehensive picture of your SAP licensing cost only if you assigned a unit price to each license type in the license hierarchy (see Editing License Types in the License-Type Hierarchy).
Changing the Period for the SAP Overview Page

To change the period covered by the Named User Licenses or License Utilization graph on the SAP Overview page:

1. Click Change period in the lower-right corner of the item.
   The dialog Change gadget - type Period displays.

2. In the Interval field, select the interval groupings to include in the graph (monthly, quarterly, or yearly).

3. In the Duration field, select the number of intervals to include in the graph. For example, if you selected an interval of Quarterly, and a duration of 4, then the graph will cover all four quarters of a year.

4. After setting these two fields, the format of the End Date field changes according to the interval you have selected. Complete this field (and any additional fields that display) as described below.

   • Monthly
     Select the Use the current month check box if you want to use the current month as the end date.
     Otherwise, clear the check box. Month and Year fields are displayed to enable you to specify the month in which the data should end.

   • Quarterly
     Month and Year fields are displayed to enable you to specify the month in which the data should end. If, for example, you selected to end a graph on March 2019, the first quarter of data shown in the graph would cover the period January-March, 2019.

   • Yearly
     Month and Year fields are displayed to enable you to specify the month in which the data should end. If, for example, you selected to end a graph on March 2019, the first year of data shown in the graph would cover the period April 2018 to March 2019.

5. Click Apply to confirm the change in period.

The dialog closes, and the graphic summary is refreshed to cover the new period.
SAP License Position

In IT Asset Management in SAP mode, the License Position section enables you to see your organization's license position in both summary and detailed mode on a per-landscape basis, and to monitor the state of any recommendations that have been released to the SAP Admin module.

Current License Position

The license position is automatically calculated on a daily basis to reflect the current licensing situation of your organization's SAP systems (SAP Admin module, dependent and independent SAP systems) and non-SAP systems. It is based on all active license rules, Duplicate User rules, the user consolidation, package licensing rules, and the specified license ratio (if applicable).

Go to the Current Position page (Licenses > SAP Optimization > Current Position).

Details – General

The Details – General section on the License Position page shows general information for the current license position:

- Name — The generic text Current license position.
- License position calculated at — The date and time when the current license position was last calculated.
- System landscape — The name of the system landscape for which the license position was calculated.

Details – User Compliance

The Details – User Compliance section shows a summary of your license position for all license types.

Table 10: Details grid – User Compliance section

<table>
<thead>
<tr>
<th>Option</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Purchased</td>
<td>The total number of user licenses that your organization has purchased (as specified on the License Ratio or License Type: name page)</td>
</tr>
<tr>
<td>Option</td>
<td>Description</td>
</tr>
<tr>
<td>------------------------</td>
<td>------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td><strong>Purchase value</strong></td>
<td>The monetary value of the licenses that your organization has purchased. This amount is based on the license numbers that were specified on the License Type: name or License Ratio page and the unit price that was entered on the License Type: name page.</td>
</tr>
<tr>
<td><strong>Consumed (Current)</strong></td>
<td>The total number of consolidated user licenses that are currently assigned to users. This excludes user licenses on S/4HANA systems.</td>
</tr>
<tr>
<td><strong>Consumed value (Current)</strong></td>
<td>The monetary value of all user licenses that are currently assigned to users (based on the unit price that was entered on the License Type: name page).</td>
</tr>
<tr>
<td><strong>Used (Optimal)</strong></td>
<td>The total number of user licenses that would be consumed if you were to accept all recommendations by FlexNet Manager for SAP Applications. This amount is based on all active license rules, the Duplicate User rules, and the user consolidation. This value shows the best possible scenario. However, it does not take into account any contractual obligations that your organization might need to consider with regard to its SAP licenses (for example, a license ratio or the consumption of spare superior licenses).</td>
</tr>
<tr>
<td><strong>Used value (Optimal)</strong></td>
<td>The monetary value of all user licenses that would be consumed if you were to accept all recommendations by FlexNet Manager for SAP Applications. This amount is based on all active license rules, the Duplicate User rule, the user consolidation, and the unit price that was entered on the License Type: name page.</td>
</tr>
</tbody>
</table>
| **Used (Contractual)** | The number of licenses that would be consumed if you were to accept all recommendations by FlexNet Manager for SAP Applications. In addition, it takes certain contractual obligations into account (if these have been specified in FlexNet Manager for SAP Applications):  
  • Spare licenses: The value factors in existing spare licenses of a higher license type that could cover licenses of a lower license type. As a prerequisite, you must have defined the sub-licenses that are covered by a higher license type in the license-type hierarchy, and the Recommend promoting users to spare superior licenses option (on the License Type: name page) must be selected for these licenses. For more information, see License-Type Hierarchy.  
  • License ratio: If a license ratio has been defined and activated, the license position will be calculated accordingly. |
| **Used value (Contractual)** | The monetary value of all user licenses that would be consumed if you were to accept all recommendations by FlexNet Manager for SAP Applications (based on the unit price that was entered on the License Type: name page). In addition, it factors in spare superior licenses and a license ratio, if these have been specified (see previous item in this list). |
| **Retired (Optimal)**  | The number of users who could be deactivated (change the Valid To date) according to the recommendations of FlexNet Manager for SAP Applications.                                                                   |
Details – Package Compliance

The Details – Package Compliance section on the License Position page shows information for the package licenses:

- **Number of packages** — The number of SAP packages that your organization is using.
- **Purchase value** — The monetary value of all package licenses that your organization has purchased.
- **Consumed value** — The monetary value of the package licenses that your organization has consumed.

These amounts are based on the information that is specified on the SAP Package page of each package. For more information, see Editing Package Information.

Details – Digital/Indirect Access

The Details – Digital/Indirect Access section on the License Position page show the number and value of documents created using SAP digital access:

- **Total documents created** — The total number of documents created using digital access.
- **Total value** — The total monetary cost estimate for documents created by your organization using digital access.

These amounts are based on the information that is specified in the Digital Access Price Model dialog which is accessible from the Indirect Access page of each system landscape. For more information, see Viewing Digital Access Price Model.

Details – License Surplus/Deficit

The Details – License Surplus/Deficit section on the License Position page shows an overall position for your licenses.

*Tip: This section is only visible once one or more license reconciliation calculations have been completed.*

- **User license surplus/deficit** — The number of user licenses available or overused (shown as negative values) — that is, this is the difference between licenses purchased and the larger of Consumed (Current) and the Used (Contractual) value on the License Position page.
- **User license surplus/deficit value** — The monetary value of the user license variation. The calculation is similar to the above, but using the corresponding "value" fields.
- **Package license surplus/deficit** — The number of package licenses available or overused (shown as negative values) — that is, this is the difference between licenses purchased and licensed consumed on the License Position page.
- **Package license surplus/deficit value** — The monetary value of package license variation. The calculation is similar to the above, but using the corresponding "value" fields.
- **Total license surplus/deficit value** — The sum of the User license surplus/deficit value and Package license surplus/deficit value.

License Consumption

You can view your organization’s consumption of SAP Named User licenses and of SAP package licenses. For both of these types, FlexNet Manager for SAP Applications provides a separate tab on the Current Position page with detailed...
consumption information on each license type.

## License Position — Named Users

The **User License Summary** tab is available on the **Current Position** page. It provides an overview of your license position of Named User licenses.

<table>
<thead>
<tr>
<th>Column Name</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>License Type</td>
<td>Shows the Named User license number.</td>
</tr>
<tr>
<td>License Type Description</td>
<td>Shows a description of the Named User license.</td>
</tr>
<tr>
<td>Purchased</td>
<td>Shows the number of licenses that your organization has purchased.</td>
</tr>
<tr>
<td>Consumed (Current)</td>
<td>This is the total number of consolidated user licenses that are currently assigned to users. This excludes user licenses on S/4Hana systems.</td>
</tr>
<tr>
<td>Used (Optimal)</td>
<td>This is the total number of user licenses that would be consumed if you were to accept all recommendations by FlexNet Manager for SAP Applications (based on all active license rules, the Duplicate User rules, and the user consolidation). This value shows the best possible scenario. However, it does not take into account any contractual obligations that your organization might need to consider with regard to its SAP licenses.</td>
</tr>
<tr>
<td>Used (Contractual)</td>
<td>This column shows the license consumption after all of the following have been applied:</td>
</tr>
<tr>
<td></td>
<td>• Optimization rules (active license rules, Duplicate User rules, and user consolidation)</td>
</tr>
<tr>
<td></td>
<td>• License ratio (if specified and activated)</td>
</tr>
<tr>
<td></td>
<td>• Over-consumption of license types is handled by using spare superior licenses. As a precondition, the <strong>Recommend promoting users to spare superior licenses</strong> option (on the <strong>License Type: name</strong> page) must be selected for the appropriate licenses.</td>
</tr>
</tbody>
</table>

In contrast to the **Used (Optimal)** column, the **Used (Contractual)** column shows the best possible license position with your contractual obligations factored in.

The **Used (Contractual)** column factors in available licenses and licenses that are yet to be purchased to reach the displayed license position. It should always be viewed in combination with the **License Deficit** column.

<table>
<thead>
<tr>
<th>License Deficit</th>
<th>Shows the number of licenses that your organization needs to purchase to remain compliant. The values in the <strong>License Deficit</strong> column should always be reviewed in combination with the values in the <strong>Used (Contractual)</strong> column.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Consumed Value (Current)</td>
<td>Shows the total value of the licenses that are currently assigned to users. This amount is based on the user consolidation and the unit price that is specified for the license type in the license-type hierarchy.</td>
</tr>
<tr>
<td>Column Name</td>
<td>Description</td>
</tr>
<tr>
<td>-------------</td>
<td>-------------</td>
</tr>
<tr>
<td><strong>Used Value (Optimal)</strong></td>
<td>Shows the monetary value of all user licenses that would be consumed if you were to accept all recommendations by FlexNet Manager for SAP Applications. This amount is based on all active license rules, the Duplicate User rule, the user consolidation, and the unit price that was entered on the License Type: name page.</td>
</tr>
</tbody>
</table>
| **Used Value (Contractual)** | This column shows the monetary value of all consumed user licenses after all of the following have been applied:  
- Optimization rules (active license rules, Duplicate User rules, and user consolidation)  
- License ratio (if specified and activated)  
- Over-consumption of license types is handled by using spare superior licenses. As a precondition, the Recommend promoting users to spare superior licenses option (on the License Type: name page) must be selected for the appropriate licenses.  
This amount is based on the license numbers that were specified on the License Type: name or License Ratio page and the unit price that was entered on the License Type: name page.  
The Used Value (Contractual) column factors in available licenses and licenses that are yet to be purchased to reach the displayed license position. It should always be viewed in combination with the License Deficit column. |
| **Purchased Value** | Shows the monetary value of the licenses that your organization has purchased. This amount is based on the license numbers that were specified on the License Type: name or License Ratio page and the unit price that was entered on the License Type: name page. |

You can view the details of the user license summary by clicking Show user license recommendations below the grid on the User License Summary tab. This displays two tabs with detailed information about the individual recommendations:

- The **License Assignment Recommendations** tab contains details about license recommendation results that are based on licensing rules. For more information, see Viewing License Assignment Recommendations.
- The **Duplicate User Recommendations** tab contains details about recommendation results based on the Duplicate User rule. For more information, see Viewing Duplicate User Recommendations.

**IT Asset Management (Cloud)**

**Current**

**Viewing License Assignment Recommendations**

The **License Assignment Recommendations** tab enables you to view the details of the individual recommendations based on the active license rules, Duplicate User rules, license ratios, and settings for handling the over-consumption of license types.

**To show detailed license assignment recommendations:**

1. Go to the **Current Position** page (Licenses > SAP Optimization > Current Position).
2. On the **Current Position** page, below the **User License Summary** tab, click **Show user license recommendations**.

3. On the **Current Position** page, click the **License Assignment Recommendations** tab to view the recommendation details.

To go back to the summary view, click **Show user license summary** below the tabs.

**License Assignment Recommendations Details**

The **License Assignment Recommendations** tab contains the following information (you can modify which columns are displayed using **Advanced > Choose Fields**).

<table>
<thead>
<tr>
<th>Column Name</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Matched</td>
<td>A green check mark indicates that the conditions of the rule have been met.</td>
</tr>
<tr>
<td>User Name</td>
<td>The User ID of the user on the system on which the rule was run.</td>
</tr>
<tr>
<td>First Name</td>
<td>The first name of the user on the system on which the rule was run.</td>
</tr>
<tr>
<td>Last Name</td>
<td>The last name of the user on the system on which the rule was run.</td>
</tr>
<tr>
<td>Consolidated License Type (Contractual)</td>
<td>The consolidated license type that is recommended for the user if a license ratio is active. This value also includes spare licenses of a higher priority.</td>
</tr>
<tr>
<td>License Type (Current)</td>
<td>The license type that is currently assigned to the user on the system.</td>
</tr>
<tr>
<td>Duplicate Group # (Current)</td>
<td>The number of the duplicate group that bundles potential duplicate users who can be consolidated into one unique user. This column shows the current position.</td>
</tr>
<tr>
<td>Consolidated License Type (Optimal)</td>
<td>The consolidated license type that is recommended for the user if no license ratio is active and no spare licenses of a higher priority are taken into account.</td>
</tr>
<tr>
<td>Duplicate Group # (Recommended)</td>
<td>The number of the duplicate group that bundles potential duplicate users who can be consolidated into one unique user. This column shows the position that would be achieved if all recommendations were accepted.</td>
</tr>
<tr>
<td>License Type (Optimal)</td>
<td>The license type that is recommended for the user if no license ratio is active and no spare licenses of a higher priority are taken into account. If no matching rule is found for the user, the license type is unavailable.</td>
</tr>
<tr>
<td>Change Required</td>
<td><strong>Yes</strong> indicates that a change of license type is recommended; <strong>No</strong> indicates that there is no recommendation to change the license type.</td>
</tr>
<tr>
<td>License Type Recommendation Reason</td>
<td>The reason that a license type is recommended. Reasons might include, for example, license ratio enforcement, or the availability of spare, higher-priority licenses to avoid the need to purchase additional lower-priority licenses.</td>
</tr>
<tr>
<td>Rule Name</td>
<td>The name of the rule that was applied.</td>
</tr>
<tr>
<td>Rule Reason</td>
<td>Explanatory text for the rule that was applied.</td>
</tr>
<tr>
<td>Valid From</td>
<td>The start date of the user’s validity period.</td>
</tr>
<tr>
<td>Valid To</td>
<td>The end date of the user’s validity period.</td>
</tr>
<tr>
<td>Column Name</td>
<td>Description</td>
</tr>
<tr>
<td>-----------------------------</td>
<td>-----------------------------------------------------------------------------</td>
</tr>
<tr>
<td>User Type</td>
<td>The user type of the user. Possible values are:</td>
</tr>
<tr>
<td></td>
<td>• A: Dialog</td>
</tr>
<tr>
<td></td>
<td>• B: System</td>
</tr>
<tr>
<td></td>
<td>• C: Communication</td>
</tr>
<tr>
<td></td>
<td>• D: BDC</td>
</tr>
<tr>
<td></td>
<td>• L: Reference</td>
</tr>
<tr>
<td></td>
<td>• S: Service</td>
</tr>
<tr>
<td>User Group</td>
<td>The group that the user belongs to.</td>
</tr>
<tr>
<td>Last Logon Date</td>
<td>The date when the user last logged on to the SAP system.</td>
</tr>
<tr>
<td>Developer</td>
<td>Indicates whether the user currently has a developer license.</td>
</tr>
<tr>
<td></td>
<td><em>Note: This field is currently not supported for S/4HANA systems.</em></td>
</tr>
<tr>
<td>Created On</td>
<td>The user’s creation date.</td>
</tr>
<tr>
<td>Client ID</td>
<td>The client ID of the system on which the rule was run.</td>
</tr>
<tr>
<td>Consolidated License Type</td>
<td>The consolidated license type that is currently assigned to the user.</td>
</tr>
<tr>
<td>Type (Current)</td>
<td></td>
</tr>
<tr>
<td>License Type</td>
<td>The license type that is recommended for the user if a license ratio is</td>
</tr>
<tr>
<td>(Contractual)</td>
<td>active. This value also takes spare licenses of a higher priority into</td>
</tr>
<tr>
<td></td>
<td>account (if the relevant setting for over-consumption of spare licenses is</td>
</tr>
<tr>
<td></td>
<td>active). If no matching rule is found for the user, the license type is</td>
</tr>
<tr>
<td></td>
<td>unavailable.</td>
</tr>
<tr>
<td>Recommendation Status</td>
<td>Shows the processing status of this specific recommendation in the SAP</td>
</tr>
<tr>
<td></td>
<td>Admin module</td>
</tr>
<tr>
<td>Rule Order</td>
<td>The position of the rule that was applied in the rule set.</td>
</tr>
<tr>
<td>Rule Set Name</td>
<td>The name of the rule set that contains the rule on which the recommendation</td>
</tr>
<tr>
<td></td>
<td>is based.</td>
</tr>
<tr>
<td>System ID</td>
<td>The three-character ID of the system on which the rule was run.</td>
</tr>
</tbody>
</table>

For more information on license ratios, see [Managing SAP License Ratios](#).

License types are consolidated based on the Duplicate User rules. For more information, see [Duplicate User Rule](#).
Viewing Duplicate User Recommendations

The Duplicate User Recommendations tab enables you to view the details of the individual recommendations based on the Duplicate User rules.

To show detailed recommendations for duplicate users:

2. On the Current Position page, below the User License Summary tab, click Show user license recommendations.
3. On the Current Position page, click the Duplicate User Recommendations tab to view the recommendation details.

To go back to the summary view, click Show user license summary below the tabs.

Duplicate User Recommendations Details

The Duplicate User Recommendation tab contains the following information (you can modify which columns are displayed using Advanced > Choose Fields).

<table>
<thead>
<tr>
<th>Column Name</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Matched</td>
<td>A green check mark indicates that the conditions of the rule have been met.</td>
</tr>
<tr>
<td>Duplicate Group #</td>
<td>The duplicate users that have been identified are presented in groups, and each duplicate group has a number, which is shown in this column.</td>
</tr>
<tr>
<td>User Name</td>
<td>The User ID of the user on the system on which the user was identified.</td>
</tr>
<tr>
<td>First Name</td>
<td>The first name of the user on the system on which the user was identified.</td>
</tr>
<tr>
<td>Last Name</td>
<td>The last name of the user on the system on which the user was identified.</td>
</tr>
<tr>
<td>System ID</td>
<td>The three-character ID of the system on which the duplicate user was identified.</td>
</tr>
<tr>
<td>System Type</td>
<td>Specifies whether the system is an SAP system or a non-SAP system.</td>
</tr>
<tr>
<td>Rule Name</td>
<td>The name of the rule that was applied.</td>
</tr>
<tr>
<td>Rule Reason</td>
<td>Explanatory text for the rule that was applied.</td>
</tr>
<tr>
<td>Rule Order</td>
<td>The position of the rule that was applied in the rule set. (The rule order does not affect the results of the Duplicate User rule.)</td>
</tr>
<tr>
<td>Rule Set Name</td>
<td>The name of the rule set that contains the rule on which the recommendation is based.</td>
</tr>
</tbody>
</table>
Recommendation Status

Shows the processing status of this specific recommendation in the SAP Admin module:

- **Accepted**—The recommendation has been accepted in the SAP Admin module.
- **Rejected**—The recommendation has not been accepted in the SAP Admin module.
- **Pending**—This is the status of all recommendations in a recommendation set that has not yet been made available to the SAP Admin module.

<table>
<thead>
<tr>
<th>Column Name</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Accounting Number</td>
<td>The user's accounting number.</td>
</tr>
<tr>
<td>Client ID</td>
<td>The client ID of the system on which the user was identified.</td>
</tr>
<tr>
<td>Email Address</td>
<td>The email address of the user on the system on which the user was identified.</td>
</tr>
<tr>
<td>Extension</td>
<td>The user's phone extension.</td>
</tr>
<tr>
<td>License Type (Current)</td>
<td>The license type that is currently assigned to the user on the system.</td>
</tr>
<tr>
<td>Phone Number</td>
<td>The user's phone number.</td>
</tr>
</tbody>
</table>

**IT Asset Management (Cloud)**

**Current**

**License Position — SAP Packages**

The **Package Consumption Summary** tab is available on the **Current Position** page. It provides an overview of your organization's package licensing situation.

The top-level summary shows the package consumption across all systems on a per-package basis.

<table>
<thead>
<tr>
<th>Option</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Name</td>
<td>The name of the package.</td>
</tr>
<tr>
<td>Purchased</td>
<td>The number of units that have been purchased for this package. You set the number of purchased units on the package details page. This excludes packages on S/4HANA systems.</td>
</tr>
<tr>
<td>Consumed</td>
<td>The number of units that have been consumed for this package. This excludes packages on S/4HANA systems.</td>
</tr>
<tr>
<td>Purchase Value</td>
<td>The purchase cost for the number of units for this package. You set the purchase cost per unit on the package details page.</td>
</tr>
<tr>
<td>Consumed Value</td>
<td>The total cost that has been consumed by this package.</td>
</tr>
<tr>
<td>Result Reason</td>
<td>This field can be used to provide additional context about a package consumption calculation.</td>
</tr>
</tbody>
</table>
Per-System View of Package Consumption

You can display a more detailed view of the package consumption to see how the consumption is distributed over several systems, or how the total consumption has been calculated. This view does not include any cost information.

To display the package consumption per system:

2. On the Current Position page, click the Package Consumption Summary tab.
3. Below the table, click Show per system consumption.

<table>
<thead>
<tr>
<th>Option</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Name</td>
<td>The name of the package.</td>
</tr>
<tr>
<td>System ID</td>
<td>The ID of the system on which the package is used.</td>
</tr>
<tr>
<td>Client ID</td>
<td>The ID of the client on which the package is used.</td>
</tr>
<tr>
<td>Consumed</td>
<td>The number of units that the package has consumed.</td>
</tr>
<tr>
<td>Result Reason</td>
<td>This field can be used to provide additional context about a package consumption calculation.</td>
</tr>
</tbody>
</table>

To revert to the previous view, click Show package consumption summary below the table.

License Position Management

After you review the license consumption for Named Users and SAP packages, you have the following options:

- Amend the optimal license position, by navigating to the respective rule, editing it (or creating a copy and editing it), and then recalculating the license position to reflect the changes. For more information, see Recalculating the Optimal License Position.

- Release recommendations and review them to make them available to the SAP Admin module for remediation. For more information, see Releasing Recommendations to the SAP Admin Module and Reviewing and Processing Released Recommendations, respectively.
  Remediation includes updating duplicate user records and changing assigned license types so that the optimizations will be reflected in the next current baseline import, and eventually the next LAW measurement that is sent to SAP.

- Archive the current license position. For more information, see Archiving the License Position.
View recommendations that are currently under review. For more information, see Viewing Pending Recommendation Sets.

View recommendations that have been made available to the SAP Admin module. For more information, see Viewing the Last Recommendation Set Sent to the SAP Admin Module.

Recalculating the Optimal License Position

If you have made changes that might affect your license position (such as modifying your active license rules, the user consolidation, the Duplicate User rules, package information, license ratio, or the settings for handling the over-consumption of license types), you can see immediately how the change impacts the optimal license position by recalculating it.

To recalculate the license position:


The page refreshes and the newly calculated license position will be displayed in the User License Summary and Package Consumption Summary tabs.

Releasing Recommendations to the SAP Admin Module

By releasing recommendations to the SAP Admin module, you create a snapshot of the latest recommendations. This snapshot, or recommendation set, consists of license assignment recommendations and duplicate user recommendations. Only recommendations for SAP systems (as opposed to non-SAP systems) can be released to the SAP Admin module. After the set has been released to the SAP Admin module, it can be reviewed and processed. For more information, see Reviewing and Processing Released Recommendations.

All recommendation sets that have been released will be available on the History page. For more information, see License Position History.

There can be only one released recommendation set at a time. Before releasing another set, you need to process—accept or reject—the recommendation set that is currently released. For more information on processing recommendation sets, see Reviewing and Processing Released Recommendations.

Important: Until the recommendations have been made available to the SAP Admin module (which involves releasing the recommendations and accepting them in SAP mode in IT Asset Management) and changes have been made to the SAP systems, the optimal license position is only theoretical and the current baseline license position remains the true position.

To release recommendations for processing:

2. On the Current Position page, in the Tasks section, click Release recommendations to SAP.
3. In the Create SAP Recommendation Set dialog, type a name and a description (optional) for this recommendation set, then click Create.
The Recommendations: recommendation set name page is displayed, and you can view the details of the newly created recommendation set in the License Assignment Summary section (available after clicking on Show user license recommendations below the grid).

After you released a recommendations set, you need to review and process (accept or reject) the recommendations. To process the set immediately, complete the procedure under Reviewing and Processing Released Recommendations. If you do not want to process the set at this time, you can return to it later. To do so, go to the Current Position page (Licenses > SAP Optimization > Current Position). Then click Review pending recommendations in the Tasks section on the Current Position page.

### Viewing Pending Recommendation Sets

When the Review pending recommendations link is visible in the Tasks section on the License Position page, it indicates that recommendations have been released for review to the SAP Admin module, but that these recommendations have not yet been accepted or rejected.

**To view pending recommendation sets that are under review:**


The Recommendations: recommendation set name page displays the recommendation set, where you can accept or reject recommendations. For more information, see Reviewing and Processing Released Recommendations.

### Viewing the Last Recommendation Set Sent to the SAP Admin Module

The View recommendations sent to SAP link that is located in the Tasks section on the License Position page indicates that recommendations have been released to the SAP Admin module for review and were accepted. These recommendations are listed on the History page and have the status Released.

**To view the last recommendation set that has been made available to the SAP Admin module:**

2. On the Current Position page, in the Tasks section, click View recommendations sent to SAP.

The Recommendations: recommendation set name page (part of the History section) displays the last recommendation set that has been made available to the SAP Admin module. For information on displaying all recommendation sets that have been released to the SAP Admin module, see License Position History.

### Reviewing and Processing Released Recommendations

After you have released a set of recommendations (see Releasing Recommendations to the SAP Admin Module), you can review the recommendations and decide whether to accept or reject them:

- Accepted recommendations will be submitted to the SAP Admin module where an SAP administrator can update the SAP systems.
Rejected recommendations will be deleted.

Both accepted and rejected recommendations will be listed on the History page.

You can only accept or reject entire recommendation sets, but not individual recommendations.

To review released recommendations:

   
The Recommendations: recommendation set name page displays the recommendation set that has been released.
3. Review the released recommendations. For information on the recommendation details, see License Consumption.
4. To accept or reject the recommendation set, click one of the following links:
   
   - Accept recommendations—Recommendations are submitted to the SAP Admin module where an SAP administrator can update the SAP systems.
   
   - Reject recommendations—Recommendations are deleted.

All processed recommendation sets will be listed on the History page. For more information, see License Position History.

Archiving the License Position

Archived license positions are saved and listed on the History page with the status Archived. They will not be released to the SAP Admin module. Archived license positions can contain recommendations both for SAP systems and non-SAP systems. For more information on the History page, see License Position History.

To archive recommendations:

1. In IT Asset Management, click SAP, point to License Position and click Current Position.
3. In the Create SAP Recommendation Set dialog, type a name and a description (optional) for this recommendation set, then click Create.

The History page is displayed, and you can view the details of the archived license position set.

License Position History

The History page lists all recommendation sets that have been released for processing or that have been archived.

Go to the History page (Licenses > SAP Optimization > History).

The grid on the History page contains the following information.
<table>
<thead>
<tr>
<th>Column Name</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Name</td>
<td>The name of the recommendation set that was released.</td>
</tr>
<tr>
<td>Description</td>
<td>A description of the recommendation set that was released (optional).</td>
</tr>
<tr>
<td>Status</td>
<td>The status of the recommendation set:</td>
</tr>
<tr>
<td></td>
<td>• <strong>Released</strong>—The recommendation set has been accepted and made available to the SAP Admin module for processing.</td>
</tr>
<tr>
<td></td>
<td>• <strong>Rejected</strong>—The recommendation set has been rejected and will not be made available to the SAP Admin module.</td>
</tr>
<tr>
<td></td>
<td>• <strong>Archived</strong>—The recommendation set has been saved. It will not be made available to the SAP Admin module.</td>
</tr>
<tr>
<td>Date Created</td>
<td>The date and time when the recommendation set was created.</td>
</tr>
<tr>
<td>Date Reviewed</td>
<td>The date and time when the recommendation set was reviewed.</td>
</tr>
<tr>
<td>Date Released</td>
<td>The date and time when the recommendation set was made available to the SAP Admin module for processing.</td>
</tr>
<tr>
<td>Created By</td>
<td>The user who created the recommendation set.</td>
</tr>
<tr>
<td>Last Updated</td>
<td>The date and time when the recommendation set was last updated.</td>
</tr>
<tr>
<td>Released By</td>
<td>The user who made the recommendation set available to the SAP Admin module.</td>
</tr>
<tr>
<td>Reviewed By</td>
<td>The user who reviewed the recommendation set.</td>
</tr>
<tr>
<td>Updated By</td>
<td>The user who updated the recommendation set.</td>
</tr>
</tbody>
</table>

On the **History** page, you can do the following:

- View details of released recommendation sets to use them as reference for future optimization processes. For more information, see [Viewing the License Position History](#).
  
  It is not possible to process recommendation sets on this page. For information on processing recommendation sets, see [Reviewing and Processing Released Recommendations](#).

- Delete unwanted recommendation sets. For more information, see [Deleting Recommendation Sets from the License Position History](#).

IT Asset Management (Cloud)
Viewing the License Position History

The History page enables you to see all recommendation sets that have been released for processing or that have been archived. You can review detailed information about each recommendation set, from a summary view to the individual recommendations.

To display details of released recommendation sets:

1. Go to the History page (Licenses > SAP Optimization > History).
2. On the History page, select the recommendation set that you want to view and click View. Alternatively, you can double-click the recommendation set.

The Recommendations: recommendation set name page is displayed, and you can view the details of the recommendation set.

Deleting Recommendation Sets from the License Position History

The History page enables you to see all recommendation sets that have been released for processing or that have been archived. You can delete any unwanted recommendation sets from the license position history.

To delete recommendation sets from the license position history:

1. Go to the History page (Licenses > SAP Optimization > History).
2. On the History page, select the recommendation set that you want to delete and click Delete.
3. In the Delete recommendation set dialog, confirm by clicking Delete.
The SAP Admin Module

The SAP Admin module is an SAP application that helps SAP administrators to manage their SAP license assignments.

You can access the Main menu of the SAP Admin Module of FlexNet Manager for SAP Applications using the transaction /n/LICMAN/START. In SAP, a transaction cannot start with a slash (“/”). Therefore, always use the command /n before /LICMAN/START to reset the dialog and start FlexNet Manager for SAP Applications.

Main Menu Items in the SAP Admin Module

The Main menu is the initial interface of the SAP Admin module.

In the Main menu of the SAP Admin module, you can see and maintain your organization’s system landscape (using the system tree on the left side of the screen). You can see a detailed list of your system landscape including various additional information (right side), for example, the system ID, client ID, and system description.

For information about the system landscape in the SAP Admin module, see The System Landscape in the SAP Admin Module.

Table 11: Menu items in the Main menu of the SAP Admin module

<table>
<thead>
<tr>
<th>Menu</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reporting</td>
<td>Contains the following analyses:</td>
</tr>
<tr>
<td></td>
<td>• Analyze which users are active on the selected systems. See Logon Evaluation Report.</td>
</tr>
<tr>
<td></td>
<td>• Optimize the quality of your user data using the User Data Validation report. See User Data Validation Report.</td>
</tr>
<tr>
<td></td>
<td>• Import and process recommendations made by IT Asset Management. See Remediation in the SAP Admin Module.</td>
</tr>
<tr>
<td>Measurement/LAW</td>
<td>Simulation of a system measurement and detailed output of LAW results lists. Upload of LAW measurements into the SAP Admin Module of FlexNet Manager for SAP Applications to enable use of the Statistics feature.</td>
</tr>
<tr>
<td></td>
<td>For more information, see System Measurement in the SAP Admin Module.</td>
</tr>
</tbody>
</table>
The SAP Admin Module

<table>
<thead>
<tr>
<th>Menu</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Statistics</td>
<td>Current contracts and measurement data can be evaluated using graphics and tables. For more information, see Statistics in the SAP Admin Module.</td>
</tr>
<tr>
<td>Packages</td>
<td>Measurement and definition of specific rules for alerts when usage occurs or in case of significant changes in the usage on selected packages. For more information, see SAP Package Measurement.</td>
</tr>
<tr>
<td>Activity Checks</td>
<td>Provides functionality to define and execute activity checks to notify you when SAP usage activity falls outside of specific parameters. From this menu item, you can also view the results of activity checks that have been executed. For more information, see Activity Checks.</td>
</tr>
</tbody>
</table>
| Administration  | Enables customization of FlexNet Manager for SAP Applications, such as:  
|                 | • Manage your license contracts. See SAP License Contract Information in the SAP Admin Module.  
|                 | • Under Customer Reports, you can provide definitions of special reports. These can be particular developments, standard SAP functions, or client-specific FlexNet Manager for SAP Applications add-ons. See Customer Reports. |
| Extras          | Enables the display of client-specific reports, if applicable. See Customer Reports. |

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 IT Asset Management, you can have only one system landscape in each SAP Admin module. Having multiple system landscapes in IT Asset Management 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 IT Asset Management. Only the SAP systems that are connected to the corresponding SAP Admin module are imported from IT Asset Management. For more information, see Importing a System Landscape from IT Asset Management.

You should regularly synchronize the system landscape in the SAP Admin module with the corresponding system landscape in IT Asset Management. 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 IT Asset Management.

For information on how to set up a system landscape in IT Asset Management, 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 12: System type icons

<table>
<thead>
<tr>
<th>Icon</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>🌐</td>
<td>Virtual root of the system landscape</td>
</tr>
<tr>
<td>🌐 SG.</td>
<td>System group</td>
</tr>
<tr>
<td>🌐</td>
<td>Active system</td>
</tr>
<tr>
<td>🌐 🚪</td>
<td>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.</td>
</tr>
<tr>
<td>🌐 ✖</td>
<td>System with an incorrect RFC destination</td>
</tr>
<tr>
<td>🌐 ✖</td>
<td>System without an RFC destination</td>
</tr>
</tbody>
</table>

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 13: Information in the system landscape list view

<table>
<thead>
<tr>
<th>Column</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>System ID</td>
<td>Three-character identifier that identifies the SAP system.</td>
</tr>
<tr>
<td>Client</td>
<td>SAP client number.</td>
</tr>
<tr>
<td>System Number</td>
<td>The system number specifies the communication service used in this system.</td>
</tr>
<tr>
<td>System Description</td>
<td>Description of the system as entered on the Create New System page in SAP mode in IT Asset Management.</td>
</tr>
<tr>
<td>RFC Destination</td>
<td>The system’s RFC destination. You provide this information when you create a new system in SAP mode in IT Asset Management.</td>
</tr>
<tr>
<td>Installation Number</td>
<td>The system’s installation number that is registered with SAP. This data is automatically imported when the system is created.</td>
</tr>
<tr>
<td>Flexera FlexNet Manager Release</td>
<td>Shows the FlexNet Manager for SAP Applications release that is currently installed. This data is automatically imported when the system is created.</td>
</tr>
<tr>
<td>Dialog RFC Destination for Updates</td>
<td>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.</td>
</tr>
<tr>
<td>Column</td>
<td>Description</td>
</tr>
<tr>
<td>--------------------------------</td>
<td>-----------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>CUA Controlled Users</td>
<td>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.</td>
</tr>
<tr>
<td>Model View</td>
<td>Indicates the CUA model view, if applicable.</td>
</tr>
<tr>
<td>CUA Central System</td>
<td>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.</td>
</tr>
<tr>
<td>CUA RFC Destination</td>
<td>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.</td>
</tr>
<tr>
<td>Dialog RFC of CUA Central System</td>
<td>Displays the RFC destination of the CUA central system that forces a user to log on to the system before making any changes.</td>
</tr>
<tr>
<td>HR System</td>
<td>If you set an HR system, the HR system’s RFC destination displays here.</td>
</tr>
<tr>
<td>System Status</td>
<td>Indicates whether the system is active (A), inactive (I), or excluded (E).</td>
</tr>
<tr>
<td>SAP Admin Module</td>
<td>Displays a check mark if this is an SAP Admin module system. No check mark indicates that the system is a dependent SAP system.</td>
</tr>
<tr>
<td>S/4HANA</td>
<td>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.</td>
</tr>
</tbody>
</table>

### 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 IT Asset Management
- Synchronizing a system landscape with IT Asset Management
- 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 IT Asset Management**

When you set up the SAP Admin module for the first time, you need to import the system landscape from IT Asset Management.

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

Although it is possible to have multiple system landscapes in IT Asset Management, you can import only one system landscape into the SAP Admin module. After you have imported the system landscape from IT Asset Management, 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.

1. Open the SAP Admin module.
2. Click **Import System Landscape**
   
   A dialog displays all system landscapes that are available in IT Asset Management.
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 IT Asset Management. 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 IT Asset Management**

You should regularly synchronize the system landscape in the SAP Admin module with the corresponding system landscape in IT Asset Management. 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 IT Asset Management. If no data is available for import, this button is unavailable.

When you synchronize the system landscape in the SAP Admin module with IT Asset Management for the first time, and there are multiple landscapes in IT Asset Management, 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 IT Asset Management:
**Management:**

- 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 IT Asset Management (for example, in the event that you re-built your IT Asset Management 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 IT Asset Management. To do so, follow the steps described under **Importing a System Landscape from IT Asset Management**.

**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 IT Asset Management 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 IT Asset Management, 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 IT Asset Management, the **Maintain RFC Assignments** grid will already be open. Otherwise, in the system landscape, point to **Administration** and click **Maintain RFC Assignments**.

**Table 14:** SAP system information in the Maintain RFC Assignments grid

<table>
<thead>
<tr>
<th>Column</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>System ID</strong></td>
<td>Three-character identifier that identifies the SAP system.</td>
</tr>
<tr>
<td><strong>Client</strong></td>
<td>SAP client number.</td>
</tr>
<tr>
<td><strong>Service</strong></td>
<td>The number specifies the communication service used in this system.</td>
</tr>
<tr>
<td><strong>System Description</strong></td>
<td>Description of the system as provided on the inventory beacon when the connection to the relevant SAP system was created.</td>
</tr>
<tr>
<td><strong>RFC Destination</strong></td>
<td>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. <strong>Important:</strong> If no RFC destination is provided for a system, recommendations for this system will not be processed.</td>
</tr>
<tr>
<td><strong>User Name</strong></td>
<td>The user account that should be used to open the RFC connection to the system.</td>
</tr>
<tr>
<td><strong>RFC Status</strong></td>
<td>Indicates whether the RFC destination is working properly (green status) or not (red status).</td>
</tr>
<tr>
<td><strong>RFC Status Details</strong></td>
<td>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.</td>
</tr>
<tr>
<td><strong>Dialog RFC Destination for Updates</strong></td>
<td>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.</td>
</tr>
<tr>
<td><strong>Installation Number</strong></td>
<td>The system’s installation number that is registered with SAP. This data is automatically imported when the system is created.</td>
</tr>
</tbody>
</table>
### 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).

<table>
<thead>
<tr>
<th>Column</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>CUA Controlled Users</td>
<td>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.</td>
</tr>
<tr>
<td>Model View</td>
<td>Indicates the CUA model view, if applicable.</td>
</tr>
<tr>
<td>CUA Central System</td>
<td>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.</td>
</tr>
<tr>
<td>CUA RFC Destination</td>
<td>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.</td>
</tr>
<tr>
<td>Dialog RFC of CUA Central System</td>
<td>Displays the RFC destination of the CUA central system that forces a user to log on to the system before making any changes.</td>
</tr>
<tr>
<td>HR System</td>
<td>If you set an HR system, the HR system’s RFC destination is displayed here.</td>
</tr>
<tr>
<td>FNM Release</td>
<td>Shows the FlexNet Manager for SAP Applications release that is currently installed. This data is automatically imported when the system is created.</td>
</tr>
<tr>
<td>SAP Admin Module</td>
<td>Displays a check mark if this is an SAP Admin module system. No check mark indicates that the system is a dependent SAP system.</td>
</tr>
</tbody>
</table>
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.

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.


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.
4. Click Execute or press F8.

User Data or License Data Changes

The Change User Data, User Maintenance, and Change License Data buttons enable you to change user data or license data directly in a report.

For convenience, most changes that must be made to the user data or license data can be made directly within the report screen using the buttons or by calling the user maintenance transaction (SU01). Changes are made in all
connected SAP systems.

Usage of these buttons should be carefully considered, depending on whether the SAP Admin module is connected to an SAP NetWeaver® Identity Management (IdM) component. For more information on the functionality of the individual buttons, see the following corresponding sections.

**Note:** The functionality that is described in this section is not available in the Process License Recommendations report. This report provides actions that are designed for optimal processing of recommendations. This includes changing a license type and retiring a user, but not changing arbitrary user fields or running transaction SU01.

### Changing User Data Directly in FlexNet Manager for SAP Applications

In SAP Admin module reports, you can change user data of one or more users using the **Change User Data** button.

The functionality of the **Update User Data** button depends on whether the SAP Admin module is connected to IdM. If IdM is used, the IdM settings in the Customizing section will determine which changes are sent to IdM and which changes are sent directly to the SAP systems. If IdM is not used, the changes are directly sent to the SAP systems.

**Tip:** This function is especially useful if you want to modify data of more than one user at a time.

**To modify user data on the target systems:**

1. In the Main menu of the SAP Admin module, select an active system from the system landscape.
2. Click **Reporting**, then select a report from the menu. Enter the required information in the evaluation screen and execute the report.
3. Select the user whose user data you want to modify. (Hold down the **Ctrl** key to select several users at a time.)
4. Click **Change User Data** to modify the user data.
5. In the **Selection** dialog, select the fields that you want to modify and click **Continue**.
6. In the **Enter Values** dialog, enter the new values and click **Continue**. The values have now been transferred to the FlexNet Manager for SAP Applications report.
7. To submit your changes into the SAP clients, select the rows that you want to update and click **Update User Data**.

### Changing User Data Using the Transaction SU01

In SAP Admin module reports, you can change the data of a single user with the **User Maintenance** button.

Instead of using the procedure described in the section Changing User Data Directly in FlexNet Manager for SAP Applications, you can make required changes to the user data directly by selecting a user and clicking **User Maintenance**. This calls the transaction SU01 on the target system for user maintenance. After you make your changes, you can refresh the view by clicking **Refresh**.

**Important:** If the SAP Admin module is connected to IdM, it is strongly recommended not to make changes to the
To modify user data using the transaction SU01:

1. In the Main menu of the SAP Admin module, select an active system from the system landscape.
2. Click Reporting, then select a report from the menu. Enter the required information in the evaluation screen and execute the report.
3. Select the user whose user data you want to modify and click User Maintenance.
4. In the User Maintenance: Initial Screen, click the Change button.
5. Make your changes. (Refer to the SAP documentation for more information.)

Initializing User Data Fields

In SAP Admin module reports, you can initialize the data of one or more users at a time.

The functionality of the Update User Data button depends on whether the SAP Admin module is connected to IdM. If IdM is used, the IdM settings in the Customizing section will determine which changes are sent to IdM and which changes are sent directly to the SAP systems. If IdM is not used, the changes are directly sent to the SAP systems.

To initialize user data fields on the target systems:

1. Follow step 1 through step 4 described in Changing User Data Directly in FlexNet Manager for SAP Applications.
2. In the Selection dialog, select the fields that you want to initialize and click Continue.
3. In the Enter Values dialog, leave the fields empty and click Continue.
4. In the Confirmation Prompt dialog, click Continue. The changes are transferred to the FlexNet Manager for SAP Applications report.
5. To submit your changes into the SAP clients, select the rows that you want to update and click Update User Data.

Changing License Data Directly in FlexNet Manager for SAP Applications

In SAP Admin module reports, you can change the license data of one or more users using the Change License Data button.

This function is especially useful if you want to modify data of more than one user at a time.

To modify license data on the target systems:

1. In the Main menu of the SAP Admin module, select an active system from the system landscape.
2. Click Reporting, then select a report from the menu. Enter the required information in the evaluation screen and
execute the report.

3. Select the user whose license data you want to modify. (Hold down the Ctrl key to select several users at a time.)

4. Click Change License Data to modify the license data.

5. In the Selection dialog, select which changes you want to make to the license data of the selected users. You can change the following fields:
   - To modify the license type, select New License Type.
   - If you have a license type with special version (Cyrillic, Arabic, double-byte) or a license type with a country-specific surcharge, select New License Type and Special Version, or New License Type and Country Surcharge.
   - If you want to enter a license type 04 (called “Substitute”), select New License Type, Substitute, Substitute Valid from, and Substitute Valid to.
   - If you want to enter a license type 11 (called “Multi-Client/Multi-System”), select New License Type, Name, System, and Client.

6. When you are finished, click Continue.
   
   An entry screen with the corresponding selected fields displays.

7. Enter the new values and confirm. The values have now been transferred to the FlexNet Manager for SAP Applications report.

8. To submit your changes into the SAP clients, select the rows that you want to update and click Update License Data.

Changing License Data Using the Transaction SU01

In the SAP Admin module, you can change the license data directly in a report by selecting a user and clicking User Maintenance.

Clicking User Maintenance calls the transaction SU01 on the target system for user maintenance. After you make your changes, you can refresh the view by clicking Refresh.

To modify license data using the transaction SU01:

1. In the Main menu of the SAP Admin module, select an active system from the system landscape.

2. Click Reporting, then select a report from the menu. Enter the required information in the evaluation screen and execute the report.

3. Select the user whose license data you want to modify and click User Maintenance.

4. In the User Maintenance: Initial Screen, click the Change button. Make your changes (refer to the SAP documentation for more information).
Initializing License Data Fields

In SAP Admin module reports, you can initialize the license data of one or more users at a time.

To initialize license data fields on the target systems:

1. Follow step 1 through step 4 described in Changing License Data Directly in FlexNet Manager for SAP Applications.
2. In the Selection dialog, select the fields that you want to initialize and click Continue.
3. In the Enter Values dialog, leave the fields empty and click Continue.
4. In the Confirmation Prompt dialog, click Continue. The changes have now been transferred to the FlexNet Manager for SAP Applications report.
5. To submit your changes into the SAP clients, select the rows that you want to update and click Update License Data.

Modifications of User and License Data

Depending on the method you use to change user and license data, you might need to reselect these amended users to send the user or license data changes to the SAP systems.

If you sort the ALV grid list in ascending order by license type (for example, license type 52) and then select the first 10 users and re-assign them to a different license type (for example, license type 91) — you modify the users’ license data — then these 10 users are immediately positioned correctly in the list (moved to the lower area). However, the first 10 entries (the rows that previously contained the modified users) will still be selected. As a result, you cannot immediately update the amended users by clicking the Update button. You need to either re-select the appropriate items or update the entire list.

If you want to modify user data and license data for users directly in FlexNet Manager for SAP Applications, you need to do this in two separate steps (for example, first change the user data and update the user data, then change the license data and update the license data). If you do not update the data that you changed in one area (for example, user data), but make changes to another area (license data) and update those, the changes to the first area will be ignored when you want to update the data later.

Viewing User Data Modification Logs

If you want to check modifications that have been made to the user primary data from within the report screen, you can view a log (SAP transaction SLG1).

To view a log of user data modifications:

1. Perform one or more of the tasks described in the section User Data or License Data Changes.
2. Click Log. This corresponds to the SAP transaction SLG1.
3. In the Analyze Application Log screen, set the log parameters. For more information, refer to the SAP documentation.
4. Click **Execute** or press **F8**.

## Counting Rows in Reports

You can count rows in reports and create subtotals using the **ALV Count** column.

The report results display in ALV grid lists. You can customize the order of the display, the sorting, and the selection of the columns. In addition, you can save display templates, form sums, and export data for further processing (for example, into Microsoft Excel format). For more detailed information, refer to the SAP documentation.

The report header shows the total number of rows of the report in brackets. The Logon Evaluation and User Data Validation reports contain an **ALV Count** column in the ALV grid to enable you to create subtotals of report rows.

### To count rows in reports:

1. Execute the report. (Refer to the relevant section in this User Guide for more detailed information about the individual reports.)

   **Example:** Click **Reporting**, then select **Logon Evaluation** from the menu. Execute the report.

2. Sort the column that contains the data that you want to count (called column X in this procedure) in descending order.

   **Example:** Select the **Cost Center** column and click the **Sort in Descending Order** button in the Application toolbar.

3. For better visibility, position the **ALV Count** column and column X next to each other: Select the **ALV Count** column and drag it next to column X.

4. Select column X and the **ALV Count** column.

   **Example:** Hold down the **Ctrl** key and select the **Cost Center** column and the **ALV Count** column.

5. In the Application toolbar, click the **Total** button. Scroll to the bottom of the list. A yellow row has been added at the bottom and shows the total number of rows in the ALV grid.

6. Again, select column X and the **ALV Count** column.

   **Example:** Hold down the **Ctrl** key and select the **Cost Center** column and the **ALV Count** column.

7. In the Application toolbar, click the **Subtotals** button. Underneath each cost center group, a yellow line displays the subtotal of rows that make up the group.

## SAP License Contract Information in the SAP Admin Module

With FlexNet Manager for SAP Applications, you can maintain and display the individual positions of the license contracts to create evaluations that show license utilization.

Combined with measurements from the LAW that you import into FlexNet Manager for SAP Applications, the SAP license...
contract information can be used to create license-utilization statistics.

For more information on license-utilization statistics, see Statistics in the SAP Admin Module. For information about executing LAW measurements, see System Measurement in the SAP Admin Module.

Note: Data about packages is not maintained together with the SAP license contract information because packages are charged based on usage.

Specifying License Contract Data

To enter your license contract data:

1. Open the SAP Admin module.
2. Click the Administration menu, select Customizing, and click License Contract Administration.
3. Enter the relevant information:
   - Contract Number — Number of the license contract.
   - Valid from Year — The year when the contract starts to be valid.
   - License Type — The license type as specified in the contract.
   - Special Version — Special version, if specified in the contract (for example, Cyrillic, Arabic).
   - Country Surcharge — Any country-specific surcharges, if specified in the contract. Input the surcharge percentage as a number without the % sign.

   For more information on license types and special versions, open the F4 Help.

4. Click Create or press F5.
5. Provide the following information:
   - Valid to Year — End of the contract.
   - Number of Licenses — The number of licenses of the license type that you entered in the License Type field in step 3, as specified in the contract.
   - Note — Optional notes.
6. Click Save.

   The confirmation displays in the status bar.

7. To create the next license type for the contract, use Display and Copy, and then enter the data for the next license type.
Displaying License Contract Data

To display license contract data:

1. In the SAP Admin module, do one of the following:
   - Click the Administration menu, select Customizing, and click License Contract Administration. In the License Contract Administration screen, click List to view all available license contract information.
   - Click the Administration menu, select Customizing, and click License Contract Administration. In the License Contract Administration screen, click List with Selection to bring up a screen with selection parameters. Enter the required parameters, for which you can also use variants, and click Execute.

Modifying License Contract Data

To modify your license contract data:

1. Open the SAP Admin module.
2. Click the Administration menu, select Customizing, and click License Contract Administration.
3. Click List to display all available data.
4. Double-click the row you want to modify to display the corresponding position. Click the Edit button and make the desired modifications. Click Save.

Deleting License Contract Data

To delete license contract data:

1. Open the SAP Admin module.
2. Click the Administration menu, select Customizing, and click License Contract Administration.
3. Click List to display all available data.
4. To delete individual positions, highlight the rows that you want to delete (multiple selections are allowed) and click the Delete button.

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 IT Asset Management 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 IT Asset Management 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 IT Asset Management 2019 R1 or any earlier versions, if the remote system is based on the same or higher than these supported package versions:

SAP_BASIS:
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:

- **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.

- **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:

- **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.

- **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.

- **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 the 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 IT Asset Management to call this routine to gather the user data.

      • Clear this check box to enable IT Asset Management 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 IT Asset Management 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 15: Status of data collection from dependent SAP systems in the Staging Database Monitor**

<table>
<thead>
<tr>
<th>Option</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>System ID</td>
<td>The dependent SAP systems from which the data was collected.</td>
</tr>
<tr>
<td>Client</td>
<td>The client from which the data was collected.</td>
</tr>
<tr>
<td>User</td>
<td>The user who executed the data collection.</td>
</tr>
<tr>
<td>Start date</td>
<td>The date when the data collection was launched.</td>
</tr>
<tr>
<td>Start time</td>
<td>The time when the data collection was launched.</td>
</tr>
</tbody>
</table>
| 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. |
<p>| System end time     | The time when the data collection was completed.                            |
| USMM status         | Available values:                                                          |
|                     | • ✋: Execution of the USMM is ongoing.                                      |
|                     | • <strong>Green</strong>: The USMM was executed. The resulting data is stored in SAP standard tables on the dependent SAP systems. |
|                     | • <strong>Red</strong>: The USMM could not be executed successfully. Ensure that the RFC user has sufficient authorizations to execute the USMM. |
| 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 &quot;IN BACKGROUND TASK&quot;. |
|                     | • <strong>Green</strong>: User data collection was successful.                          |
|                     | • <strong>Yellow</strong>: A non-critical error has occurred.                           |
|                     | • <strong>Red</strong>: User data collection failed. Ensure that the user has appropriate authorizations. |</p>
<table>
<thead>
<tr>
<th>Option</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>User end time</td>
<td>Indicates when collection of user data was completed. If data collection failed, the time is 00:00:00.</td>
</tr>
<tr>
<td>Role data status</td>
<td>Available values:</td>
</tr>
<tr>
<td></td>
<td>• 🔄: Data collection is ongoing. The cog icon is only displayed when the Staging Database Monitor is run with the option Run with &quot;IN BACKGROUND TASK&quot;.</td>
</tr>
<tr>
<td></td>
<td>• Green: Role data collection was successful.</td>
</tr>
<tr>
<td></td>
<td>• Yellow: A non-critical error has occured.</td>
</tr>
<tr>
<td></td>
<td>• Red: Role data collection failed.</td>
</tr>
<tr>
<td>Role data end time</td>
<td>Indicates when collection of role data was completed. If data collection failed, the time is 00:00:00.</td>
</tr>
<tr>
<td>Object data status</td>
<td>Available values:</td>
</tr>
<tr>
<td></td>
<td>• 🔄: Data collection is ongoing. The cog icon is only displayed when the Staging Database Monitor is run with the option Run with &quot;IN BACKGROUND TASK&quot;.</td>
</tr>
<tr>
<td></td>
<td>• Green: Object data collection was successful.</td>
</tr>
<tr>
<td></td>
<td>• Yellow: A non-critical error has occured.</td>
</tr>
<tr>
<td></td>
<td>• Red: Object data collection failed.</td>
</tr>
<tr>
<td>Object data end</td>
<td>Indicates when collection of object data was completed. If data collection failed, the time is 00:00:00.</td>
</tr>
<tr>
<td>time</td>
<td>License data status</td>
</tr>
<tr>
<td>License data status</td>
<td>Available values:</td>
</tr>
<tr>
<td></td>
<td>• 🔄: Data collection is ongoing. The cog icon is only displayed when the Staging Database Monitor is run with the option Run with &quot;IN BACKGROUND TASK&quot;.</td>
</tr>
<tr>
<td></td>
<td>• Green: License data collection was successful.</td>
</tr>
<tr>
<td></td>
<td>• Yellow: A non-critical error has occured.</td>
</tr>
<tr>
<td></td>
<td>• Red: License data collection failed.</td>
</tr>
<tr>
<td>License data end</td>
<td>Indicates when collection of license data was completed. If data collection failed, the time is 00:00:00.</td>
</tr>
<tr>
<td>time</td>
<td>Package data status</td>
</tr>
<tr>
<td>Package data status</td>
<td>Available values:</td>
</tr>
<tr>
<td></td>
<td>• 🔄: Data collection is ongoing. The cog icon is only displayed when the Staging Database Monitor is run with the option Run with &quot;IN BACKGROUND TASK&quot;.</td>
</tr>
<tr>
<td></td>
<td>• Green: Package data collection was successful.</td>
</tr>
<tr>
<td></td>
<td>• Yellow: A non-critical error has occured.</td>
</tr>
<tr>
<td></td>
<td>• Red: Package data collection failed.</td>
</tr>
<tr>
<td>Option</td>
<td>Description</td>
</tr>
<tr>
<td>-------------------------------</td>
<td>-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Package data end time</td>
<td>Indicates when collection of package data was completed. If data collection failed, the time is 00:00:00.</td>
</tr>
<tr>
<td>Activity-checks data status</td>
<td>Available values:</td>
</tr>
<tr>
<td></td>
<td>• 🔄: Data collection is ongoing. The cog icon is only displayed when the Staging Database Monitor is run with the option Run with &quot;IN BACKGROUND TASK&quot;.</td>
</tr>
<tr>
<td></td>
<td>• Green: Activity-checks data collection was successful.</td>
</tr>
<tr>
<td></td>
<td>• Yellow: A non-critical error has occurred.</td>
</tr>
<tr>
<td></td>
<td>• 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.</td>
</tr>
<tr>
<td>Activity data endtime</td>
<td>Indicates when collection of activity-checks data was completed. If data collection failed, the time is 00:00:00.</td>
</tr>
<tr>
<td>Consumption data status</td>
<td>Available values:</td>
</tr>
<tr>
<td></td>
<td>• 🔄: Data collection is ongoing. The cog icon is only displayed when the Staging Database Monitor is run with the option Run with &quot;IN BACKGROUND TASK&quot;.</td>
</tr>
<tr>
<td></td>
<td>• Green: Consumption data collection was successful.</td>
</tr>
<tr>
<td></td>
<td>• Yellow: A non-critical error has occurred.</td>
</tr>
<tr>
<td></td>
<td>• Red: Consumption data collection failed.</td>
</tr>
<tr>
<td>Consumption end time</td>
<td>Indicates when collection of consumption data was completed. If data collection failed, the time is 00:00:00.</td>
</tr>
<tr>
<td>Module data status</td>
<td>Available values:</td>
</tr>
<tr>
<td></td>
<td>• 🔄: Data collection is ongoing. The cog icon is only displayed when the Staging Database Monitor is run with the option Run with &quot;IN BACKGROUND TASK&quot;.</td>
</tr>
<tr>
<td></td>
<td>• Green: Module data collection was successful.</td>
</tr>
<tr>
<td></td>
<td>• Yellow: A non-critical error has occurred.</td>
</tr>
<tr>
<td></td>
<td>• Red: Module data collection failed.</td>
</tr>
<tr>
<td>Module data end time</td>
<td>Indicates when collection of module data was completed. If data collection failed, the time is 00:00:00.</td>
</tr>
<tr>
<td>Option</td>
<td>Description</td>
</tr>
<tr>
<td>------------------------</td>
<td>-----------------------------------------------------------------------------</td>
</tr>
<tr>
<td><strong>RFC data status</strong></td>
<td>Available values:&lt;br&gt;• 🔄: Data collection is ongoing. The cog icon is only displayed when the Staging Database Monitor is run with the option <strong>Run with &quot;IN BACKGROUND TASK&quot;</strong>.&lt;br&gt;• <strong>Green</strong>: RFC data collection was successful.&lt;br&gt;• <strong>Yellow</strong>: A non-critical error has occurred.&lt;br&gt;• <strong>Red</strong>: RFC data collection failed.</td>
</tr>
<tr>
<td><strong>RFC data end time</strong></td>
<td>Indicates when collection of RFC data was completed. If data collection failed, the time is <strong>00:00:00</strong>.</td>
</tr>
</tbody>
</table>

**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:

<table>
<thead>
<tr>
<th>Option</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Start date</strong></td>
<td>Enter the date or date range to filter the information on when the Staging Database Monitor was executed and dependent SAP systems were accessed.</td>
</tr>
<tr>
<td><strong>System ID</strong></td>
<td>Enter a system ID or a range of system IDs to filter the information from which dependent SAP systems data was collected.</td>
</tr>
<tr>
<td><strong>Client</strong></td>
<td>Enter a client ID or a range of client IDs to filter the information from which clients data was collected.</td>
</tr>
<tr>
<td><strong>User name</strong></td>
<td>Enter a user name or a range of user names to filter the information by the user who executed the Staging Database Monitor.</td>
</tr>
<tr>
<td><strong>Message type</strong></td>
<td>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 <strong>S</strong> (Success), <strong>E</strong> (Error), and <strong>W</strong> (Warning).</td>
</tr>
</tbody>
</table>
4. Click **Execute** or press **F8**.

**Staging Database Log Results**

**Table 16:** Information in the staging database logs

<table>
<thead>
<tr>
<th>Column</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>GUID 16</td>
<td>The unique identifier for each data collection that helps to differentiate between the different runs of the Staging Database Monitor.</td>
</tr>
<tr>
<td>System ID</td>
<td>The three-character identifier that identifies the dependent SAP system that was accessed.</td>
</tr>
<tr>
<td>Client</td>
<td>The client ID of the SAP system that was accessed.</td>
</tr>
<tr>
<td>Area</td>
<td>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.</td>
</tr>
<tr>
<td>Counter</td>
<td>The order in which the messages and entries in the log for a particular area are generated.</td>
</tr>
<tr>
<td>Start date</td>
<td>The date when the Staging Database Monitor started the data collection from the dependent SAP systems.</td>
</tr>
<tr>
<td>Table name</td>
<td>The SAP table that was accessed on the dependent SAP system.</td>
</tr>
<tr>
<td>Function module</td>
<td>The function module that was used to access the data.</td>
</tr>
<tr>
<td>Code</td>
<td>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.</td>
</tr>
<tr>
<td>Message type</td>
<td>The type of SAP message indicating whether the process completed successfully (S), with a warning (W), or with an error (E).</td>
</tr>
<tr>
<td>Message text</td>
<td>A detailed message describing the outcome of the performed action.</td>
</tr>
</tbody>
</table>
Optimization in the SAP Admin Module

The information in this section covers features that are designed to help you perform an initial optimization of the license position. This helps to establish a solid basis for the features that are used in the regular optimization process. The features, for example, enable you to do the following:

- Clean up the user primary data. See User Data Validation Report.
- Filter out inactive users. See Logon Evaluation Report.
- Find users with license type 11. See Check for License Type 11 Report.
- Identify the cost center and cost center group for each user. See License Distribution by Cost Center (License Chargeback) Report.

User Data Validation Report

Accurate maintenance of the user primary data is crucial for being able to use the data for consolidation. The User Data Validation in the SAP Admin module report helps to optimize the quality of the user primary data.

When you run a User Data Validation report, the user primary data are verified according to the criteria that have been selected under Customizing on the User Data tab. The report provides a list of users whose user data has not been consistently maintained. For example, you could set up rules to find users without email addresses or with no Valid To date in their user accounts. For information on setting validation criteria, see Setting User Data Checks for User Data Validation.

Under User Exits User Data Check (available in the Administration menu), you can specify your own criteria for the user data verification—for example, for the verification of the email address. For more information, see User Exits: Data Check.

You can create variants in order to simplify and standardize repeated analyses.
Setting User Data Checks for User Data Validation

The criteria that you specify for user data checks in the SAP Admin module in the Customizing (available from the Administration menu) are applied during execution of the User Data Validation report (available from the Reporting menu in the SAP Admin module).

The user data checks settings help you to maintain the quality of your user primary data. You can choose among several different data checks; multiple selections are recommended. You can specify which fields should be checked, and set the criteria for the fields' content.

The selections made here are also relevant for the user consolidation. Ideally, your selections should match the consolidation criteria that you select in the user consolidation. Note that the LAW is case sensitive (including the email address). For information on the user consolidation, see User Consolidation.

To set user data validation checks:

1. In the Main menu of the SAP Admin module, click Administration and select Customizing.
2. On the User Data tab, edit the settings as needed.

<table>
<thead>
<tr>
<th>Option</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Use Logical Destination for Update</td>
<td>If you select this check box, updates performed on data in the user root can be identified. If a user in the system performs an update with their permissions, it is possible to identify (provided that the logical destinations have been properly maintained) which user performed the update. If this check box is not selected, the data of the RFC communications user will appear in the change document during an update.</td>
</tr>
<tr>
<td>First Name and Last Name</td>
<td>Checks whether a first and last name have been entered and whether they follow the rules defined in the Check First Name and Check Last Name sections.</td>
</tr>
<tr>
<td>Validity Date</td>
<td>Checks all entries in the Valid from and Valid to fields of the user primary data.</td>
</tr>
<tr>
<td>Email Address</td>
<td>Checks that an email address has been entered.</td>
</tr>
<tr>
<td>Phone No.</td>
<td>Checks that a phone number has been provided.</td>
</tr>
<tr>
<td>Extension</td>
<td>Checks that an extension has been provided.</td>
</tr>
<tr>
<td>Accounting No.</td>
<td>Checks that an accounting number has been entered.</td>
</tr>
<tr>
<td>Cost Center</td>
<td>Checks that a cost center has been provided.</td>
</tr>
<tr>
<td>Valid Uppercase Letters</td>
<td>Enter all letters that are allowed as uppercase letters. By default, the letters of the English alphabet are suggested. If necessary, you can add other uppercase letters such as Ä, Ö, and Ü.</td>
</tr>
<tr>
<td>Valid Lowercase Letters</td>
<td>Enter all letters that are allowed as lowercase letters. By default, the letters of the English alphabet are suggested. If necessary, you can add other lowercase letters such as ä, ö, ü, ß.</td>
</tr>
<tr>
<td>Valid Separators</td>
<td>Enter the separators that are allowed, for example for hyphenated names.</td>
</tr>
</tbody>
</table>

Optimization in the SAP Admin Module
### Option | Description
--- | ---
**Minimum Number of Characters (For Check First/Last Name)** | Enter the minimum number of characters for first and last names. If a name has fewer characters than the minimum specified here, an error is triggered during the user data validation. It is recommended that you specify a minimum of two characters for first names.

**First Character of Word (For Check First/Last Name)** | Select the appropriate option:
- Select **No Check** if no check should be performed.
- Select **is always a capital letter** if all first or last names should start with an uppercase letter.
- Select **at least one word with capital letters** if at least one letter should be uppercase (for example to allow for names such as deGaulle.)

**From 2nd Character of Word Onwards (For Check First/Last Name)** | Select the appropriate option:
- Select **No Check** if no check should be performed.
- Select **Only Lowercase** if the second letter must always be lowercase.

**Load Role Data** | Indicates whether role data should be loaded when you run the user consolidation. If the rule set that will be applied does not require any role data, it may be beneficial to specify N (Do Not Load Data) in order to improve performance and reduce memory consumption. The following values are available (**F4 Help**):
- **Load All Data** (blank)—All role data is loaded.
- **For Productive Systems Only** (P)—Role data is only loaded for productive systems.
- **Do Not Load Data** (N)—No role data is loaded.

---

### Creating a User Data Validation Report

Before you execute a User Data Validation report, ensure that you specified the settings for the user data checks in Customizing (in the SAP Admin module in the Administration menu).

Use the User Data Validation report to check specific fields in the user primary data against the criteria specified in Customizing in the SAP Admin module for existence and contents.

---

**To create a User Validation report:**

1. In the Main menu of the SAP Admin module, select an active system from the system landscape.

2. Click **Reporting**, then select **User Data Validation** from the menu. To run the report to analyze all available data, go to step 7. To specify selection criteria and select additional report options, complete step 3 through step 6, as necessary. All report settings are optional.
3. Under **Selection Criteria for Systems**, select the systems whose user logons you want to analyze. In the **System** field, specify the system or range of systems. The system that was previously selected in the Main menu is preset in the selection screen. ([F4 Help](#) opens a list with the systems that are recorded in the FlexNet Manager for SAP Applications system data.)

4. Under **Selection Criteria for Users**, you can limit the report to specific user names (UserIDs). In addition, the report can be limited with regard to license type, user type, user group, and other selection options.

<table>
<thead>
<tr>
<th>Option</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>User Name</strong></td>
<td>Limits the report to the specified user name or range of user names.</td>
</tr>
<tr>
<td><strong>License Type</strong></td>
<td>Limits the report to users with a specified license type.</td>
</tr>
<tr>
<td><strong>User Type</strong></td>
<td>Limits the report to a specified user type. The default setting is A (Dialog User). By default, technical SAP users — who would also be disregarded in an SAP license audit — are excluded.</td>
</tr>
<tr>
<td><strong>User Group</strong></td>
<td>Limits the report to a specified user group.</td>
</tr>
<tr>
<td><strong>Account Number</strong></td>
<td>Limits the report to a specified account number.</td>
</tr>
<tr>
<td><strong>Cost Center</strong></td>
<td>Limits the report to a specified cost center.</td>
</tr>
<tr>
<td><strong>Company Name 1</strong></td>
<td>Limits the report to a specified company name 1.</td>
</tr>
<tr>
<td><strong>Company Name 2</strong></td>
<td>Limits the report to a specified company name 2.</td>
</tr>
<tr>
<td><strong>Division</strong></td>
<td>Limits the report to a specified division.</td>
</tr>
<tr>
<td><strong>User Lock Status</strong></td>
<td>Displays users with a specific lock status. Enter one of the following values:</td>
</tr>
<tr>
<td></td>
<td>• 64 — locked by administrator</td>
</tr>
<tr>
<td></td>
<td>• 128 — locked after incorrect logon</td>
</tr>
<tr>
<td></td>
<td>• 96 — locked</td>
</tr>
<tr>
<td></td>
<td>• 32 — locked by the central CUA administrator</td>
</tr>
<tr>
<td></td>
<td>You can find the values for this field in the <a href="#">F4 Help</a>.</td>
</tr>
<tr>
<td><strong>Read Invalid Users</strong></td>
<td>If you want to include invalid users in the report, select the Read Invalid Users check box.</td>
</tr>
</tbody>
</table>

5. Under **List Options**, you can choose which data should be displayed. Select from the following values:

- **Only Error** — Only incorrect records are displayed.
- **Without Error** — Only records that passed the verification are displayed.
- **All Records** — All data records are displayed.

6. If you want to use a specific layout, enter the name of the saved layout in the **Layout** field.

7. Click **Execute**.

Review the results of the User Data Validation report. Some fields are highlighted in red. This denotes issues with that
particular entry, according to the rules set in the Customizing section in the SAP Admin module (see Setting User Data Checks for User Data Validation). You can display a dialog with the error details by selecting a red field and clicking the Error Reason function key.

Clean up the user primary data to enable correct consolidation of the users. You can do this directly in the report. For more information, see User Data or License Data Changes.

Logon Evaluation Report

The Logon Evaluation report identifies users who have been set up in the SAP system, but who never logged on or have not logged on to the system within a specified amount of time.

These users would be fully calculated in a license audit because the actual activities of a user are irrelevant in this context. After having analyzed them accordingly, you can either delete these users or limit their validity so that they are not taken into account during audits.

Difference between Logon Evaluation Report and Last Logon License Rule

The Logon Evaluation report provides functionality that is similar to that of the Last Logon license rule (available in SAP mode in IT Asset Management). If your goal is to retire users that have not logged on to the system within a specified time period, it is recommended that you use the Last Logon license rule, because the Last Logon license rule will detect users who become inactive at some point in the future, rather than having to manually run the Logon Evaluation report on a regular basis.

For more information on the Last Logon license rule, see “Last Logon” Rule. For more information on retiring users, see Retiring Users.

Evaluation of Multiple Systems

If you are evaluating more than one system, the User Consolidation option consolidates the users across systems, and the selected systems are examined as a whole. When the User Consolidation option is selected, the Logon Evaluation report finds users who have not logged on to any of the selected systems during the specified time frame. When the User Consolidation option is not selected, no consolidation across systems takes place; the selected systems are examined individually and all users are displayed who did not login to the individually selected systems in the specified time frame.

HR Status Information

You can use information from a connected HR system to identify inactive users. If the Check HR Data check box is selected, FlexNet Manager for SAP Applications checks the user's HR status. If the user's HR status is "not active" (it does not equal 3), the user is listed in the report output. To be able to use this feature, the infotype 105 (Communication) must be maintained in the HR primary record.

Direct Mass Change

FlexNet Manager for SAP Applications enables you to make a direct mass change to automatically change the license types of users who have not logged on in a certain amount of time, so that you do not have to reclassify them manually. You can also assign these users a collective Valid To date. You can schedule this report to run as a batch job to ensure that users who do not use the SAP system are always assigned a specific license type—for example 91 for test users—or to change their validity.
List of All Users

This report can also be used to list all users that are on the system. To do so, run the report without entering a time period (leaving the **Not Logged On In ... Days** field blank). In this case, FlexNet Manager for SAP Applications will not check the users’ consumption data.

You can create variants in order to simplify and standardize repeated analyses.

Creating a Logon Evaluation Report

Create a Logon Evaluation report to identify users who have been set up in the SAP system, but who never logged on or have not logged on to the system within a specified amount of time.

**To create a Logon Evaluation Report:**

1. In the Main menu of the SAP Admin module, select an active system from the system landscape.

2. Click **Reporting**, then select **Logon Evaluation** from the menu. To run the report to analyze all available data, go to step 10. To specify selection criteria and select additional report options, complete step 3 through step 9, as necessary. All report settings are optional.

3. Under **Selection Criteria for Systems**, select the systems whose user logons you want to analyze. In the **System** field, specify the system or range of systems. The system that was previously selected in the Main menu is preset in the selection screen. (**F4 Help** opens a list with the systems that are recorded in the FlexNet Manager for SAP Applications system data.)

4. Under **Selection Criteria for Users**, you can limit the report to specific user names (UserIDs). In addition, the report can be limited with regard to license type, user type, user group, and other selection options.

<table>
<thead>
<tr>
<th>Option</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>User Name</td>
<td>Limits the report to the specified user name or range of user names.</td>
</tr>
<tr>
<td>License Type</td>
<td>Limits the report to users with a specified license type.</td>
</tr>
<tr>
<td>User Type</td>
<td>Limits the report to a specified user type.</td>
</tr>
<tr>
<td></td>
<td>The default setting is <strong>A</strong> (Dialog User).</td>
</tr>
<tr>
<td></td>
<td>By default, technical SAP users—who would also be disregarded in an SAP license audit—are excluded.</td>
</tr>
<tr>
<td>User Group</td>
<td>Limits the report to a specified user group.</td>
</tr>
<tr>
<td>Account Number</td>
<td>Limits the report to a specified account number.</td>
</tr>
<tr>
<td>Cost Center</td>
<td>Limits the report to a specified cost center.</td>
</tr>
<tr>
<td>Company Name 1</td>
<td>Limits the report to a specified company name 1.</td>
</tr>
<tr>
<td>Company Name 2</td>
<td>Limits the report to a specified company name 2.</td>
</tr>
<tr>
<td>Division</td>
<td>Limits the report to a specified division.</td>
</tr>
</tbody>
</table>
Option | Description
--- | ---
**User Lock Status** | Displays users with a specific lock status. Enter one of the following values:
- 64—locked by administrator
- 128—locked after incorrect logon
- 96—locked
- 32—locked by the central CUA administrator
You can find the values for this field in the F4 Help.

**Read Invalid Users** | If you want to include invalid users in the report, select the Read Invalid Users check box.

5. Under **Logon Evaluation Options**, you can indicate how the report should evaluate user logon information and whether it should consolidate user data.

<table>
<thead>
<tr>
<th>Option</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Not Logged on in ... Days</strong></td>
<td>Enter the number of days that you want to define as your threshold. If no value is provided, all users that are on the system will be listed.</td>
</tr>
<tr>
<td><strong>Account for Valid-From</strong></td>
<td>Use this option if you want the system to consider the Valid From date in the user primary data. If in the user primary data a date is specified that falls after the date of the last logon or after the creation date of the user, the Valid From date is taken.</td>
</tr>
<tr>
<td><strong>User Consolidation</strong></td>
<td>If you want to consolidate user data across several systems, select the User Consolidation check box. If this option is selected, the report shows users that appear on more than one system only once with the data from the system on which the shorter Not Logged on in ... Days period occurred.</td>
</tr>
</tbody>
</table>

6. Under **Parameters HR Connection**, you can specify that you want the report to check the data from a connected HR system. To do so, select the Check HR Data check box, then select the value for the option HR Status 'Not Active'. The default value is Not Active (not equal 3).

7. Under **Parameters for Direct Mass Change**, select the Direct Mass Change check box if you want to immediately change the Valid To date and/or license type of the users identified in the report. To enable a mass change, you must also indicate which data you want to change by selecting the appropriate check box:

- **Update User’s Valid To Date**—Select the check box and specify a date to update the User Valid To date for all identified users.
- **Update License Type**—Select the check box and specify a license type to update the license type for all identified users.

**Note:** To use the LDAP options, you need to create a user exit for the LDAP connection beforehand. For more information, see User Exits for LDAP Connections.

Under **LDAP Parameters**, select the Analyze LDAP check box to cross-reference an LDAP system to access further information on the users’ status, then enter the appropriate value (which is dependent on the connected LDAP system) in the LDAP Status field. You can use this option, for example, to identify users that are marked as inactive in the LDAP system.
9. Under **Display Options**, you can specify a layout for the report. Enter the name of the saved layout in the **Layout** field.

10. Click **Execute**.

If you are performing a direct mass change, all found user primary data are updated using the specified parameters after you confirmed the security prompt. Foreign systems are accessed via the RFC connection that is specified in the system data.

You can modify the user data or license data directly in the report. For more information, see **User Data or License Data Changes**.

All modifications to user primary data are logged. You can view the logs using the transaction SLG1. If the mass change encounters an error, the log file is opened automatically.

## Results of a Logon Evaluation Report

The output of the Logon Evaluation report not only lists users that have not logged on to the system within a specified amount of time, it also informs you about users’ consumption data and finds users who logged on to a system multiple times.

### Identify Users Without Logon

By sorting the **Days** column of the Logon Evaluation report in descending order, you can quickly identify the users with the highest number of days since their last logon.

> **Important:** The criterion ‘not logged on' does not necessarily need to be a decisive factor. The selected list should be reviewed carefully before a mass change is performed. Single users who match the selection criteria, but should not be amended, need to be removed individually from the selection. It is recommended to save this specific selection as a variant.

### Identify Users with Consumption Data

The **Note** column informs you whether consumption data is present (by showing an appropriate message), despite the fact that the user was not logged on. The **Month** column (long name: **Month Last Consumption**) indicates the last month when consumption occurred.

To see all users who used CPU time, sort the **Note** column in descending order. You can display more detailed information by double-clicking the corresponding text in the **Note** column or by selecting the corresponding row and right-clicking **Consumpt. Data**. This opens a dialog with information explaining why consumption data exists despite the user not having been logged on to the system. The reason could be, for example, that a batch job has been assigned to a user. Deleting the user would result in the job being canceled which would trigger errors in the system. Therefore, the decision whether to set the user status to inactive should not be based solely on their logon behavior, but should be evaluated on a case-by-case basis.

### Identify Users with Multiple Logons

You can find users who logged on to the system multiple times. These users would be identified during an SAP system measurement because multiple logons typically violate the SAP license agreement. You can identify these users using the information in the columns **ML Total** (long name: **Multiple Logon Total**) and **ML Max**. (long name: **Multiple Logons**
Max).

- **ML Total** — Displays how often a user was logged on multiple times in the current calendar year.
- **ML Max.** — Displays the maximum number of simultaneous multiple logons that a user had in the current calendar year.

**Identify Inactive Users**

If you are using an HR system to identify inactive users, you can sort the report by the **HR Status** column to see all inactive users at a glance.

For information on the **ALV Count** column, see **Counting Rows in Reports**.

**Check for License Type 11 Report**

**Usage Scenario**

This report finds all users with license type 11.

In older SAP pricelists (SW Component Price List), users could be classified with license type 11. This Multi-Client/System user type could be used for non-chargeable users that had already been classified once as chargeable users in a different client or system. The Check for License Type 11 report quickly finds all users with license type 11 to enable you to assign them their appropriate license type.

Because the Multi-Client/System user type (license type 11) usually referenced its original (chargeable) user ID, FlexNet Manager for SAP Applications can suggest the appropriate — that is, the original — license type for the users that were identified using the Check for License Type 11 report. This requires that the reference between the original user ID and the referenced user ID (with license type 11) is still intact. In case the reference cannot be made, an appropriate message is displayed.

**Results**

The results page of the Check for License Type 11 report lists all users that match the criteria you specified. The number of identified users is displayed in the report title in brackets.

The report displays user information (user name, system ID, and client) about the chargeable user (displayed on a dark blue background) and the referenced user (displayed on a light blue background). If FlexNet Manager for SAP Applications can link the Multi-Client/System user to the chargeable user, the original license type is displayed in the **LT Recommendation** column, and the **Flag, LT Changed** column shows a check mark. You can accept the license type suggestions by following the procedure described under **Accepting License-Type Recommendations in a Check for License Type 11 Report**.

**Creating a Check for License Type 11 Report**

Create a Check for License Type 11 Report to find all users with license type 11.
**To create a Check for License Type 11 report:**

1. In the Main menu of the SAP Admin module, select an active system from the system landscape.

2. Click **Reporting**, then select **Tools** from the menu and click **Check for License Type 11**. To run the report to analyze all available data, go to step 6. To specify selection criteria and select additional report options, complete step 3 through 5, as necessary. All report settings are optional.

3. Under **Selection Criteria Systems**, select the systems whose user license types you want to analyze. In the **RFC Destination** field, specify the system or range of systems. The system that was previously selected in the Main menu is preset in the selection screen. ([F4 Help](#) opens a list with the systems that are recorded in the FlexNet Manager for SAP Applications system data.)

4. Under **Selection Criteria for Users**, you can limit the report to specific user names (UserIDs). In addition, the report can be limited with regard to user type, user group and other selection options.

<table>
<thead>
<tr>
<th>Option</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>User Name</td>
<td>Limits the report to the specified user name or range of user names.</td>
</tr>
<tr>
<td>User Type</td>
<td>Limits the report to a specified user type.</td>
</tr>
<tr>
<td>User Group</td>
<td>Limits the report to a specified user group.</td>
</tr>
<tr>
<td>Account Number</td>
<td>Limits the report to a specified account number.</td>
</tr>
<tr>
<td>Cost Center</td>
<td>Limits the report to a specified cost center.</td>
</tr>
<tr>
<td>Company Name 1</td>
<td>Limits the report to a specified company name 1.</td>
</tr>
<tr>
<td>Company Name 2</td>
<td>Limits the report to a specified company name 2.</td>
</tr>
<tr>
<td>Division</td>
<td>Limits the report to a specified division.</td>
</tr>
<tr>
<td>User Lock Status</td>
<td>Displays users with a specific lock status. Enter one of the following values:</td>
</tr>
<tr>
<td></td>
<td>• 64—locked by administrator</td>
</tr>
<tr>
<td></td>
<td>• 128—locked after incorrect logon</td>
</tr>
<tr>
<td></td>
<td>• 96—locked</td>
</tr>
<tr>
<td></td>
<td>• 32—locked by the central CUA administrator</td>
</tr>
<tr>
<td></td>
<td>You can find the values for this field in the <a href="#">F4 Help</a>.</td>
</tr>
</tbody>
</table>

5. Under **Display**, you can specify a layout for the report. Enter the name of the saved layout in the **Layout** field.

6. Click **Execute**. User data in foreign systems is accessed via the RFC connection that is specified in the system data.
Troubleshooting the Check for License Type 11 Report

Sometimes it is possible that FlexNet Manager for SAP Applications cannot reference the Multi-Client/System user to the chargeable user.

In this case, the **Note** column displays a message indicating the reason. The following messages can be displayed:

- **User not found in reference system**—The chargeable user was not found on the reference system. This could be due to a user name change that makes it impossible for FlexNet Manager for SAP Applications to reference the Multi-Client/System user to the chargeable user.

- **Reference user with invalid license type**—The reference user's license type is also 11 or the license type is initial (not set).

- **Data from reference system not loaded**—This indicates that the relevant data is not available; for example, when the SAP system that held the relevant data was deleted.

If no users are found that match the specified criteria, the message **No user with license type 11 found** is displayed.

Accepting License-Type Recommendations in a Check for License Type 11 Report

After you have run the Check for License Type 11 report, you need to accept the recommendations and update the license type in the user primary records.

![To accept the license-type recommendations in a Check for License Type 11 Report:](image)

1. Follow the steps under Creating a Check for License Type 11 Report to run a Check for License Type 11 report.

2. In the **License Check** screen, select the rows for which you want to accept the recommendation. (Hold down the **Ctrl** key to select multiple rows at a time.)

3. You can now accept the recommendations for the selected rows in one of the following ways:
   - Click **Accept Recommendation**.
   - Right-click one of the selected rows and select **Accept Recommendation** from the context menu.

4. Select the rows that contain the data that you changed in step 3. Click **Update License Data** to roll out these license-type changes to the dependent SAP systems.

   You can also modify the user data or license data directly in the report. For more information, see User Data or License Data Changes.

License Distribution by Cost Center
(License Chargeback) Report

The License Distribution by Cost Center report displays how the SAP license types are distributed between the individual cost centers and cost center groups of a standard hierarchy.

In addition to showing the cost center and cost center group for each user, the License Distribution by Cost Center report (which is shortened to License Chargeback in the menu) displays the standard hierarchy from the SAP Controlling (CO) module.

To create the report, FlexNet Manager for SAP Applications first loads the relevant CO standard hierarchy from the system that includes the CO module, and then combines data from a LAW results list with the hierarchy data. Therefore, as a prerequisite, the LAW results list needs to be available before executing the License Distribution by Cost Center report. For more information, see Performing a System Measurement. You can create variants in order to simplify and standardize repeated analyses.

Creating a License Distribution by Cost Center (License Chargeback) Report

The LAW results lists must be available before executing the License Distribution by Cost Center report.

Run the License Distribution by Cost Center report to see how the SAP license types are distributed between the individual cost centers and cost center groups of a standard hierarchy.

To create the License Distribution by Cost Center report:

1. In the Main menu of the SAP Admin module, click Reporting, then select Tools from the menu.
2. Click License Chargeback.
3. In the License Distribution by Cost Center screen, in the CO Data section, enter the relevant CO parameters for your report:
   - RFC Connection to CO System — Enter the RFC destination of the system that contains the CO module. (F4 Help opens a list with the systems that are recorded in the FlexNet Manager for SAP Applications system data.)
   - Controlling Area — Enter the controlling area that you want to analyze.
   - Cost Center Group — Enter the cost center group that you want to analyze.
4. In the User Data Source section, in the Description/Info field, select the name of the LAW measurement on which the report should be based (open the F4 Help to select the LAW measurement from a list of available LAW results). If you leave the Description/Info field blank, the most recent LAW results list is selected by default.
5. Click Execute or press F8.
Reading the Results of a License Distribution by Cost Center Report

The resulting report consists of a navigation panel on the left side and three tabs in the main area on the right side. The navigation panel displays the entire standard hierarchy according to your selection in the previous screen. The header of the navigation panel indicates the selected controlling area.

You can drill down in the standard hierarchy to display cost center groups and cost centers by clicking the arrow to the left of each element. By double-clicking an element—you can select the entire hierarchy, a cost center group, or an individual cost center—in the navigation panel, you can display the relevant information for this element in the tabbed area of the right side. The header of the tab will reflect the selection you made.

You can choose to display only users who have not been assigned to a cost center in the Standard Hierarchy by double-clicking Without assignment in hierarchy at the bottom of the navigation panel. This will list users and their license types (on the User or License Type tab; the Cost Center tab will be empty) whose cost center either has not been set in the primary data record or whose assigned cost center is not part of the current hierarchy. To revert to the normal view, just double-click an element in the Standard Hierarchy.

The tabs provide information on cost centers, users, and license types in ALV grid lists. All tabs offer standard SAP features, such as, for example, sorting, filtering, printing, or exporting.

Cost Center Tab in the License Distribution by Cost Center Report

The Cost Center tab displays the cost centers that are included in the element you selected in the Standard Hierarchy together with other information.

<table>
<thead>
<tr>
<th>Column Name</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cost Center</td>
<td>The cost center of the element that is currently selected in the Standard Hierarchy. If you select a cost center group, the cost centers that are included in that group are displayed.</td>
</tr>
<tr>
<td>Valid From</td>
<td>The date when the cost center starts to be valid.</td>
</tr>
<tr>
<td>Valid To</td>
<td>The date when the cost center ceases to be valid.</td>
</tr>
<tr>
<td>Person Responsible</td>
<td>The manager of the cost center.</td>
</tr>
<tr>
<td>Department</td>
<td>The department to which the cost center belongs.</td>
</tr>
<tr>
<td>Cost Center Category</td>
<td>The type of cost center.</td>
</tr>
<tr>
<td>Company Code</td>
<td>The company code to which the cost center belongs.</td>
</tr>
<tr>
<td>Business Area</td>
<td>The business area to which the cost center belongs.</td>
</tr>
<tr>
<td>Currency</td>
<td>The currency of the cost center.</td>
</tr>
<tr>
<td>ISO Code Currency</td>
<td>The ISO code of the currency.</td>
</tr>
<tr>
<td>Profit Center</td>
<td>The profit center to which the cost center belongs.</td>
</tr>
</tbody>
</table>
User Tab in the License Distribution by Cost Center Report

On the User tab, the License Distribution by Cost Center report results have been aggregated by user name.

After you select an element in the Standard Hierarchy, the User tab lists the users who have been assigned to the cost centers of that element. You can quickly identify the number of users and their license types, together with other detailed information.

By default, the ALV grid is sorted by license type in ascending order. You can amend the ALV grid layout, if required.

<table>
<thead>
<tr>
<th>Column Name</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Installation Number</td>
<td>The installation number of the system that contains the CO module.</td>
</tr>
<tr>
<td>System ID</td>
<td>The three-character ID of the system that contains the CO module.</td>
</tr>
<tr>
<td>Client</td>
<td>The client that holds the primary record of the user.</td>
</tr>
<tr>
<td>User Name</td>
<td>The user’s user name in the SAP system.</td>
</tr>
<tr>
<td>License Type</td>
<td>The license type that has been assigned to the user.</td>
</tr>
<tr>
<td>Counter</td>
<td>Every row is counted (the Counter column for each user contains the value 1) to enable the creation of totals and subtotals. By default, the total number of users is calculated, and subtotals are calculated for groups of users with the same license type. However, you can customize this feature to count any type of data in this ALV grid. For more information, see Counting Rows in Reports.</td>
</tr>
<tr>
<td>First Name</td>
<td>The user’s first name.</td>
</tr>
<tr>
<td>Last Name</td>
<td>The user’s last name.</td>
</tr>
<tr>
<td>Special Version</td>
<td>The user’s special version, if the user has been assigned one.</td>
</tr>
<tr>
<td>Country Surcharge</td>
<td>The user’s country surcharge, if the user has been assigned one.</td>
</tr>
<tr>
<td>Status</td>
<td>The user’s status in the LAW measurement report:</td>
</tr>
<tr>
<td></td>
<td>• A green status indicates that the consolidation of the user was successful.</td>
</tr>
<tr>
<td></td>
<td>• A red status indicates that the consolidation was not successful (for example, because the user had different country surcharges assigned on different systems).</td>
</tr>
<tr>
<td>Development User</td>
<td>This column shows an X if the user has a developer license key.</td>
</tr>
<tr>
<td>Email Address</td>
<td>The user’s email address.</td>
</tr>
<tr>
<td>Phone Number</td>
<td>The user’s telephone number.</td>
</tr>
<tr>
<td>Accounting Number</td>
<td>The user’s accounting number.</td>
</tr>
<tr>
<td>Cost Center</td>
<td>The user’s cost center.</td>
</tr>
</tbody>
</table>

License Type Tab in the License Distribution by Cost Center

Note: This field is currently not supported for S/4HANA systems.
Report

On the **License Type** tab, the results have been aggregated by license type for the specified controlling area.

The **License Type** tab enables you to quickly identify the number of licences of a specific licence type that are distributed within an element (for example, a cost center or cost center group) highlighted in the Standard Hierarchy. Double-click the desired element in the Standard Hierarchy to display the relevant data for this element on the **License Type** tab.

By default, the ALV grid is sorted by license type in ascending order. You can amend the ALV grid layout, if required.

<table>
<thead>
<tr>
<th>Column Name</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Installation Number</td>
<td>The installation number of the system that contains the CO module.</td>
</tr>
<tr>
<td>System ID</td>
<td>The three-character ID of the system that contains the CO module.</td>
</tr>
<tr>
<td>Client</td>
<td>The client that contains a number of licenses of a certain license type.</td>
</tr>
<tr>
<td>License Type</td>
<td>The license type of which a certain number of licenses exist on a specified system.</td>
</tr>
<tr>
<td>Special Version</td>
<td>The special version, if applicable, that is associated with the license type.</td>
</tr>
<tr>
<td>Counter</td>
<td>Every row is counted (the <strong>Counter</strong> column for each user contains the value 1) to enable the creation of totals and subtotals. By default, the total number of users is calculated, and subtotals are calculated for groups of users with the same license type. However, you can customize this feature to count any type of data in this ALV grid. For information on counting rows in ALV grids, see <strong>Counting Rows in Reports</strong>.</td>
</tr>
<tr>
<td>First Name</td>
<td>The user’s first name.</td>
</tr>
<tr>
<td>Last Name</td>
<td>The user’s last name.</td>
</tr>
<tr>
<td>Country Surcharge</td>
<td>The country surcharge, if applicable, that is associated with the license type.</td>
</tr>
<tr>
<td>Number</td>
<td>The number of licenses of a specified type. By default, the report details the number of licenses of a certain license type per client and the total number of licenses of a certain license type per system for the element that is selected in the Standard Hierarchy. You can treat the <strong>Number</strong> column like the <strong>Counter</strong> column as described under <strong>User Tab in the License Distribution by Cost Center Report</strong>. For information on counting rows in ALV grids, see <strong>Counting Rows in Reports</strong>.</td>
</tr>
</tbody>
</table>

Customer Reports

With FlexNet Manager for SAP Applications, you can connect customer reports, such as specially created reports or commissioned reports.

These customer reports are connected to FlexNet Manager for SAP Applications using the **Customer Reports** item in the **Administration** menu. After you connect a customer report, it can be displayed in the **Extras** menu. As a menu item, either the description is displayed, or, if no description has been provided, the name that was used to add the report to the system is displayed. If no reports have been added, the **Extras** menu is empty.
Adding a Customer Report

To add a customer report:

1. In the Main menu of the SAP Admin module, click Administration, then select Customer Reports from the menu.
2. Click Add Customer Report to add a report.
3. In the Add Customer Report dialog, enter the report name and a description. Click Continue.

Modifying a Customer Report

To modify a customer report:

1. In the Main menu of the SAP Admin module, click Administration, then select Customer Reports from the menu.
2. Select the report you want to modify and click Change Customer Report.

Deleting a Customer Report

To delete a customer report:

1. In the Main menu of the SAP Admin module, click Administration, then select Customer Reports from the menu.
2. Select the report you want to modify and click Delete Customer Report.

Activity Checks

The activity checks functionality replicates the checks that SAP now makes in the USMM system measurement to guard against fraud. Using activity checks, you can identify possible usage issues and remedy them.

If you do not use the Staging Database Monitor to remotely launch the USMM and collect activity checks data, you must use the Activity Checks feature if you want to collect activity checks data from dependent SAP systems. As a prerequisite to using the Activity Checks feature, the Satellite transport must be installed on the corresponding SAP systems. The activity checks data that is generated using the Activity Checks feature is automatically added to the staging database on the SAP Admin module. The SAP Inventory Agent can connect to this staging database and load the data into the IT Asset Management database.

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.

The results of activity checks are used for analyzing and managing indirect access data for SAP user accounts. In particular, the data from the activity checks Work Time and Multiple Logons is analyzed. For more information, see SAP User Accounts Evidence.
Available Activity Checks

The following activity checks are available in the SAP Admin module.

<table>
<thead>
<tr>
<th>Option</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Work Time</td>
<td>Checks the activity of all end-users to ensure that sufficient pauses in activity are recorded in two subsequent days. The default value in the <strong>Break Duration</strong> field is 28,800 seconds (8 hours).</td>
</tr>
<tr>
<td>Prof./Limited Prof. Users</td>
<td>Checks to ensure that ESS users are not executing activities that require a Professional or Limited Professional license type. By default, this check is restricted to the last 28 days.</td>
</tr>
<tr>
<td>Workbench Users</td>
<td>Detects any users with a development key changing program text and issues a warning if these users do not have a license type associated with development work. By default, this is restricted to the last 42 days.</td>
</tr>
<tr>
<td>Deleted Users</td>
<td>Identifies any users that were deleted. By default, this is restricted to the last 84 days.</td>
</tr>
<tr>
<td>Expired Users</td>
<td>Identifies any users whose user accounts have expired. By default, this is restricted to the last 84 days.</td>
</tr>
<tr>
<td>Logon after</td>
<td>Identifies any users who have logged on to SAP after their account expiration date. By default, this is restricted to a period from last year/current month to last month.</td>
</tr>
<tr>
<td>Expiration</td>
<td></td>
</tr>
<tr>
<td>Future Users</td>
<td>Identifies any users who logged on to SAP before their user account was valid.</td>
</tr>
<tr>
<td>Multiple Logons</td>
<td>Lists the users with the highest number of concurrent logons in the previous and the current year. You can specify the maximum number of rows to display per page.</td>
</tr>
</tbody>
</table>

Defining and Executing Activity Checks

Activity-checks data can be collected only from dependent systems that have the Satellite transport installed. If the Satellite transport is not installed, use the Staging Database Monitor with the **Launch USMM remotely** option to collect activity-checks data. For more information, see Collecting Data from Dependent SAP Systems.

You can select and define the activity checks that you want to run.

*To define and execute an activity check:*

1. In the Main menu of the SAP Admin module, click **Activity Checks**, then select **Start Activity Checks** from the menu.
2. In the **Execute Activity Checks** screen, specify the system name(s) in the **RFC destination** field and provide a meaningful description for the check in the **Check Description** field.
3. Select the checks that you want to run. (The default values for each check reflect the values used by SAP in USMM, but you can modify the default values when you define activity checks.) See Available Activity Checks for a description of the individual activity checks.
4. The buttons **Checked Tables**, **Unit Table Texts**, and **Self-Service License Types** provide further information about the checked data.
• **Checked Tables** — Click this button to see which tables are checked. Although you can define which tables should be checked (by selecting a row and clicking Display/Change, this is not recommended.

• **Unit Table Texts** — Click this button to see the links between units and tables.

• **Self-Service License Types** — Click this button to see the license types that are available for ESS users. If you agreed to other license types for ESS users with SAP, you can edit this table by selecting a row and clicking Display/Change.

5. **Click Execute.**

### Viewing Activity Check Results

You can display activity check results after you defined and executed at least one activity check.

View the activity checks results and the activity checks parameters to identify possible issues.

#### To view activity check results:

1. In the Main menu of the SAP Admin module, click **Activity Checks**, then select **Display Activity Checks** from the menu.

   This displays a list of all of the activity checks that have been defined and executed.

2. Double-click a row to view details for a particular activity check. Only tabs with results are shown.

   • A yellow light bulb icon indicates that the check is finished and that there is content.

   • A gray light bulb icon indicates that the check is finished, but that there was no content.

3. In the **Detailed Data for Activity Check** screen, select the tab for the check and click the **Check Parameters** button to see the parameters used for this activity check.
Optimization of the SAP license position takes place in two separate steps. First, you use IT Asset Management to identify the optimal license position and generate license recommendations. The features that are available for this process are explained in the present section.

In a second step, you import the license recommendations into the SAP Admin module and update the user primary records in the SAP systems accordingly. This "actual" optimization, also called remediation, is described in section Remediation in the SAP Admin Module in the FlexNet Manager for SAP Applications User Guide PDF in section Remediation in the SAP Admin Module.

In SAP mode, a variety of features are available that help you to maintain and optimize your license position, such as:

- Consumption and transaction analysis—see Consumption Analysis Report
- Role utilization analysis—see Role Utilization Report
- Module usage analysis—see Module Usage Report
- Indirect access management—see Managing Indirect Access
- User consolidation—see User Consolidation
- Transaction profiles—see SAP Transaction Profiles
- License rules and license rule sets—see Configuring Optimization Rules
- SAP Package license consumption calculation—see SAP Package Licensing.

Consumption Analysis Report

The Consumption Analysis report analyzes the CPU consumption of the users within a specific time period. This report identifies users who rarely use the system, but who have been assigned an expensive (for example, Professional) license. By identifying these users and assigning them an appropriate license, the CPU consumption analysis provides the fastest
and easiest way to quickly identify cost-saving potential.

This report will also find users with a high CPU consumption to help you assign the appropriate license to them.

You can specify a transaction profile within the Consumption Analysis report. This is useful if you want to identify users who are regularly using the same transactions, in order to assign them an appropriate license type. It enables you to compare the collected usages with the usage list of a specified transaction profile. For each transaction in a profile, matches are verified. For information on transaction profiles, see SAP Transaction Profiles.

Note: The Consumption Analysis report analyzes consumption data only for complete months.

Creating a Consumption Analysis Report

To create a Consumption Analysis report:

1. Go to the Consumption Analysis page (Applications & Evidence > SAP Analysis Tools > Consumption Analysis).

2. Choose a system landscape and click on it.

   The Consumption Analysis page is displayed.

3. If you want to switch to a different landscape, click Change Landscape in the top-right corner of the page.

4. Optionally, specify selection criteria. In the Selection Details section, you can limit the report to the following criteria:
   - System Landscape—Select the system that should be used for the analysis.
   - Date from—Select the first month from the menu for which consumption data should be evaluated.
   - Date to—Select the last month from the menu for which consumption data should be evaluated.
   - Object—Enter one or more object names to limit the report to specific objects. If you enter multiple objects, separate them with a semicolon.
   - Object type—Select an object type from the menu to limit the report to specific object types (job, report, transaction, or non-SAP).
   - Task type—Enter one or more task types to limit the report to specific tasks. If you enter multiple task types, separate them with a semicolon.
   - Transaction profile—Select a transaction profile from the menu to compare the consumption data to the consumption that a user spent within a specified profile.

5. Click Refresh to display the results.

Reading the Results of a Consumption Analysis
Report

The results are presented in a grid, which enables you to sort users based on their CPU consumption. After sorting the results, you can identify users with zero or very high CPU usage, and can assign them an appropriate license type.

The Analysis Results section provides the following information (you can modify which columns are displayed using Advanced > Choose Fields).

<table>
<thead>
<tr>
<th>Column</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>System ID</td>
<td>The three-character ID of the system on which the consumption occurred.</td>
</tr>
<tr>
<td>Client</td>
<td>The client ID of the system on which the consumption occurred.</td>
</tr>
<tr>
<td>User Name</td>
<td>The name of the user whose consumption is analyzed.</td>
</tr>
<tr>
<td>Total CPU Time</td>
<td>The amount of CPU time that was consumed by the user.</td>
</tr>
<tr>
<td>Profile CPU Time</td>
<td>The amount of CPU time that the user spent in the specified transaction profile.</td>
</tr>
<tr>
<td>% Profile CPU Time</td>
<td>The amount of CPU time that the user spent in the specified transaction profile, expressed as a percentage of the total CPU time.</td>
</tr>
<tr>
<td>Transaction Profile</td>
<td>The transaction profile that was used to identify the user.</td>
</tr>
<tr>
<td>License Type</td>
<td>The license type that is currently assigned to the user on the system.</td>
</tr>
<tr>
<td>First Name</td>
<td>The first name of the user whose consumption is analyzed.</td>
</tr>
<tr>
<td>Last Name</td>
<td>The last name of the user whose consumption is analyzed.</td>
</tr>
<tr>
<td>Valid From</td>
<td>The start date of the user’s validity period.</td>
</tr>
<tr>
<td>Valid To</td>
<td>The end date of the user’s validity period.</td>
</tr>
<tr>
<td>User Type</td>
<td>The user type of the user.</td>
</tr>
<tr>
<td>User Group</td>
<td>The group that the user belongs to.</td>
</tr>
<tr>
<td>Last Logon Date</td>
<td>The date when the user last logged on to the SAP system.</td>
</tr>
<tr>
<td>Developer</td>
<td>Indicates whether the user currently has a developer license.</td>
</tr>
<tr>
<td>Created On</td>
<td>The user’s creation date.</td>
</tr>
<tr>
<td>Account No.</td>
<td>The accounting number of the user.</td>
</tr>
<tr>
<td>Assign. To Special Version</td>
<td>The user’s special version, if the user has been assigned one.</td>
</tr>
<tr>
<td>Chargeable Client ID</td>
<td>The two-character ID of the chargeable user’s system client.</td>
</tr>
<tr>
<td>Chargeable From Date</td>
<td>The start date from which the chargeable user is representing this user.</td>
</tr>
<tr>
<td>Chargeable System ID</td>
<td>The three-character ID of the chargeable user’s system.</td>
</tr>
</tbody>
</table>

Note: This field is currently not supported for S/4HANA systems.
<table>
<thead>
<tr>
<th>Column</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chargeable To Date</td>
<td>The end date until which the chargeable user is representing this user.</td>
</tr>
<tr>
<td>Chargeable User Name</td>
<td>The user name of another user who is representing this user.</td>
</tr>
<tr>
<td>Company Name 1</td>
<td>The company name 1 of the user.</td>
</tr>
<tr>
<td>Company Name 2</td>
<td>The company name 2 of the user.</td>
</tr>
<tr>
<td>Cost Center</td>
<td>The user's cost center.</td>
</tr>
<tr>
<td>Country Surcharge</td>
<td>The user’s country surcharge, if the user has been assigned one.</td>
</tr>
<tr>
<td>Division</td>
<td>The user’s division.</td>
</tr>
<tr>
<td>Email</td>
<td>The email address of the user on the system on which the user was identified.</td>
</tr>
</tbody>
</table>
| 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. Of Multiple Logon       | Displays how often the user was logged on multiple times in the specified period.                                                                                                                          |
| Telephone Extension         | The user’s phone extension.                                                                                                                                                                                 |
| Telephone Number            | The user’s phone number.                                                                                                                                                                                   |

The "SAP Consumption Analysis Details" Dialog

Use the SAP Consumption Analysis Details dialog to review the consumption for a particular user.

This dialog also provides insight into whether the consumed objects are part of a transaction profile, and enables you to directly add one or more consumed objects to a transaction profile.

For more information on reviewing and adding objects to a transaction profile, see Identifying Objects that are Included in Transaction Profiles.

The SAP Consumption Analysis Details dialog displays the following information.
<table>
<thead>
<tr>
<th>Column Name</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>System ID</td>
<td>The three-character ID of the system on which the consumption occurred.</td>
</tr>
<tr>
<td>Client</td>
<td>The client ID of the system on which the consumption occurred.</td>
</tr>
<tr>
<td>User Name</td>
<td>The name of the user whose consumption is analyzed.</td>
</tr>
<tr>
<td>Month</td>
<td>The month in which the usage occurred.</td>
</tr>
<tr>
<td>Object</td>
<td>The name of the object that was used.</td>
</tr>
<tr>
<td>Module Name</td>
<td>The name of the SAP Basis Module that contains the object. This column contains data only if the module hierarchy for the corresponding system was retrieved.</td>
</tr>
<tr>
<td>Sub Module Name</td>
<td>The name of the SAP Sub Module that contains the object. This column contains data only if the module hierarchy for the corresponding system was retrieved.</td>
</tr>
<tr>
<td>Transaction Profiles</td>
<td>The name of the transaction profile that contains the object.</td>
</tr>
<tr>
<td>Entry Type</td>
<td>The entry type of the object (T = Transaction, J = Job, R = Report).</td>
</tr>
<tr>
<td>Job Name</td>
<td>The name of the job (available only if the entry type was a Job).</td>
</tr>
<tr>
<td>Task Type</td>
<td>The task type that was used.</td>
</tr>
<tr>
<td>CPU Time</td>
<td>The CPU time (in seconds) that was spent.</td>
</tr>
</tbody>
</table>

You can directly add objects from this dialog to a transaction profile. For more information, see Identifying Objects that are Included in Transaction Profiles.

**Viewing Consumption Details in the Consumption Analysis Report**

*To view consumption analysis details in the Consumption Analysis report:*

1. In the Consumption Analysis report, select the user for whom you want to display consumption details.
2. Click View.

**Role Utilization Report**

The Role Utilization report provides visibility on which roles are assigned to each user and how the roles are being used. This information can be used as input to designing license rules that map roles to license types. It can also be used to understand which of a user’s roles the user is actively using. If a user is not using a role, you might want to consider to remove them from the role, so that their authorizations more accurately reflect their responsibilities.

The Role Utilization report is a valuable tool for system administrators, as it provides a good framework to continually optimize the roles’ definitions and their allocation. It can therefore help you to keep a clean and consistent SAP environment.
Creating a Role Utilization Report

To create a Role Utilization report:

1. Go to the Role Utilization page (Applications & Evidence > SAP Analysis Tools > Role Utilization).
2. If you want to switch to a different landscape, click Change Landscape in the top-right corner of the page.
3. Optionally, specify selection criteria. In the Selection Details section, you can limit the report to the following criteria:
   - System Landscape—Select the system that should be used for the analysis.
   - Role name—If you want to check the usage of a specific role, enter the name of the role.
   - Valid from—Select the start date of the period when the user role was valid for one or more users.
   - Valid to—Select the end date of the period when the user role was valid for one or more users.
   - Date from—Select the first month from the menu for which consumption data should be evaluated.
   - Date to—Select the last month from the menu for which consumption data should be evaluated.
4. Click Refresh to display the results.

Reading the Results of a Role Utilization Report

In the Role Utilization report, the Analysis Results section provides the following information (you can modify which columns are displayed using Advanced > Choose Fields).

<table>
<thead>
<tr>
<th>Column Name</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>System ID</td>
<td>The three-character ID of the system on which the consumption occurred.</td>
</tr>
<tr>
<td>Client</td>
<td>The client ID of the system on which the consumption occurred.</td>
</tr>
<tr>
<td>User Name</td>
<td>The name of the user whose consumption is analyzed.</td>
</tr>
<tr>
<td>Composite Role</td>
<td>The composite role that has been assigned to the user.</td>
</tr>
<tr>
<td>Composite Role License Type</td>
<td>The license type that has been assigned to the composite role.</td>
</tr>
<tr>
<td>TCode in Composite Role</td>
<td>The number of transaction codes that are included in the composite role.</td>
</tr>
<tr>
<td>Used TCode in Composite Role</td>
<td>The number of transaction codes in the composite role that were actually used by the user.</td>
</tr>
<tr>
<td>Column Name</td>
<td>Description</td>
</tr>
<tr>
<td>---------------------------------</td>
<td>--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>% Composite Role Utilization</td>
<td>A percentage that shows how much the transactions of the composite role (the value in the <strong>TCode in Composite Role</strong> column) were used. A high percentage indicates that a high number of transactions of the composite role were used; a low number indicates that only few transactions of the composite role were used.</td>
</tr>
<tr>
<td>Single Role</td>
<td>The single role that has been assigned to the user.</td>
</tr>
<tr>
<td>Single Role License Type</td>
<td>The license type that has been assigned to the single role.</td>
</tr>
<tr>
<td>TCode in Single Role</td>
<td>The number of transaction codes that are included in the single role.</td>
</tr>
<tr>
<td>Used TCode in Single Role</td>
<td>The number of transaction codes in the single role that were actually used by the user.</td>
</tr>
<tr>
<td>% Single Role Utilization</td>
<td>A percentage that shows how much the transactions of the single role (the value in the <strong>Tcode in Single Role</strong> column) were used. A high percentage indicates that a high number of transactions from the single role were used; a low number indicates that only few transactions of the single role were used.</td>
</tr>
<tr>
<td>Total TCode Used</td>
<td>The number of transactions that a user used. The number in the <strong>Total TCode Used</strong> column is not necessarily the sum of the numbers in the <strong>Used TCode in Single Role</strong> and <strong>Used TCode in Composite Role</strong> columns. Tcodes can appear in several roles, and, as a result, would be calculated twice. It is also possible that, via permissions profiles, a user can access transactions that have not been assigned to any user role.</td>
</tr>
<tr>
<td>Account No.</td>
<td>The accounting number of the user.</td>
</tr>
<tr>
<td>Assign. To Special Version</td>
<td>The user’s special version, if the user has been assigned one.</td>
</tr>
<tr>
<td>Chargeable Client</td>
<td>The two-character ID of the chargeable user’s system client.</td>
</tr>
<tr>
<td>Chargeable From Date</td>
<td>The start date from which the chargeable user is representing this user.</td>
</tr>
<tr>
<td>Chargeable System ID</td>
<td>The three-character ID of the chargeable user’s system.</td>
</tr>
<tr>
<td>Chargeable To Date</td>
<td>The end date until which the chargeable user is representing this user.</td>
</tr>
<tr>
<td>Chargeable User Name</td>
<td>The user name of another user who is representing this user.</td>
</tr>
<tr>
<td>Company Name 1</td>
<td>The company name 1 of the user.</td>
</tr>
<tr>
<td>Company Name 2</td>
<td>The company name 2 of the user.</td>
</tr>
<tr>
<td>Cost Center</td>
<td>The user’s cost center.</td>
</tr>
<tr>
<td>Country Surcharge</td>
<td>The user’s country surcharge, if the user has been assigned one.</td>
</tr>
<tr>
<td>Created On</td>
<td>The user’s creation date.</td>
</tr>
<tr>
<td>Developer</td>
<td>Indicates whether the user currently has a developer license.</td>
</tr>
</tbody>
</table>

**Note:** This field is currently not supported for S/4HANA systems.
<table>
<thead>
<tr>
<th>Column Name</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Division</td>
<td>The user's division.</td>
</tr>
<tr>
<td>Email</td>
<td>The email address of the user on the system on which the user was identified.</td>
</tr>
<tr>
<td>First Name</td>
<td>The first name of the user whose consumption is analyzed.</td>
</tr>
<tr>
<td>Last Logon Date</td>
<td>The date when the user last logged on to the SAP system.</td>
</tr>
<tr>
<td>Last Name</td>
<td>The last name of the user whose consumption is analyzed.</td>
</tr>
<tr>
<td>License Type</td>
<td>The license type that is currently assigned to the user on the system.</td>
</tr>
<tr>
<td>Locked Status</td>
<td>Indicates whether the user is currently locked. Possible values:</td>
</tr>
<tr>
<td></td>
<td>• 0: Not locked</td>
</tr>
<tr>
<td></td>
<td>• 32: Locked by CUA administrator</td>
</tr>
<tr>
<td></td>
<td>• 64: Locked by administrator</td>
</tr>
<tr>
<td></td>
<td>• 128: Locked after failed logon</td>
</tr>
<tr>
<td>Max. Multiple Logon</td>
<td>The maximum number of simultaneous multiple logons that the user had in the specified period.</td>
</tr>
<tr>
<td>No. Of Multiple Logon</td>
<td>Displays how often the user was logged on multiple times in the specified period.</td>
</tr>
<tr>
<td>Telephone Extension</td>
<td>The user’s phone extension.</td>
</tr>
<tr>
<td>Telephone Number</td>
<td>The user’s phone number.</td>
</tr>
<tr>
<td>User Group</td>
<td>The group that the user belongs to.</td>
</tr>
<tr>
<td>User Type</td>
<td>The user type of the user.</td>
</tr>
<tr>
<td>Valid From</td>
<td>The start date of the user's validity period.</td>
</tr>
<tr>
<td>Valid To</td>
<td>The end date of the user's validity period.</td>
</tr>
</tbody>
</table>

IT Asset Management (Cloud)

Current

Advanced Role Analysis

After you have executed the Role Utilization report, you can run the Advanced Role Utilization or User Activity analysis to obtain more detailed information about roles and their usage. These analyses are available from the Advanced menu.
Advanced Role Utilization

The Advanced Role Utilization analysis enables you to display the transaction codes that are contained in a specific role, as well as their usage, based on the overall activities of the user in this role. The usage is given in CPU time (seconds) and as a percentage. Therefore, the Advanced Role Utilization analysis is particularly helpful if you want to identify transaction codes that are not being used by a particular user.

The analysis shows the role utilization for the parameters (for example, systems, role name, or period) specified for the underlying Role Utilization report.

To analyze the utilization of a specific role:

1. Execute a Role Utilization report by following the steps described under Creating a Role Utilization Report.
2. In the report, select the row that contains the user and the role that you want to analyze.
3. On the Advanced menu, point to Analysis, and then click Advanced Role Utilization.

The Advanced Role Utilization dialog displays the following information.

<table>
<thead>
<tr>
<th>Column Name</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>System ID</td>
<td>The three-character ID of the system on which the user used the role and its transaction codes.</td>
</tr>
<tr>
<td>Client ID</td>
<td>The client ID of the system on which the user used the role and its transaction codes.</td>
</tr>
<tr>
<td>User Name</td>
<td>The name of the user whose role utilization is analyzed.</td>
</tr>
<tr>
<td>Role Name</td>
<td>The name of the role whose utilization is analyzed.</td>
</tr>
<tr>
<td>Transaction Code</td>
<td>The transaction codes that are included in the role.</td>
</tr>
<tr>
<td>CPU Time</td>
<td>The CPU time (in seconds) that the user spent on a transaction code within the role.</td>
</tr>
<tr>
<td>Percentage</td>
<td>The amount of time, expressed as a percentage, that the user spent on a transaction code within the role. The percentages of all transaction codes in the role add up to 100%.</td>
</tr>
</tbody>
</table>

User Activity

The User Activity analysis enables you to display all transaction codes that were used by a specific user in any role. The analysis shows how much a user used a specific transaction code and whether the transaction code is included in the selected role. This makes the User Activity analysis a useful tool for identifying a user's overall activities and for cleaning up a user's roles.

The analysis shows the user activity for the parameters (for example, systems, role name, or period) that were specified for the underlying Role Utilization report.

To analyze the activity of a specific user:

1. Execute a Role Utilization report by following the steps described under Creating a Role Utilization Report.
2. In the report, select the row for the user and the role whose activity you want to analyze.

3. On the Advanced menu, point to Analysis, and then click User Activity.

The User Activity dialog displays the following information.

<table>
<thead>
<tr>
<th>Column Name</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>System ID</td>
<td>The three-character ID of the system on which the user was active.</td>
</tr>
<tr>
<td>Client ID</td>
<td>The client ID of the system on which the user was active.</td>
</tr>
<tr>
<td>User Name</td>
<td>The name of the user whose activity is analyzed.</td>
</tr>
<tr>
<td>Role Name</td>
<td>The name of the role whose utilization is analyzed. If a transaction code is not included in the selected role, the Role Name field is blank.</td>
</tr>
<tr>
<td>Transaction Code</td>
<td>The transaction code that the user has used.</td>
</tr>
<tr>
<td>CPU Time</td>
<td>The CPU time (in seconds) that the user spent on a transaction code.</td>
</tr>
<tr>
<td>Percentage</td>
<td>The amount of time, expressed as a percentage, that the user spent on a transaction code. The percentages of all transaction codes that the user used add up to 100%.</td>
</tr>
</tbody>
</table>

The "SAP Consumption Analysis Details" Dialog

Use the SAP Consumption Analysis Details dialog to review the consumption for a particular user.

This dialog also provides insight into whether the consumed objects are part of a transaction profile, and enables you to directly add one or more consumed objects to a transaction profile.

For more information on reviewing and adding objects to a transaction profile, see Identifying Objects that are Included in Transaction Profiles.

The SAP Consumption Analysis Details dialog displays the following information.

<table>
<thead>
<tr>
<th>Column Name</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>System ID</td>
<td>The three-character ID of the system on which the consumption occurred.</td>
</tr>
<tr>
<td>Client</td>
<td>The client ID of the system on which the consumption occurred.</td>
</tr>
<tr>
<td>User Name</td>
<td>The name of the user whose consumption is analyzed.</td>
</tr>
<tr>
<td>Month</td>
<td>The month in which the usage occurred.</td>
</tr>
<tr>
<td>Object</td>
<td>The name of the object that was used.</td>
</tr>
<tr>
<td>Module Name</td>
<td>The name of the SAP Basis Module that contains the object. This column contains data only if the module hierarchy for the corresponding system was retrieved.</td>
</tr>
<tr>
<td>Sub Module Name</td>
<td>The name of the SAP Sub Module that contains the object. This column contains data only if the module hierarchy for the corresponding system was retrieved.</td>
</tr>
<tr>
<td>Transaction Profiles</td>
<td>The name of the transaction profile that contains the object.</td>
</tr>
<tr>
<td>Column Name</td>
<td>Description</td>
</tr>
<tr>
<td>--------------</td>
<td>-----------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Entry Type</td>
<td>The entry type of the object (T = Transaction, J = Job, R = Report).</td>
</tr>
<tr>
<td>Job Name</td>
<td>The name of the job (available only if the entry type was a Job).</td>
</tr>
<tr>
<td>Task Type</td>
<td>The task type that was used.</td>
</tr>
<tr>
<td>CPU Time</td>
<td>The CPU time (in seconds) that was spent.</td>
</tr>
</tbody>
</table>

You can directly add objects from this dialog to a transaction profile. For more information, see Identifying Objects that are Included in Transaction Profiles.

### Viewing Consumption Details in the Role Utilization Report

To view consumption analysis details in the Role Utilization report:

1. In the Role Utilization report, select the user for whom you want to display consumption details.
2. Click **View**.

### Module Usage Report

The Module Usage report analyzes the proportionate usage of SAP modules by the user. This usage data could be used to provide a base for user classification in SAP. For example, users that use only industry-specific add-ons can be identified and classified accordingly. Information from this report can be useful to set up transaction profiles.

Information on the module hierarchy is only available in the Module Usage report if the Satellite transport was installed on the corresponding SAP systems. If the module hierarchy cannot be retrieved, the columns **SAP Basis Module** and **SAP Sub Module** in this report will not be populated. For more information on the Satellite transport, see the *FlexNet Manager for SAP Applications Installation Guide* PDF.

### Creating a Module Usage Report

To create a Module Usage report:

1. Go to the **Module Usage** page (Applications & Evidence > SAP Analysis Tools > Module Usage).
2. If you want to switch to a different landscape, click **Change Landscape** in the top-right corner of the page.
3. Optionally, specify selection criteria. In the **Selection Details** section, you can limit the report to the following criteria:
   - **System Landscape**—Select the system that should be used for the analysis.

   *Tip: To minimize delay in generating your report, you may select only one system at a time from this list.*
• **Date from**—Select the first month from the menu for which the module usage data should be evaluated.

• **Date to**—Select the last month from the menu for which the module usage data should be evaluated.

• **Object**—Enter one or more object names to limit the report to specific objects. If you enter multiple objects, separate them with a semicolon.

• **Object type**—Select an object type from the menu to limit the report to specific object types (job, report, or transaction).

• **Task type**—Enter one or more task types to limit the report to specific task types. If you enter multiple task types, separate them with a semicolon.

• **Options**—Open the list and select the check boxes for the elements that should be displayed in the analysis results. The following elements are available:
  ◦ **SAP Basis Module**—Indication per SAP basis module. This check box is selected by default.
  ◦ **SAP Sub Module**—Indication on sub-module level.
  ◦ **SAP Object**—Indication up to level Report/TCODE.
  ◦ **Month**—Breakdown of results by months. You will receive a summary of the module usage over the period specified. If no period has been specified, you will receive a summary of all present data.
  ◦ **System Information**—For evaluations across systems. This check box is selected by default. This means that a differentiation by system takes place.
  ◦ **Client**—For evaluations across clients. This check box is selected by default. This means that a differentiation by client takes place.
  ◦ **User Information**—For evaluations across users. This check box is selected by default. This means that a differentiation by user takes place.

4. Click **Refresh** to display the results.

### Reading the Results of the Module Usage Report

When the results are displayed, you can sort users based on their CPU consumption to identify users with very high or very low CPU usage. Double-click a row to display detailed consumption data in a separate dialog. This shows how the consumption of the individual transactions, jobs, and reports make up the consumption that is displayed and for which object the consumption occurred.

Depending on your requirements, you can sort or filter the report, for example, by SAP module, user group, or the percentage of how much CPU time a user spends in specific modules.

The **Analysis Results** section provides the following information (you can modify which columns are displayed using **Advanced > Choose Fields**).

<table>
<thead>
<tr>
<th>Column</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>System ID</td>
<td>The three-character ID of the system on which the module was used.</td>
</tr>
<tr>
<td>Client</td>
<td>The client ID of the system on which the module was used.</td>
</tr>
<tr>
<td>Column</td>
<td>Description</td>
</tr>
<tr>
<td>--------------------------</td>
<td>-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>User Name</td>
<td>The name of the user whose consumption in the module is analyzed.</td>
</tr>
<tr>
<td>SAP Basis Module</td>
<td>The SAP Basis Module that was used. This column only contains data, if the module hierarchy for the corresponding system was retrieved.</td>
</tr>
<tr>
<td>SAP Sub Module</td>
<td>The SAP Sub Module that was used. This column only contains data, if the module hierarchy for the corresponding system was retrieved.</td>
</tr>
<tr>
<td>Month</td>
<td>The month in which the module was used.</td>
</tr>
<tr>
<td>Object</td>
<td>The object that was used.</td>
</tr>
<tr>
<td>CPU Time</td>
<td>The CPU time (in seconds) that was used.</td>
</tr>
<tr>
<td>% CPU</td>
<td>The amount of CPU time that the user spent in the module, expressed as a percentage of the total CPU time.</td>
</tr>
<tr>
<td>Account No.</td>
<td>The accounting number of the user.</td>
</tr>
<tr>
<td>Assign. To Special Version</td>
<td>The user’s special version, if the user has been assigned one.</td>
</tr>
<tr>
<td>Chargeable Client ID</td>
<td>The two-character ID of the chargeable user’s system client.</td>
</tr>
<tr>
<td>Chargeable From Date</td>
<td>The start date from which the chargeable user is representing this user.</td>
</tr>
<tr>
<td>Chargeable System ID</td>
<td>The three-character ID of the chargeable user’s system.</td>
</tr>
<tr>
<td>Chargeable To Date</td>
<td>The end date until which the chargeable user is representing this user.</td>
</tr>
<tr>
<td>Chargeable User Name</td>
<td>The user name of another user who is representing this user.</td>
</tr>
<tr>
<td>Company Name 1</td>
<td>The company name 1 of the user.</td>
</tr>
<tr>
<td>Company Name 2</td>
<td>The company name 2 of the user.</td>
</tr>
<tr>
<td>Cost Center</td>
<td>The user’s cost center.</td>
</tr>
<tr>
<td>Country Surcharge</td>
<td>The user’s country surcharge, if the user has been assigned one.</td>
</tr>
<tr>
<td>Created On</td>
<td>The user’s creation date.</td>
</tr>
<tr>
<td>Developer</td>
<td>Displays a check mark if the user currently has a developer license.</td>
</tr>
</tbody>
</table>

**Note:** This field is currently not supported for S/4HANA systems.
<table>
<thead>
<tr>
<th>Column</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Division</td>
<td>The user's division.</td>
</tr>
<tr>
<td>Email</td>
<td>The email address of the user on the system on which the user was identified.</td>
</tr>
<tr>
<td>First Name</td>
<td>The first name of the user whose consumption is analyzed.</td>
</tr>
<tr>
<td>Last Logon Date</td>
<td>The date when the user last logged on to the SAP system.</td>
</tr>
<tr>
<td>Last Name</td>
<td>The last name of the user whose consumption is analyzed.</td>
</tr>
<tr>
<td>License Type</td>
<td>The license type that is currently assigned to the user on the system.</td>
</tr>
<tr>
<td>Locked Status</td>
<td>Indicates whether the user is currently locked. Possible values:</td>
</tr>
<tr>
<td></td>
<td>• 0: Not locked</td>
</tr>
<tr>
<td></td>
<td>• 32: Locked by CUA administrator</td>
</tr>
<tr>
<td></td>
<td>• 64: Locked by administrator</td>
</tr>
<tr>
<td></td>
<td>• 128: Locked after failed logon</td>
</tr>
<tr>
<td>Max. Multiple Logon</td>
<td>The maximum number of simultaneous multiple logons that the user had in the specified period.</td>
</tr>
<tr>
<td>No. Of Multiple Logon</td>
<td>Displays how often the user was logged on multiple times in the specified period.</td>
</tr>
<tr>
<td>Telephone Extension</td>
<td>The user's phone extension.</td>
</tr>
<tr>
<td>Telephone Number</td>
<td>The user's phone number.</td>
</tr>
<tr>
<td>User Group</td>
<td>The group that the user belongs to.</td>
</tr>
<tr>
<td>User Type</td>
<td>The user type of the user.</td>
</tr>
<tr>
<td>Valid From</td>
<td>The start date of the user's validity period.</td>
</tr>
<tr>
<td>Valid To</td>
<td>The end date of the user's validity period.</td>
</tr>
</tbody>
</table>

IT Asset Management (Cloud)

Current

The "SAP Consumption Analysis Details" Dialog

Use the SAP Consumption Analysis Details dialog to review the consumption for a particular user.

This dialog also provides insight into whether the consumed objects are part of a transaction profile, and enables you to directly add one or more consumed objects to a transaction profile.
For more information on reviewing and adding objects to a transaction profile, see Identifying Objects that are Included in Transaction Profiles.

The SAP Consumption Analysis Details dialog displays the following information.

<table>
<thead>
<tr>
<th>Column Name</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>System ID</td>
<td>The three-character ID of the system on which the consumption occurred.</td>
</tr>
<tr>
<td>Client</td>
<td>The client ID of the system on which the consumption occurred.</td>
</tr>
<tr>
<td>User Name</td>
<td>The name of the user whose consumption is analyzed.</td>
</tr>
<tr>
<td>Month</td>
<td>The month in which the usage occurred.</td>
</tr>
<tr>
<td>Object</td>
<td>The name of the object that was used.</td>
</tr>
<tr>
<td>Module Name</td>
<td>The name of the SAP Basis Module that contains the object. This column contains data only if the module hierarchy for the corresponding system was retrieved.</td>
</tr>
<tr>
<td>Sub Module Name</td>
<td>The name of the SAP Sub Module that contains the object. This column contains data only if the module hierarchy for the corresponding system was retrieved.</td>
</tr>
<tr>
<td>Transaction Profiles</td>
<td>The name of the transaction profile that contains the object.</td>
</tr>
<tr>
<td>Entry Type</td>
<td>The entry type of the object (T = Transaction, J = Job, R = Report).</td>
</tr>
<tr>
<td>Job Name</td>
<td>The name of the job (available only if the entry type was a Job).</td>
</tr>
<tr>
<td>Task Type</td>
<td>The task type that was used.</td>
</tr>
<tr>
<td>CPU Time</td>
<td>The CPU time (in seconds) that was spent.</td>
</tr>
</tbody>
</table>

You can directly add objects from this dialog to a transaction profile. For more information, see Identifying Objects that are Included in Transaction Profiles.

**Viewing Consumption Details in the Module Usage Report**

To view consumption analysis details in the Module Usage report:

1. In the Module Usage report, select the user for whom you want to display consumption details.
2. Click View.

**Managing Indirect Access**

Every user who accesses SAP software directly or indirectly requires an SAP Named User license. Direct access means that a user directly accesses an SAP system. Indirect access means that a user accesses SAP software or SAP data via a remote (third-party) system. For example, a user who logs on to an HR portal, which in turn connects to an SAP system, indirectly accesses the SAP system.

Types of indirect access include the following:
• A remote (non-SAP) system communicates with an SAP system via remote function call (RFC), using one or more SAP service accounts.

• A remote (non-SAP) system communicates with an SAP system via web services, using one or more SAP service accounts.

• A remote (non-SAP) system communicates with an SAP system via SAP Process Integration (PI), using one or more SAP service accounts.

• An SAP system is used to generate a file containing data from SAP software. This file is then distributed to or used by many users or other non-SAP systems.

In all of these instances, a user does not log on directly to an SAP system. FlexNet Manager for SAP Applications can recognize indirect access that occurred via RFC, and collects relevant evidence. This evidence can be split into two categories: SAP user account evidence and remote system evidence.

With FlexNet Manager for SAP Applications, you can manage instances of indirect access and reduce potential liabilities due to indirect access. FlexNet Manager for SAP Applications helps your organization to consolidate user accounts from non-SAP systems with those from SAP systems so that if the same people are using SAP and non-SAP systems, the total number of Named User licenses that are required is unchanged even when including non-SAP systems.

Workflow

FlexNet Manager for SAP Applications identifies indirect access by collecting relevant evidence. The workflow of managing the indirect access evidence usually includes the following steps:

   For more information, see Viewing Remote System Evidence and Viewing SAP User Accounts Evidence.

2. Reviewing the evidence details and deciding whether indirect access has occurred.
   For more information, see Remote System Evidence and SAP User Accounts Evidence.

3. Creating a non-SAP system and linking evidence to it.
   For more information, see Linking Evidence to a Non-SAP System.

4. Hiding evidence if it does not need further action.
   For more information, see Showing and Hiding Remote System Evidence.

5. Importing user data, roles, and consumption data into the non-SAP system to enable optimization of the non-SAP system.
   For more information, see Importing Data into a Non-SAP System.

6. Creating an Indirect Access Evidence report to view the license consumption that is due to indirect access from non-SAP systems.
   For more information, see Creating an Indirect Access Evidence Report.

Collecting Indirect Access Evidence

FlexNet Manager for SAP Applications enables you to manage the following types of indirect access evidence:

• Remote system evidence—See Remote System Evidence for more information.
SAP user account evidence—See SAP User Accounts Evidence for more information.

FlexNet Manager for SAP Applications runs reports to identify the different types of indirect access. The SAP Inventory Agent collects this evidence and makes it available for you to view in IT Asset Management.

You can control how often the SAP Inventory Agent collects the evidence. You schedule the collection of evidence directly on the inventory beacon. For more information, see Scheduling Tab. For more information, see Scheduling Page in the IT Asset Management online help.

By default, evidence is collected and displayed for the previous three months. Data is collected for entire months, after the last day of the month has passed (that is, from the first day to the last day of the month).

Remote System Evidence

FlexNet Manager for SAP Applications identifies evidence of remote systems that communicate with SAP systems. You can include these systems in the system landscape by linking them to a non-SAP system. This enables you to manage these remote systems in a similar way to normal SAP systems—that is, you can apply optimization rules and consolidate the users across the system landscape. For information about non-SAP systems, see Managing Evidence Using Non-SAP Systems.

Viewing Remote System Evidence

On the Indirect Access page (Licenses > SAP Optimization > Indirect Access), the RFC Connections tab lists the remote systems (usually non-SAP servers) that are communicating with your organization’s SAP systems.

The information on the RFC Connections tab helps you identify indirect access and decide whether further investigation of a particular system is needed. Each row in the grid represents a summary of a remote server. Each of these remote servers is connecting to one or more of your organization’s SAP servers, and is executing one or more remote function calls using one or more SAP user accounts. You can view the corresponding details on the remote system’s details page (see Viewing Details of Remote System Evidence).

<table>
<thead>
<tr>
<th>Column</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Remote System</td>
<td>The host name of the remote (non-SAP) machine that is accessing the SAP system.</td>
</tr>
<tr>
<td>Number of RFC Calls</td>
<td>The number of RFC calls that were made from the remote system to an SAP system.</td>
</tr>
<tr>
<td>Number of Functions Used</td>
<td>The number of distinct RFC functions that were used by the remote system.</td>
</tr>
<tr>
<td>Number of SAP Systems</td>
<td>To see details of the functions that have been used, and to determine whether data was imported into or out of SAP, open the Remote System page. For more information, see Viewing Details of Remote System Evidence.</td>
</tr>
<tr>
<td>Number of SAP Systems</td>
<td>The number of SAP systems to which the remote system communicated.</td>
</tr>
</tbody>
</table>

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<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Remote System</td>
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</tr>
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<td>Number of RFC Calls</td>
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</tr>
<tr>
<td>Number of Functions Used</td>
<td>The number of distinct RFC functions that were used by the remote system.</td>
</tr>
<tr>
<td>Number of SAP Systems</td>
<td>To see details of the functions that have been used, and to determine whether data was imported into or out of SAP, open the Remote System page. For more information, see Viewing Details of Remote System Evidence.</td>
</tr>
<tr>
<td>Number of SAP Systems</td>
<td>The number of SAP systems to which the remote system communicated.</td>
</tr>
<tr>
<td>Column</td>
<td>Definition</td>
</tr>
<tr>
<td>---------------------</td>
<td>-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td><strong>Number of Dialog Users</strong></td>
<td>The number of Dialog users who logged on to the SAP system to execute RFC calls. A high number usually indicates that the users who are accessing the SAP data via the remote system are logging in to the SAP system directly—that is, no indirect access is taking place. If the number is low, this might indicate that the SAP data is accessed indirectly via a Dialog user account that is used incorrectly.</td>
</tr>
<tr>
<td><strong>Number of Non-Dialog Users</strong></td>
<td>The number of users with a user account type other than Dialog who logged on to the SAP system to execute RFC calls. If the value of this column is greater than zero, this indicates that a &quot;non-human&quot; (technical) user account was used to access SAP data, and the SAP data might be accessed by a larger number of users via the remote system.</td>
</tr>
<tr>
<td><strong>Non-SAP Systems</strong></td>
<td>The non-SAP system(s) to which this evidence is currently linked.</td>
</tr>
<tr>
<td><strong>Hidden</strong></td>
<td><strong>No</strong> indicates that the evidence is always visible. <strong>Yes</strong> indicates that the evidence is visible only if the Show hidden remote systems check box is selected. For information about showing and hiding evidence, see Showing and Hiding Remote System Evidence.</td>
</tr>
</tbody>
</table>

For information about viewing the details of a remote system, see Viewing Details of Remote System Evidence.

IT Asset Management (Cloud)

Current

### Showing and Hiding Remote System Evidence

If you find that specific instances of evidence do not need further action, you can hide the relevant rows in the grid on the RFC Connections tab. This enables you to focus on the evidence that requires attention.

To hide or show evidence on the RFC Connections tab:

2. On the Indirect Access page, click the RFC Connections tab. Do one of the following:
   - To hide evidence, select the remote systems that you want to hide. In the Tasks section, click Hide selected connections.
   - To show evidence, select the remote systems that you want to show. In the Tasks section, click Show selected connections.

Select the Show hidden remote systems check box if hidden remote systems should be visible on the RFC Connections tab. Selecting or clearing this check box will not change the display status of the remote systems (Yes or No in the Hidden column). Instead, it enables you to display or hide all remote systems that are marked as hidden. The setting of the Show hidden remote systems check box persists when you leave the RFC Connections tab and return to it later.
Viewing Details of Remote System Evidence

The RFC Connection Details page shows information about the activity of a particular remote server. For example, you can see the SAP system(s) with which the remote server communicated, and the user accounts that were used. This can help you to determine whether the remote system is used to access SAP software indirectly.

To view the details of a remote system:

2. On the Indirect Access page, click the RFC Connections tab. Select the remote system for which you want to display details and click View.
   Alternatively, double-click the remote system name.

The RFC Connection Details page opens. The following table describes the information provided.

<table>
<thead>
<tr>
<th>Column</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Remote System</td>
<td>The host name of the remote (non-SAP) machine that is accessing the SAP system.</td>
</tr>
<tr>
<td>SAP System</td>
<td>The ID of the SAP system to which the remote machine communicated.</td>
</tr>
<tr>
<td>User Name</td>
<td>The name of the user who indirectly accessed the SAP system.</td>
</tr>
<tr>
<td>RFC Program</td>
<td>The name of the RFC program that executed an RFC function.</td>
</tr>
<tr>
<td>Function Name</td>
<td>The name of the RFC function that was executed.</td>
</tr>
<tr>
<td>Number of RFC Calls</td>
<td>The number of RFC calls that were made from the remote system.</td>
</tr>
<tr>
<td>Total Execution Time</td>
<td>The total amount of CPU time that was consumed.</td>
</tr>
<tr>
<td>Data Sent</td>
<td>The amount of data that was sent from the remote system to the SAP system.</td>
</tr>
<tr>
<td>Data Received</td>
<td>The amount of data that was received by the SAP system.</td>
</tr>
</tbody>
</table>

SAP User Accounts Evidence

FlexNet Manager for SAP Applications collects evidence of SAP user accounts that show particularly high usage or that were used to concurrently log on to your organization's SAP systems. These user accounts are identified based on activity data collected by the SAP Inventory Agent, and the Work Time and Multiple Logons activity checks that were executed in the SAP Admin module.

Important: As a prerequisite for viewing SAP user accounts evidence, the corresponding activity-checks data—Work Time and/or Multiple Logons—must have been imported from the staging database in the SAP Admin module. For more information, see Data Collection Using the Staging Database Monitor in the FlexNet Manager for SAP Applications User Guide PDF. For more information, see Data Collection Using the Staging Database Monitor.

The Work Time activity check identifies user accounts that show long periods of activity that could indicate that a user
is indirectly accessing SAP data. For example, if a user account executes a long-running job, this job might output SAP data into files which could then be distributed to non-SAP users or a non-SAP system.

The Multiple Logons activity check identifies user accounts that have been used to concurrently log on to SAP systems. A user account that was used by several people or non-SAP systems could indicate indirect access.

User accounts that are identified by the Work Time or Multiple Logons activity checks are listed on the SAP User Accounts tab on the Indirect Access page (Licenses > SAP Optimization > Indirect Access). Based on the information presented on the tab, you can contact the administrator of the relevant SAP system who can then take appropriate measures to correct the situation, if necessary. You can link the user accounts that are indirectly accessing SAP data to a non-SAP system. This enables you to closely monitor these user accounts.

For information about non-SAP systems, see Managing Evidence Using Non-SAP Systems.

**Viewing SAP User Accounts Evidence**

You view SAP user accounts that show high usage patterns or that were used for concurrent logons on the SAP User Accounts tab on the Indirect Access page (Licenses > SAP Optimization > Indirect Access). The information lists the SAP user accounts that were identified by the Work Time and Multiple Logons activity checks.

<table>
<thead>
<tr>
<th>Column</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>System ID</td>
<td>The three-character ID of the system on which the SAP user account is active.</td>
</tr>
<tr>
<td>Client ID</td>
<td>The client ID of the SAP system on which the SAP user account is active.</td>
</tr>
<tr>
<td>User Name</td>
<td>The name of the user account that was identified by an activity check.</td>
</tr>
<tr>
<td>Account Type</td>
<td>The type of the account that was identified by an activity check.</td>
</tr>
<tr>
<td>Has Exceeded Min. Break Duration</td>
<td>Indicates whether user activity has exceeded the Break Duration value set for the Work Time activity check in the SAP Admin module.</td>
</tr>
<tr>
<td></td>
<td>• Yes indicates that there has been an insufficient break in activity of this user account.</td>
</tr>
<tr>
<td></td>
<td>• No indicates that a sufficient break was recorded.</td>
</tr>
<tr>
<td>Has Multiple Logons</td>
<td>Indicates whether the user had multiple concurrent logons.</td>
</tr>
<tr>
<td></td>
<td>• Yes indicates that the Multiple Logons activity check identified that the user account was used for concurrent logons.</td>
</tr>
<tr>
<td></td>
<td>• No indicates that no concurrent logons were recorded.</td>
</tr>
<tr>
<td>Non-SAP Systems</td>
<td>If the user account that is indirectly accessing SAP data is linked to a non-SAP system, the relevant system name is displayed here. Otherwise, this column is empty.</td>
</tr>
</tbody>
</table>
## Column Definition

<table>
<thead>
<tr>
<th>Column</th>
<th>Definition</th>
</tr>
</thead>
</table>
| Hidden | Indicates whether the evidence is hidden.  
|        | • No indicates that the evidence is always visible.  
|        | • Yes indicates that the evidence is visible only if the Show hidden user accounts check box is selected.  

For information about showing and hiding evidence, see Showing and Hiding Remote System Evidence.

For information about viewing detailed results of an activity check for a specific SAP user account, see Viewing Details of Remote System Evidence.

### Showing and Hiding SAP User Accounts Evidence

If you find that specific instances of evidence do not need further action, you can hide the relevant rows on the SAP User Accounts tab on the Indirect Access page. This enables you to focus on the evidence that requires attention.

**To hide or show evidence on the SAP User Accounts tab:**

2. On the Indirect Access page, click the SAP User Accounts tab. Do one of the following:
   
   - To hide evidence, select the SAP user accounts that you want to hide. In the Tasks section, click Hide selected user accounts.
   
   - To show evidence, select the SAP user accounts that you want to show. In the Tasks section, click Show selected user accounts.
3. Select the Show hidden user accounts check box if hidden user accounts should be visible on the SAP User Accounts tab.

Selecting or clearing this check box will not change the display status of the user accounts (Yes or No in the Hidden column). Instead, it enables you to display or hide all user accounts that are marked as hidden. The setting of the Show hidden user accounts check box persists when you leave the SAP User Accounts tab and return to it later.

### Viewing Details of SAP User Accounts Evidence

The SAP User Account Details page contains two tabs—Work Time and Multiple Logons—that show the results of the relevant activity check. This information helps you decide whether indirect access has occurred and whether the SAP administrator of the affected SAP system needs to be contacted.

1. To view the details of SAP user account evidence:
2. Go to the Indirect Access page (Licenses > SAP Optimization > Indirect Access).
3. On the Indirect Access page, click the SAP User Accounts tab. Select the user account for which you want to display details and click View. Alternatively, double-click the user account name.

The SAP User Account Details page opens.

4. Click the relevant tab—Work Time or Multiple Logons—to display the corresponding activity check results.

Details in SAP User Accounts Evidence

Use the information on these two tabs to decide whether indirect access has occurred, and whether the SAP administrator of the affected SAP system needs to be contacted.

Work Time

The Work Time tab provides information that help you identify whether users made sufficient pauses in activity.

<table>
<thead>
<tr>
<th>Column</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>System ID</td>
<td>The three-character ID of the system on which the SAP user account is active.</td>
</tr>
<tr>
<td>Client ID</td>
<td>The client ID of the SAP system on which the SAP user account is active.</td>
</tr>
<tr>
<td>User Name</td>
<td>The name of the user account that was identified by the activity check.</td>
</tr>
<tr>
<td>Account Type</td>
<td>The type of the account that was identified by the activity check.</td>
</tr>
<tr>
<td>Measurement Date</td>
<td>The date when the activity check was executed.</td>
</tr>
<tr>
<td>Period Start Date</td>
<td>The start date of the period during which the user’s activities were recorded (as set in the Business Activities section of the Execute Activity Checks screen in the SAP Admin module).</td>
</tr>
<tr>
<td>Period End Date</td>
<td>The end date of the period during which the user’s activities were recorded (as set in the Business Activities section of the Execute Activity Checks screen in the SAP Admin module).</td>
</tr>
<tr>
<td>SAP Table</td>
<td>The SAP table that was queried by the activity check.</td>
</tr>
<tr>
<td>Min. Break Duration</td>
<td>The minimum break duration that was exceeded (in seconds).</td>
</tr>
<tr>
<td>Days Exceeded</td>
<td>The number of days that the minimum break duration was exceeded during the period specified by the start and end date. Example: If the date range was 30 days, and the Days Exceeded value was 10, then this indicates that the minimum break duration was exceeded 10 times during the 30-day period.</td>
</tr>
</tbody>
</table>

Multiple Logons

The Multiple Logons tab provides information about users with concurrent logons.

<table>
<thead>
<tr>
<th>Column</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>System ID</td>
<td>The three-character ID of the system on which the SAP user account is active.</td>
</tr>
<tr>
<td>Column</td>
<td>Definition</td>
</tr>
<tr>
<td>------------------</td>
<td>-------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Client ID</td>
<td>The client ID of the SAP system on which the SAP user account is active.</td>
</tr>
<tr>
<td>User Name</td>
<td>The name of the user account that was identified by the activity check.</td>
</tr>
<tr>
<td>Account Type</td>
<td>The type of the account that was identified by the activity check.</td>
</tr>
<tr>
<td>Measurement Date</td>
<td>The date when the activity check was executed.</td>
</tr>
<tr>
<td>Period Start Date</td>
<td>The start date of the period during which the user’s activities were recorded (as set in the Business Activities section of the Execute Activity Checks screen in the SAP Admin module).</td>
</tr>
<tr>
<td>Period End Date</td>
<td>The end date of the period during which the user’s activities were recorded (as set in the Business Activities section of the Execute Activity Checks screen in the SAP Admin module).</td>
</tr>
<tr>
<td>Number of Multiple Logons</td>
<td>The number of times that the SAP user account was used to concurrently log on to an SAP system.</td>
</tr>
<tr>
<td>Peak Date</td>
<td>The date when the highest number of multiple logons occurred.</td>
</tr>
</tbody>
</table>

IT Asset Management (Cloud)

Current

Managing Evidence Using Non-SAP Systems

You use non-SAP systems to represent remote systems and to manage SAP user accounts that show multiple concurrent logons or a high usage pattern. Non-SAP systems are included in the system landscape, which enables you to apply optimization rules to the non-SAP systems and include their users in the user consolidation.

This section explains the following:

- How to use the predefined non-SAP system—see Using the Predefined Non-SAP System.
- How to view the details of a non-SAP system—see Viewing a Non-SAP System Details Page.
- How to create a non-SAP system—see Creating a Non-SAP System.
- How to link evidence to a non-SAP system—see Linking Evidence to a Non-SAP System.
- How to import user data, roles, and consumption data into a non-SAP system—see Importing Data into a Non-SAP System.

FlexNet Manager for SAP Applications contains a predefined non-SAP system called FlexNet Manager for SAP Applications that is automatically installed during setup. This predefined non-SAP system represents FlexNet Manager for SAP Applications and all FlexNet Manager for SAP Applications operators. By default, it is located in the default SAP system landscape.

Using the Predefined Non-SAP System

FlexNet Manager for SAP Applications contains a predefined non-SAP system called FlexNet Manager for SAP Applications that is automatically installed during setup. This predefined non-SAP system represents FlexNet Manager for SAP Applications and all FlexNet Manager for SAP Applications operators. By default, it is located in the default SAP system landscape.
Applications that is automatically installed during setup. This predefined non-SAP system represents FlexNet Manager for SAP Applications and all FlexNet Manager for SAP Applications operators. By default, it is located in the default SAP system landscape.

The FlexNet Manager for SAP Applications non-SAP system is designed to help you manage the user accounts that are used to access your organization’s SAP software and data via IT Asset Management. It contains the following:

- A list of all remote systems from which the SAP Inventory Agent collects SAP inventory data.
- A list of all FlexNet Manager for SAP Applications operators who have access to SAP functionality in IT Asset Management.

**Viewing a Non-SAP System Details Page**

The details page of a non-SAP system is accessible either from the System Landscape Editor or from one of the tabs on the Indirect Access page.

When you use the System Landscape Editor, you can see all non-SAP systems at a glance.

- To view details via the System Landscape Editor:
  1. Go to the SAP System Landscapes page (Data Collection > IT Assets Inventory Tasks > SAP System Landscapes).
  2. On the SAP System Landscapes page, double-click the system landscape that contains the relevant non-SAP system.
     Alternatively, select the desired landscape and click View.
  3. On the System Landscape: name page, double-click the non-SAP system whose details page you want to view.
     Alternatively, select the desired system and click View.

If evidence has already been linked to the non-SAP system for which you want to display details, you can also access the details page of the non-SAP system via the corresponding link on a tab on the Indirect Access page.

- To view details via the Indirect Access page:
  2. On the Indirect Access page, click the tab that contains the evidence that was linked to the non-SAP system. On the tab, click the hyperlinked name of the non-SAP system (in the Non-SAP Systems column) whose details you want to view.

**Information on the Non-SAP System Details Page**

You can access the details page of a non-SAP system using the System Landscape Editor or by going to the Indirect Access page (Licenses > SAP Optimization > Indirect Access).

The Non-SAP system details page includes the following properties:
<table>
<thead>
<tr>
<th>Property</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>System ID</td>
<td>The name of the non-SAP system as specified when the non-SAP system was created.</td>
</tr>
<tr>
<td>Description</td>
<td>The description of the non-SAP system.</td>
</tr>
<tr>
<td>System landscape</td>
<td>The name of the system landscape to which the non-SAP system belongs. By default, this is the system landscape in which the indirect access evidence was identified that was used as a basis for this non-SAP system. Clicking the hyperlinked system landscape name opens the details page of the system landscape in the System Landscape Editor. For more information, see The System Landscape Details Page.</td>
</tr>
<tr>
<td>Parent group</td>
<td>Like other systems, non-SAP systems can be organized in a hierarchy. This field shows 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.</td>
</tr>
<tr>
<td>Remote system</td>
<td>The host name of the remote (non-SAP) machine that was identified as indirectly accessing the SAP system. The name is automatically added when you link this evidence to the non-SAP system. Clicking the hyperlinked remote system name opens the details page of the remote system. For more information, see Viewing Details of Remote System Evidence.</td>
</tr>
<tr>
<td>Type</td>
<td>The type of connectivity between the non-SAP system and the SAP system.</td>
</tr>
<tr>
<td></td>
<td>• Batch — Transactions are carried out in batch mode.</td>
</tr>
<tr>
<td></td>
<td>• Interactive — Transactions are carried out interactively.</td>
</tr>
<tr>
<td></td>
<td>This field is only for information purposes and does not influence the connectivity type.</td>
</tr>
<tr>
<td>Direction</td>
<td>The direction of the data flow between the non-SAP system and the SAP system.</td>
</tr>
<tr>
<td></td>
<td>• In — Data is flowing from the non-SAP system to the SAP system.</td>
</tr>
<tr>
<td></td>
<td>• Out — Data is flowing from the SAP system to the non-SAP system.</td>
</tr>
<tr>
<td></td>
<td>• In/Out — Data is flowing in both directions.</td>
</tr>
<tr>
<td></td>
<td>This field is only for information purposes and does not influence the data flow.</td>
</tr>
<tr>
<td>SAP user accounts</td>
<td>The SAP user accounts that are linked to the non-SAP system, in the format SystemID-SystemNumber-ClientID\UserName.</td>
</tr>
<tr>
<td>First name</td>
<td>The first name of the system owner.</td>
</tr>
<tr>
<td>Last name</td>
<td>The last name of the system owner.</td>
</tr>
<tr>
<td>Business phone number</td>
<td>The business phone number of the system owner.</td>
</tr>
<tr>
<td>Mobile phone number</td>
<td>The mobile phone number of the system owner.</td>
</tr>
<tr>
<td>Email</td>
<td>The email address of the system owner.</td>
</tr>
</tbody>
</table>
Creating a Non-SAP System

You can create a non-SAP system on an inventory beacon. For more information, see Inventory Beacons.

Importing Data into a Non-SAP System

After you have created a non-SAP system and linked evidence to it, you usually create a list of users (and related data) of the remote systems. The following sections explain which data can be made available in a users list, and how to add, change, and delete this data.

You may import data in either of these ways:

- Prepare data in standard formats within spreadsheets or CSV files (see Preparing Data for Import) and import your prepared file (see Import Procedure).

- Use the Business Adapter Studio to create an adapter to connect to another database within your enterprise, and extract data directly for import. This option is suitable for those with advanced skills, comfortable with data mapping. For more information, see Introducing the Business Adapter Studio in Using FlexNet Business Adapters.

Users List

The users list of a non-SAP system shows the user data, roles, and consumption data that were imported from the remote system. The users list is located on the non-SAP system’s details page and contains the following details (use the Advanced > Choose Fields option to display all fields you require).

<table>
<thead>
<tr>
<th>Column Name</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>User Name</td>
<td>The user ID of the user on the remote system.</td>
</tr>
<tr>
<td>First Name</td>
<td>The first name of the user on the remote system.</td>
</tr>
<tr>
<td>Last Name</td>
<td>The last name of the user on the remote system.</td>
</tr>
<tr>
<td>License Type</td>
<td>The license type that is currently assigned to the user.</td>
</tr>
<tr>
<td>Number of Roles</td>
<td>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.</td>
</tr>
<tr>
<td>Valid from</td>
<td>The start date of the user’s validity period.</td>
</tr>
</tbody>
</table>
**Import Procedure**

To add new data to the non-SAP system’s users list, you can either populate an empty import file with new data, or add the new data to an import file that already contains data that was previously imported. When you import the import file, new data will be added to the users list, and changed entries will be changed in the users list.

*To import data into a non-SAP system’s users list:*

1. Use your preferred tool to prepare the spreadsheet or CSV file for import (for the permitted columns, see [Preparing Data for Import](#)).

2. In IT Asset Management, open the details page of the non-SAP system into which you want to import data. For more information, see [Viewing a Non-SAP System Details Page](#).

3. On the Non-SAP System: name page, in the Users section, click Advanced and select Import. Depending on the template that you want to import, click Microsoft Excel or CSV to open the Import Excel File or the Import CSV File dialog, respectively.

   - **To import a Microsoft Excel workbook:** In the Import Excel File dialog, select the check box for the type of data that you want to import: User, Role, or Consumption. Multiple selections are possible. Enter the path...
to the import file or browse to it to select it.

- **To import a file in CSV format**: In the Import CSV File dialog, select the check box for the type of data that you want to import: **User, Role, or Consumption**. Enter the path to the import file or browse to it to select it.

  The page will refresh after the import and display the imported data.

After you have imported user data, roles, or consumption data, you can view the data in IT Asset Management. User data is available in the non-SAP system’s users list. You can view role data using the Role Utilization report, and consumption data using the Consumption Analysis report. For more information, see [Role Utilization Report](#) and [Consumption Analysis Report](#), respectively.

### Preparing Data for Import

Standard-format spreadsheets or CSV files can be imported. Here are details of the supported format.

To enable FlexNet Manager for SAP Applications to optimize non-SAP systems (apply rules and consolidate users of non-SAP systems with users of SAP systems), you need to import information from the linked remote systems into the non-SAP system. This information usually includes user accounts, roles, and consumption data.

You can import the data using a comma-separated file (.csv) or Microsoft Excel workbook (.xls). You need to manually create a template, populate it with data and import it.

A .csv template can specify only one type of data (user, roles, or consumption). If you want to import all three types of data, you need to perform three separate import procedures.

A template in .xls or .xlsx format can contain three spreadsheets—one for each data type. This enables you to import all three data types in one step.

The following tables help you prepare the templates in Microsoft Excel or comma-separated format for importing user data, roles, or consumption data. They specify which information should be provided in the individual columns.

### Columns for importing user data from remote systems

<table>
<thead>
<tr>
<th>Column Name</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>System ID</strong></td>
<td>The name of the remote server from which the data is imported.</td>
</tr>
<tr>
<td><strong>User Name</strong></td>
<td>The user ID of the user on the remote system.</td>
</tr>
<tr>
<td><strong>First Name</strong></td>
<td>The first name of the user on the remote system.</td>
</tr>
<tr>
<td><strong>Last Name</strong></td>
<td>The last name of the user on the remote system.</td>
</tr>
<tr>
<td><strong>License Type</strong></td>
<td>The license type that is currently assigned to the user on the remote system.</td>
</tr>
<tr>
<td><strong>Valid From</strong></td>
<td>The start date of the user’s validity period on the remote system.</td>
</tr>
<tr>
<td><strong>Valid To</strong></td>
<td>The end date of the user’s validity period on the remote system.</td>
</tr>
<tr>
<td><strong>Role</strong></td>
<td>The role that has been assigned to the user on the remote system.</td>
</tr>
<tr>
<td><strong>Role Valid From</strong></td>
<td>The role's start date on the remote system.</td>
</tr>
</tbody>
</table>
### Columns for importing roles from remote systems

<table>
<thead>
<tr>
<th>Column Name</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Role Valid To</td>
<td>The role’s end date on the remote system.</td>
</tr>
<tr>
<td>Email Address</td>
<td>The email address of the user on the remote system.</td>
</tr>
<tr>
<td>Accounting Number</td>
<td>The user’s accounting number.</td>
</tr>
<tr>
<td>Phone Number</td>
<td>The user’s phone number.</td>
</tr>
<tr>
<td>Phone Number Extension</td>
<td>The user’s phone number extension.</td>
</tr>
<tr>
<td>User Group</td>
<td>The group that the user belongs to on the remote system.</td>
</tr>
<tr>
<td>Is Developer</td>
<td>Indicates whether the user currently has a developer license.</td>
</tr>
<tr>
<td></td>
<td>• TRUE indicates that the user has a developer key.</td>
</tr>
<tr>
<td></td>
<td>• FALSE indicates that the user does not have a developer key.</td>
</tr>
<tr>
<td>Cost Center</td>
<td>The user’s cost center.</td>
</tr>
<tr>
<td>Company Name 1</td>
<td>The company name 1 of the user.</td>
</tr>
<tr>
<td>Company Name 2</td>
<td>The company name 2 of the user.</td>
</tr>
<tr>
<td>Department</td>
<td>The department to which the user belongs.</td>
</tr>
<tr>
<td>User Function</td>
<td>The function of the user within your organization.</td>
</tr>
</tbody>
</table>

### Columns for importing consumption data from remote systems

<table>
<thead>
<tr>
<th>Column Name</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>System ID</td>
<td>The name of the remote server from which the data is imported.</td>
</tr>
<tr>
<td>Role Name</td>
<td>The name of the role that is used on the remote system.</td>
</tr>
<tr>
<td>Authorized Object</td>
<td>The name of the authorized object on the remote system.</td>
</tr>
<tr>
<td>Consumption Date (YYYY-MM)</td>
<td>The month in which the consumption occurred on the remote system. Enter the month in the format YYYY-MM for each row.</td>
</tr>
<tr>
<td>Object</td>
<td>The name of the object that the user accessed.</td>
</tr>
<tr>
<td>CPU Time (s)</td>
<td>The CPU time that the user consumed on the remote system (in seconds). CPU times with up to three decimal points are supported.</td>
</tr>
</tbody>
</table>
### Changing Data

Data that has been imported into a non-SAP system in FlexNet Manager for SAP Applications cannot be changed using the buttons in SAP mode on the IT Asset Management user interface. If you want to change data, you need to correct the corresponding entry in the import file and reimport it.

If you delete, add, or change role information in the import file and reimport it, the corresponding role information in the users list is deleted, added, or changed, respectively.

If you change the consumption data for a specific range in the import file and reimport it, this new range of consumption data overwrites the consumption data of that range in the users list.

If you change the user data in the import file and reimport it, the matching users are updated accordingly. New users are inserted. Deleted users are not removed from the users list.

For information about importing data into a users list, see Preparing Data for Import.

### Deleting Data

The method for deleting data from a non-SAP system’s users list depends on the type of data you want to delete.

- **User accounts**—Use the Delete button on the IT Asset Management user interface in SAP mode. For details, see the following task instructions.
  - It is not possible to delete users in the users list by removing them from the import file and reimporting the file.
  - When you delete a user account, all of the account’s roles and consumption data are also deleted.

- **Role and consumption data**—Delete the appropriate data from the import file and reimport the file.

#### To delete users from a non-SAP system’s users list:

1. In IT Asset Management, go to the SAP System Landscapes page (Data Collection > IT Assets Inventory Tasks > SAP System Landscapes).
2. On the SAP System Landscapes page, double-click the system landscape that contains the non-SAP system from which you want to delete data. Alternatively, select the desired system landscape and click View.
3. On the System Landscape: name page, double-click the non-SAP system from which you want to delete data. Alternatively, select the desired system and click View.
4. In the users list, select the users who you want to delete.
5. Click Delete.
Linking Evidence to a Non-SAP System

When you have identified indirect access evidence, you can link this evidence to one or more non-SAP systems. Linking evidence to a non-SAP system enables you to manage the indirect access (for example, to apply optimization rules and consolidate users).

Example

You identify (via the RFC Connection Details page) that two applications are running on a remote server that is connecting to one of your organization’s SAP systems. Each of these two applications has its own list of users. In this scenario, you would create a non-SAP system for each application, and link the evidence (in this example, the remote server) to both non-SAP systems.

You can link evidence in either of two places:
- On one of the tabs on the Indirect Access page. Here, the process depends on whether you are linking to an existing non-SAP system (see Linking Evidence (to an Existing System) via the Indirect Access Page) or to a newly-recorded system (see Linking Evidence (to a New System) via the Indirect Access Page).
- From the details page of a non-SAP system (see Linking Remote-System Evidence Using the Non-SAP System Details Page and Linking User-Account Evidence Using the Non-SAP System Details Page).

Linking Evidence (to an Existing System) via the Indirect Access Page

Linking evidence using one of the tabs on the Indirect Access page enables you to select the evidence first and assign it to a specific non-SAP system. When you use this method, the Non-SAP System details page will be populated automatically with the selected evidence.

To link evidence to an existing non-SAP system.
1. In IT Asset Management, go to the Indirect Access page (Licenses > SAP Optimization > Indirect Access).
2. On the Indirect Access page, click the tab that contains the evidence that you want to link to the non-SAP system. Select the evidence and click Link existing non-SAP system.
3. On the Select Non-SAP Systems dialog, select the check box of the non-SAP system to which you want to link the evidence. You can link evidence to more than one non-SAP system.
4. Click Save.

Linking Evidence (to a New System) via the Indirect Access Page

You can link evidence to a new non-SAP system and create that non-SAP system in one process.

To link evidence to a new non-SAP system:
1. In IT Asset Management, go to the Indirect Access page (Licenses > SAP Optimization > Indirect Access).
2. On the Indirect Access page, click the tab that contains the evidence that you want to link to the new non-SAP system. Select the evidence and click Add new non-SAP system.
3. On the Create New Non-SAP System page, in the System ID field, enter the system ID of the new non-SAP system.
system. In the **Connectivity** section, the **Remote system** field or the **SAP user accounts** field contains the evidence that you selected (depending on the type of evidence that you linked).

Enter any additional information that is required. For more information on the Create New Non-SAP System page, see Viewing a Non-SAP System Details Page.

4. Click **Create**.

**Linking Remote-System Evidence Using the Non-SAP System Details Page**

To *link remote-system evidence to a non-SAP system using the details page of the non-SAP system:*

1. Open the details page of the non-SAP system to which you want to link evidence. For information on how to open the details page of a non-SAP system, see Viewing a Non-SAP System Details Page.

2. On the details page, click **Edit** to open it in write-enabled mode.

3. Under **Connectivity**, below the **Remote system** field, click **Add**.

4. In the **Select Remote Systems** dialog, select the check box or check boxes of the remote system evidence that you want to link to the non-SAP system. To ensure that all remote systems are displayed, select the **Show hidden remote systems** check box.

5. Click **OK**.

6. Use the **Type** field to specify the type of connectivity between the non-SAP system and the SAP system. This field is only for information purposes and does not influence the connectivity type. Select from the following values:
   - **Batch** — Transactions are carried out in batch mode.
   - **Interactive** — Transactions are carried out interactively.

7. In the **Direction** field, specify the direction of the data flow between the non-SAP system and the SAP system. This field is only for information purposes and does not influence the data flow. Select from the following values:
   - **In** — Data flows from the non-SAP system to the SAP system.
   - **Out** — Data flows from the SAP system to the non-SAP system.
   - **In/Out** — Data flows in both directions.

8. Click **Save**.

**Linking User-Account Evidence Using the Non-SAP System Details Page**

To *link user-account evidence to a non-SAP system using the details page of the non-SAP system:*

1. Open the details page of the non-SAP system to which you want to link evidence. For information on how to open the details page of a non-SAP system, see Viewing a Non-SAP System Details Page.

2. On the details page, click **Edit** to open it in write-enabled mode.
3. Under **Connectivity**, below the **SAP user accounts** field, click **Add**.

4. In the **Select User Accounts** dialog, select the check box or check boxes of the SAP user account evidence that you want to link to the non-SAP system. To ensure that all user accounts are displayed, select the **Show hidden user accounts** check box.

5. Click **OK**.

6. Click **Save**.

### Unlinking Evidence from a Non-SAP System

*To remove the link between evidence and a non-SAP system:*

1. In IT Asset Management, perform the procedures described under **Viewing a Non-SAP System Details Page** to open the details page of the system that contains the evidence that you want to unlink.

2. On the **Non-SAP System: name** page, do one of the following:
   - To unlink remote system evidence, in the **Remote system** field, select the evidence that you want to unlink, and click **Remove**.
   - To unlink user account evidence, in the **SAP user accounts** field, select the evidence that you want to unlink, and click **Remove**.

3. Click **Save**.

### Indirect Access Evidence Report

The Indirect Access Evidence report is available under **Analysis Tools** in the main navigation bar. This report analyzes the license consumption that is due to indirect access from non-SAP systems for a system landscape. It enables you to:

- See how indirect access influences the total license position.
- See how each individual non-SAP system influences the total license position.
- For each non-SAP system, display a list of all user accounts and their effect on the license position.

**FlexNet Manager for SAP Applications** contains a predefined non-SAP system called **FlexNet Manager for SAP Applications** that is automatically installed during setup. This predefined non-SAP system represents FlexNet Manager for SAP Applications and all FlexNet Manager for SAP Applications operators. By default, it is located in the default SAP system landscape.

### Overview of SAP and Non-SAP Systems License Consumption

FlexNet Manager for SAP Applications automatically consolidates user accounts from non-SAP systems with those from SAP systems according to the User Consolidation settings. Many users who already have an appropriate license type on an SAP system are covered by this license for using non-SAP systems. Therefore, the license consumption of non-SAP systems may be considerably lower than the total number of non-SAP user accounts. However, each non-SAP system user who could not be consolidated with a matching SAP system user requires an appropriate license.
On the entry page for the Indirect Access Evidence report, you can see how many licenses are consumed due to indirect access from non-SAP systems, and how this affects your organization’s total license position.

In addition, the entry page shows a breakdown of the different license types that are currently consumed on SAP and non-SAP systems in a system landscape. The **Current Position** page (**Licenses > SAP Optimization > Current Position**) shows a detailed overview with the following information.

<table>
<thead>
<tr>
<th><strong>Column Name</strong></th>
<th><strong>Description</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>License Type</td>
<td>The SAP license type whose consumption across systems is analyzed.</td>
</tr>
<tr>
<td>Purchased</td>
<td>The number of licenses of a particular type that have been purchased.</td>
</tr>
<tr>
<td>Consumed (Total)</td>
<td>The number of licenses of a particular type that are consumed across all (SAP and non-SAP) systems.</td>
</tr>
<tr>
<td>Consumed (SAP Systems)</td>
<td>The number of licenses of a particular type that are currently consumed by SAP system users.</td>
</tr>
<tr>
<td>Consumed (Non-SAP Systems)</td>
<td>The number of licenses of a particular type that are currently consumed by non-SAP system users.</td>
</tr>
</tbody>
</table>

IT Asset Management (Cloud)

Current

**Creating an Indirect Access Evidence Report**

You create an Indirect Access Evidence report for a particular non-SAP system to display a list of all users who have accessed this system in a specified period. (The default period is three months; for information about how to define the period of indirect access evidence collection, see **Collecting Indirect Access Evidence**.

**To create an Indirect Access Evidence report:**

1. In IT Asset Management, go to the **Indirect Access Evidence** page (**Applications & Evidence > SAP Analysis Tools > Indirect Access Evidence**).
2. On the **Indirect Access Evidence** page, under **Non-SAP Systems**, double-click the name of the non-SAP system that you want to analyze.

**Reading the Results of an Indirect Access Evidence Report**

The Indirect Access Evidence report enables you to see how each user influences the license position and why a user requires or does not require a Named User license on the non-SAP system.

An Indirect Access Evidence report contains the following information:

- **Non-SAP System Details:**
  - **System ID:** The name of the non-SAP system as specified when the non-SAP system was created.
  - **Description:** The description of the non-SAP system as specified when the non-SAP system was created.
• **Connectivity Type**: The type of connectivity between the non-SAP system and the SAP system. For information on possible values, see Information on the Non-SAP System Details Page.

• **Direction**: The direction of the data flow between the non-SAP system and the SAP system. For information on possible values, see Information on the Non-SAP System Details Page.

• **Named User License Consumption**: Shows how many licenses of a specific type are currently consumed.

• **User Accounts**:

<table>
<thead>
<tr>
<th>Column Name</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>User Name</td>
<td>The name of the user on the non-SAP system.</td>
</tr>
<tr>
<td>License Type</td>
<td>The license type that is recommended for the user (based on the active license rules and user consolidation settings).</td>
</tr>
<tr>
<td>Matching SAP User</td>
<td>If the user is identified as also having an account on an SAP system, the name of the user account on the SAP system is shown here. If the user does not have an account on an SAP system, this field is blank.</td>
</tr>
<tr>
<td>Matching SAP User License Type</td>
<td>The license type that is currently assigned to the SAP user account of the same user. If the user does not have an account on an SAP system, this field is blank.</td>
</tr>
<tr>
<td>Consumes a License</td>
<td>This field shows Yes, if the user of the non-SAP system needs to consume a license. This is the case in the following scenarios:</td>
</tr>
<tr>
<td></td>
<td>• No matching SAP user was identified.</td>
</tr>
<tr>
<td></td>
<td>• A matching SAP user was identified, but this user’s license type does not cover the usage on the non-SAP system.</td>
</tr>
<tr>
<td>Reason</td>
<td>Informs why the non-SAP user consumes a Named User license.</td>
</tr>
</tbody>
</table>

**User Consolidation**

The User Consolidation identifies all the unique users across the systems, based on the user primary records, and counts the users.

The User Consolidation requires you to specify which fields are used to combine users when running the License Administration Workbench (LAW). FlexNet Manager for SAP Applications uses this information to replicate the user consolidation performed by the LAW to establish a reference or baseline current license position. This baseline can then be used to identify potential improvements to the license position.

The settings in the User Consolidation are used every time FlexNet Manager for SAP Applications calculates its current baseline license position.

The User Consolidation is complemented by the Duplicate User rule. Therefore, you need to ensure that you select
different criteria in the User Consolidation than in the Duplicate User rule.

For example, your organization might use the user name to combine users in the LAW. In this scenario, you would select the User Name check box in the User Consolidation, and the current license position would be calculated using this information. In the Duplicate User rule entry mask (Licenses > SAP Optimization > Duplicate Users), you might select the Email Address check box. In this case, the recommended license position is calculated on the basis that any user accounts with differing user names but the same email address are in fact the same user and therefore require only a single Named User license. For information on the Duplicate User rule, see Duplicate User Rule.

Usually, you configure the User Consolidation once, and you modify your settings only if you changed the way in which you combine users in the LAW.

---

**Important:** Any changes in the User Consolidation affect every future license position calculation.

The User Consolidation is divided into two sections—General Criteria and Custom Criteria—that offer different levels of ease-of-use and flexibility. You can use only general criteria, or only custom criteria, or a combination of both to configure the User Consolidation.

---

**Tip:** The User Data Validation report in the SAP Admin module helps to ensure that user primary records are up to date and complete, which improves user consolidation results. For more information, see User Data Validation Report in the FlexNet Manager for SAP Applications User Guide PDF. For more information, see User Data Validation Report.

---

### General Criteria in the User Consolidation

The General Criteria section enables you to quickly select your search criteria from a list of fields most commonly used to consolidate users. During user consolidation, FlexNet Manager for SAP Applications finds all users that match all of the selected criteria. In most scenarios, you use this section only for your user consolidation.

**Example:** If you select the check box User Name, FlexNet Manager for SAP Applications will consolidate all users who have the same user name across different systems. If you select the check boxes User Name and Email Address, FlexNet Manager for SAP Applications will consolidate all users who have the same user name OR who have the same email address across different systems.

---

### Custom Criteria in the User Consolidation

The Custom Criteria section offers a higher degree of flexibility as it enables you to specify the user primary record fields that have to be matched for the original and the duplicate user. In addition, you can define separate conditions for each user. The consolidation criteria (condition and matched field) for the original user and the duplicate user are then compared using one of the available comparison types, such as Exact Match, Contains, Similar.

You can add multiple sets of custom criteria to configure the User Consolidation.

The condition and match string must be authored in C#. Refer to the FlexNet Manager for SAP Applications User Guide PDF, section Properties for Custom License Assignment, Duplicate User, and User Consolidation Rules, for a list of properties that can be used in the Custom Criteria section. Refer to the section Properties for Custom License Assignment, Duplicate User, and User Consolidation Rules, for a list of properties that can be used in the Custom Criteria section.

The following comparison types are available for the custom criteria.
<table>
<thead>
<tr>
<th>Compare by</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Exact match</td>
<td>The search criteria for the original user must exactly match that of the duplicate user, but the search is not case sensitive.</td>
</tr>
<tr>
<td>Exact match (case sensitive)</td>
<td>The search criteria for the original user must exactly match that of the duplicate user, and the search is case sensitive.</td>
</tr>
<tr>
<td>Contains</td>
<td>The search criteria for the original user must contain that of the duplicate user, but the search is not case sensitive.</td>
</tr>
<tr>
<td>Contains (case sensitive)</td>
<td>The search criteria for the original user must contain that of the duplicate user, and the search is case sensitive.</td>
</tr>
<tr>
<td>Similar (at least 90%)</td>
<td>The search criteria for the original user must have a degree of similarity with that of the duplicate user of at least 90%.</td>
</tr>
<tr>
<td>Similar (at least 70%)</td>
<td>The search criteria for the original user must have a degree of similarity with that of the duplicate user of at least 70%.</td>
</tr>
<tr>
<td>Similar (at least 50%)</td>
<td>The search criteria for the original user must have a degree of similarity with that of the duplicate user of at least 50%.</td>
</tr>
<tr>
<td>Similar (at most 1 character)</td>
<td>The search criteria for the original user must be similar to that of the duplicate user; they are not allowed to differ by more than 1 character.</td>
</tr>
<tr>
<td>Similar (at most 2 characters)</td>
<td>The search criteria for the original user must be similar to that of the duplicate user; they are not allowed to differ by more than 2 characters.</td>
</tr>
<tr>
<td>Similar (at most 3 characters)</td>
<td>The search criteria for the original user must be similar to that of the duplicate user; they are not allowed to differ by more than 3 characters.</td>
</tr>
</tbody>
</table>

**Configuring the User Consolidation**

You can use only general criteria, or only custom criteria, or a combination of both to configure the User Consolidation, and effectively specify the field or fields that SAP uses to consolidate users in the LAW.

**To configure the User Consolidation:**

1. In IT Asset Management, go to the User Consolidation page (Licenses > SAP Optimization > User Consolidation).
2. On the User Consolidation Configuration page, in the General Criteria section, click Edit to switch to write-enabled mode.
3. Select the check box for each field that should be used to find users to be consolidated. The following criteria are available:
   - User Name
   - Last Name, First Name
   - Email Address
• Accounting No.
• Phone No.
• Phone No., Extension

4. Click Save.

In read-only mode, the criteria you selected are marked with Yes; unselected criteria are marked with No.

5. On the Use Consolidation Configuration page, in the Custom Criteria section, click Add to open the Create Custom Rule dialog. Provide the following information to define the custom criteria:

<table>
<thead>
<tr>
<th>Name</th>
<th>Enter a name for the rule.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Active</td>
<td>Select this check box if you want the custom criteria to be used for consolidation.</td>
</tr>
<tr>
<td>Original user section – Condition</td>
<td>Enter the condition for your original user (optional).</td>
</tr>
<tr>
<td>Original user section – Match</td>
<td>Enter the field or an expression that should be matched for your original user.</td>
</tr>
<tr>
<td>Compare by</td>
<td>Select the option from the menu that defines the degree of similarity between the two search conditions. (See Custom Criteria in the User Consolidation for available options.)</td>
</tr>
<tr>
<td>Duplicate user section – Condition</td>
<td>Enter the condition for your duplicate user (optional).</td>
</tr>
<tr>
<td>Duplicate user section – Match</td>
<td>Enter the field or an expression that should be matched for your duplicate user.</td>
</tr>
</tbody>
</table>

6. Click Create.

Repeat steps 5 and 6 to define multiple custom criteria.

Previewing User Consolidation Results

After you have configured the User Consolidation, the preview enables you to validate that the settings you selected produce the expected results.

A preview is available only for custom criteria rules that have been marked as Active.

To preview the results of the User Consolidation:

1. Follow the steps described in the procedure under Configuring the User Consolidation.
2. In IT Asset Management, go to the User Consolidation page (Licenses > SAP Optimization > User Consolidation).
3. On the User Consolidation page, in the Preview Results section, click Show duplicate recommendations.

The Preview Results section provides the following information (you can modify which columns are displayed using
In FlexNet Manager for SAP Applications, you can bundle a number of SAP objects and entry types to form an SAP transaction profile. You use the features on the Transaction Profiles: system landscape name page (available in IT Asset Management under Licenses > SAP Optimization > Transaction Profile) to create or edit a transaction profile. These features are also referred to as the Transaction Profile Editor.

You can use a transaction profile to do the following:

- Create rules that are based on SAP objects for license-type optimization.
- Run the Consumption Analysis report to show usage information for users, and to identify to which degree they executed transactions that are contained in the corresponding transaction profile. For information on the Consumption Analysis report, see Consumption Analysis Report.

In both scenarios, FlexNet Manager for SAP Applications will use the SAP objects and entry types specified in a profile to match them against reported user consumption data.

Working with transaction profiles is useful, for example, if you want to differentiate between operational actions and
self-service actions. In such a scenario, you could create two transaction profiles, one that contains operational objects and another with self-service objects. You could then use these profiles for two instances of the Transaction Profile by Percentage rule. This will help you to identify users based on the objects they used, and assign the appropriate license types (in the current example, Professional User licenses and Employee Self-Service licenses).

Accessing the Transaction Profiles Page

Your transaction profiles are listed on the **Transaction Profiles**: system landscape name page (available in IT Asset Management under Licenses > SAP Optimization > Transaction Profile). Here you can create new profiles, view or modify existing profiles using the Transaction Profile Editor, or delete existing transaction profiles.

To access the **Transaction Profiles**: system landscape name page:

1. In IT Asset Management, go to the **Transaction Profile** page (Licenses > SAP Optimization > Transaction Profile).

   The **Transaction Profiles**: system landscape name page is displayed.

Transaction Profile Information

In the **Details** section, the **Transaction Profile**: profile name page contains the following information.

<table>
<thead>
<tr>
<th>Element</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Name</td>
<td>Name of the transaction profile.</td>
</tr>
<tr>
<td>Description</td>
<td>Description of the transaction profile.</td>
</tr>
<tr>
<td>Created by</td>
<td>User ID of the user who created the transaction profile.</td>
</tr>
<tr>
<td>Created at</td>
<td>Date and time when the transaction profile was created.</td>
</tr>
<tr>
<td>Last updated by</td>
<td>User ID of the user who last updated the transaction profile.</td>
</tr>
<tr>
<td>Last updated at</td>
<td>Date and time when the transaction profile was last updated.</td>
</tr>
</tbody>
</table>

The table in the **Objects** section displays this information.

<table>
<thead>
<tr>
<th>Column</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Object Name</td>
<td>The SAP object that is included in the profile, with or without wildcards.</td>
</tr>
<tr>
<td>Description</td>
<td>Description of the object.</td>
</tr>
<tr>
<td>Excluded from Profile</td>
<td>Contains a check mark if this object is excluded from the transaction profile. Note that exclusions take precedence over inclusions.</td>
</tr>
<tr>
<td>Type</td>
<td>Entry type(s) of the object that was consumed by a user (Job, Non-SAP, Report, or Transaction).</td>
</tr>
<tr>
<td>Column</td>
<td>Description</td>
</tr>
<tr>
<td>----------------</td>
<td>-------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>No. Of Matches</td>
<td>The number of objects that match the object you specified. The value refers to the objects that are installed on all SAP systems within the landscape (and not to objects consumed by users). If you use a wildcard in your object name, it might cover a variety of objects. If you entered a specific object, this number will be 1. If the value is 0, this could indicate that you entered an invalid object.</td>
</tr>
<tr>
<td>Created At</td>
<td>Date when the object was added.</td>
</tr>
<tr>
<td>Created By</td>
<td>User ID of the user who added the object.</td>
</tr>
<tr>
<td>Last Updated At</td>
<td>Date when the object was last updated.</td>
</tr>
<tr>
<td>Last Updated By</td>
<td>User ID of the user who last updated the object.</td>
</tr>
</tbody>
</table>

**Creating a Transaction Profile**

A transaction profile acts as a container for a list of SAP objects. After you created your transaction profile, you need to add SAP objects. For more information, see Adding SAP Objects to a Transaction Profile Using the Transaction Profile Editor.

1. In IT Asset Management, go to the Transaction Profile page (Licenses > SAP Optimization > Transaction Profile).
2. On the Transaction Profiles: system Landscape name page, click Add. The Add SAP Transaction Profile dialog opens. Enter the following information:
   - **Name**—The name of the profile you want to create.
   - **Description**—A description of the profile (optional).
   
   The name of the landscape for which this profile will be used is automatically entered in the System Landscape field.
3. Click Create.

The Transaction Profile: profile name page opens.

You can now add SAP objects to the transaction profile.

**Populating a Transaction Profile with Objects**

There are several ways to populate a transaction profile with objects:

- Using the Transaction Profile Editor. See Adding SAP Objects to a Transaction Profile Using the Transaction Profile Editor.
• Importing a list of objects using a prepared file. See Importing Objects into a Transaction Profile.

• Using the SAP Consumption Analysis Details dialog, after reviewing the objects that were consumed by a particular user. See Identifying Objects that are Included in Transaction Profiles.

Adding SAP Objects to a Transaction Profile Using the Transaction Profile Editor

You can add specific SAP objects (for example, /BDL/SDCC), or you can add objects using wildcards to cover a variety of objects. The following wildcards are supported:

• * substitutes several characters, for example, CAT* will match the objects CAT2, CAT5, CATS, CATS_DA.

• ? substitutes a single character, for example, SE3?* will match the objects SE30 and SE38 (but not SE38M, because SE3 is followed by more than one character).

To add SAP objects to a transaction profile using the Transaction Profile Editor:

1. In IT Asset Management, go to the Transaction Profile page (Licenses > SAP Optimization > Transaction Profile).

2. On the Transaction Profiles: system Landscape name page, open the transaction profile to which you want to add SAP objects. Do one of the following:
   • Double-click the name of the desired profile.
   • Select the desired profile and click View.

3. On the Transaction Profile: profile name page, in the Objects section, click Add.

4. The Add SAP Object dialog opens. Select how you want to add SAP objects by selecting one of the following options:
   • Object Name—Select this option to manually type in the SAP objects. The wildcards * and ? are allowed.
     Description—Enter a description for the SAP object (optional).
     Type—Specify the entry type that must be matched by selecting the corresponding check box(es) (Transaction, Report, Job, or Non-SAP).
   • Search Objects—Select this option to search for SAP objects by typing an object name or a fragment of an object name into the Search box and pressing Enter. No wildcards are allowed.
   The list below shows all SAP objects containing the search term that have been used in the system landscape (for example, a search for CAT might return ALERTCATDEF, CAT2, CAT3, CATA). If the search returns a large list, you can filter the results.
     ◦ To display only objects that have been consumed: Select the Show only used objects check box, and select the period during which the objects must have been consumed.
     ◦ To filter the results: In the Advanced menu, click Show Filter. You can define filter options for the object name, the transaction profile that contains the object, and the object type. For more information about filtering, see Using Filters to Limit Data Size. For more information about filtering, see Using Filters to Limit Data Size in the IT Asset Management online help.
Select the SAP objects that you want to add to the profile by selecting the corresponding check box(es). The **Transaction Profile** column indicates if objects are already included in other transaction profiles.

**Description**—Enter a description for the SAP object (optional).

5. If you want to exclude the object that you are defining from the transaction profile, select the **Exclude this object from transaction profile** check box.

6. Click **Create**.

**Importing Objects into a Transaction Profile**

FlexNet Manager for SAP Applications enables you to import a list of objects into a transaction profile. Files can be imported using the IT Asset Management interface (as described below), or using a tool called Business Importer (MGSBI.exe) that is installed with IT Asset Management and uses factory-built or custom “business adapters” to import business-related data. For information on the Business Importer, see the *Using FlexNet Business Adapters* PDF available through the title page of online help.

You can import object lists into an empty transaction profile or into a transaction profile that already contains objects. Objects can be imported independently of whether inventory data has already been collected from SAP systems.

When you import objects into a transaction profile that already contains objects, note the following:

- Existing objects that have the same transaction profile name and object name (**Transaction Profile Name** and **Object Name** fields in the import spreadsheet) as the objects that are imported are updated. That is, the **ObjectType**, **ExcludeFromProfile** and **Description** fields in the IT Asset Management database are overwritten with the values from the import spreadsheet.

- Existing objects with a different transaction profile name and object name are not affected by the import, and are added as new objects to the transaction profile.

- Objects that are duplicates (that is, objects that exist both in the transaction profile and in the import file, or objects that appear more than once either in the import file or in the transaction profile) will be overwritten so that the transaction profile will contain only one instance of an object.

**Preparing your import file**

Your import file must comply with following rules:

- The list must be a comma-separated file (.csv) or a Microsoft Excel workbook (.xls or .xlsx) that adheres to a specific column layout, see [Column Layout of Import Files](#)

- For Microsoft Excel workbooks, the sheet within the workbook must be named **TransactionProfile**.

---

*How to import objects into a transaction profile using the Transaction Profile page:*

1. Go to the **Transaction Profile** page.

2. You may be asked to select a landscape name if you haven’t already done so. If so, choose a landscape.

   The **Transaction Profiles: [system landscape]** page displays.

3. In the **Name** column, double-click a transaction profile to open.

   The **Transaction Profile: [transaction profile name]** page displays.
4. In the **Objects** section, hover over **Advanced > Import** and choose either **Microsoft Excel** or **CSV** depending on the type of file you are importing.

   The **Import Excel File** or **Import CSV File** dialog displays.

5. Enter the **File location**, or click **Browse** to navigate to and select the file.

6. Click **OK**.

   The **Object** field displays a status message, such as **Commenced at [date and time]**.

7. Refresh the page to update the status of the message or click the message to open the **Last Transaction Profile Import** for more details.

### Column Layout of Import Files

The import files for a transaction profile must have the following column layout. If any of the columns is missing, the import will fail.

<table>
<thead>
<tr>
<th>Column</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Transaction Profile Name</strong></td>
<td>The name of the transaction profile into which objects are imported. For imports using the <strong>Transaction Profile: name</strong> page:</td>
</tr>
<tr>
<td></td>
<td>• All objects are imported and assigned to the transaction profile into which they are currently imported. This is regardless of the value that was entered in the <strong>Transaction Profile Name</strong> column.</td>
</tr>
<tr>
<td></td>
<td>For imports using the business importer:</td>
</tr>
<tr>
<td></td>
<td>• Existing transaction profiles with the same name as the value specified in the <strong>Transaction Profile Name</strong> column will have any new objects added to them.</td>
</tr>
<tr>
<td></td>
<td>• If no transaction profiles with the same name as the value specified in the <strong>Transaction Profile Name</strong> column exist, they will be created and objects are assigned to them.</td>
</tr>
<tr>
<td></td>
<td>• If no value was entered in the <strong>Transaction Profile Name</strong> column, no transaction profile is created and no objects are added to any existing transaction profiles.</td>
</tr>
<tr>
<td><strong>Object Name</strong></td>
<td>The name of the object that should be added to the transaction profile. The wildcards * and ? are allowed. If this column is left blank, data in this row will fail to import.</td>
</tr>
<tr>
<td><strong>Object Type</strong></td>
<td>The type of the object. Supported values are:</td>
</tr>
<tr>
<td></td>
<td>• T: Transaction</td>
</tr>
<tr>
<td></td>
<td>• R: Report</td>
</tr>
<tr>
<td></td>
<td>• J: Job</td>
</tr>
<tr>
<td></td>
<td>• N: Non-SAP object</td>
</tr>
<tr>
<td></td>
<td>If you want to provide multiple values, separate them using a semicolon (;), for example, T;R;J;N. If this column is left blank, the object is imported, but its <strong>ObjectType</strong> column will be blank.</td>
</tr>
<tr>
<td>Column</td>
<td>Description</td>
</tr>
<tr>
<td>------------------------</td>
<td>------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Exclude From Profile</td>
<td>Indicates whether this object should be excluded from the profile. Supported values are Y (Yes) and N (No). If this column is left blank, the object is imported, and its value is set to the default value N (No).</td>
</tr>
<tr>
<td>Description</td>
<td>Optional description of the object.</td>
</tr>
<tr>
<td>System Landscape Name</td>
<td>When you import a file using the Transaction Profile: name page, this column is ignored. When you import a file via the business importer, this column should contain the name of the system landscape that contains the transaction profile into which data is imported, or in which the transaction profile should be created.</td>
</tr>
</tbody>
</table>

**Identifying Objects that are Included in Transaction Profiles**

When you review the user consumption data, you can identify which objects that have been consumed by a particular user are included or not included in a transaction profile. You can do this in the SAP Consumption Analysis Details dialog. This dialog is available in the following locations:

- Consumption Analysis report
- Module Usage report
- Role Utilization report
- License Assignment Recommendations tab on the Current Position page.

After you review the objects that have been consumed by a user, you can add them to a transaction profile, if required.

> To determine if objects that have been consumed by a particular user are part of a transaction profile, and add objects to a transaction profile:

1. Open the SAP Consumption Analysis Details dialog. To do so, in SAP mode in IT Asset Management, do one of the following:
   - Point to Analysis Tools and click Consumption Analysis. Make your selection in the Selection Details section. Click Refresh, then double-click a user.
   - Point to Analysis Tools and click Module Usage. Make your selection in the Selection Details section. Click Refresh, then double-click a user.
   - Point to Analysis Tools and click Role Utilization. Make your selection in the Selection Details section. Click Refresh, then double-click a user.
   - Point to License Position and click Current Position. Below the User License Summary tab, click Show user license recommendations. Double-click a recommendation.

2. In the SAP Consumption Analysis Details dialog, the Transaction Profile column displays the transaction profile that contains the object.
3. To add objects to a transaction profile, select the object or objects that you want to add.

4. Open the Advanced menu, select Transaction profiles, and click Add all to add all objects, or click Add selected to add only the selected objects.

5. In the Add SAP Transaction Profile dialog, select one of the following options:
   - **Transaction profile name**: Select this option to create a new transaction profile. Enter the name of the new profile and add a description (optional).
   - **Search transaction profiles**: Select this option to search for existing transaction profiles to which the objects should be added. Type a profile name or a fragment of a profile name into the Search box and press Enter. No wildcards are allowed. The list shows all transaction profiles containing the search term that are available in the system landscape. If the search returns a large list, you can filter the results. For more information about filtering, see Using Filters to Limit Data Size. For more information about filtering, see Using Filters to Limit Data Size in the IT Asset Management online help. Select the transaction profiles to which you want to add the objects by selecting the corresponding check boxes.

6. Click Create.

### Viewing Objects of a Transaction Profile

After you add objects to a transaction profile, you can display a list to verify which objects are matched in the transaction profile. This is especially useful if you specified objects using wildcards in the transaction profile, because you can see the name and the type of the SAP objects that have been matched. You can review this list, and adjust (add, edit, or delete) the objects in the transaction profile.

The values refer to objects that are installed on the analyzed SAP systems, and not to objects that have been consumed by users.

To display a list of objects in a transaction profile:

1. In IT Asset Management, go to the Transaction Profile page (Licenses > SAP Optimization > Transaction Profile).

2. On the Transaction Profiles: system landscape name page, open the transaction profile that you want to view. Do one of the following:
   - Double-click the name of the desired profile.
   - Select the desired profile and click View.

3. On the Transaction Profile: profile name page, in the Tasks section, click View Objects to display a list of all matched SAP objects.

Use the Back button of your Web browser to return to the previous page.
Editing a Transaction Profile

To edit a transaction profile:

1. In IT Asset Management, go to the Transaction Profile page (Licenses > SAP Optimization > Transaction Profile).

2. On the Transaction Profiles: system landscape name page, open the transaction profile that you want to edit. Do one of the following:
   - Double-click the name of the desired profile.
   - Select the desired profile and click View.

3. On the Transaction Profile: profile name page, you can do the following:
   - Edit the information in the Details section. Click Edit to open the section in write-enabled mode. You can now modify the name and the description of the transaction profile. (The other information is read-only.) When you are finished, click Save.
   - Modify the SAP objects in the Objects section.
     To add an object, click Add to open the Add SAP Object dialog. Follow the instructions under Adding SAP Objects to a Transaction Profile Using the Transaction Profile Editor.
     To edit an object, select the object you want to modify and click Edit to open the Edit SAP Object dialog. You can change the SAP object in the Object Name field or modify the description. Select the corresponding check box (Transaction, Report, Job, or Non-SAP) for the entry type. When you are finished, click Save.
     To delete an object, select the object you want to remove and click Delete. In the Delete Object dialog, then confirm the deletion by clicking Delete.

Configuring Optimization Rules

This section answers the following questions:

- What are license rules? See Introduction to License Rules.
- Why are license rules grouped together in license rule sets? See Introduction to License Rule Sets.
- Which default rules does FlexNet Manager for SAP Applications offer? See Configuring Default License Rules.
- What is the Preview/Simulation function and what benefit does it have? See License Rule Set Simulations.
- What is the Duplicate User rule? See Duplicate User Rule.

Introduction to License Rules

FlexNet Manager for SAP Applications enables you to define license rules that are used in the license optimization process. These rules help you to identify the most appropriate license type for users. License rules are based on the user data and monthly consumption data that is imported from the SAP systems into IT Asset Management. (Note that
consumption data is imported only for completed months.) License rules can be applied to SAP systems and non-SAP systems.

You define the license rules in IT Asset Management. To configure a rule, you need to specify the rule criteria as well as a license type. If the criteria of the rule are met (they usually resolve to true or false), the specified license type will be recommended. To make recommendations usable, they need to be released in IT Asset Management and imported into the SAP Admin module, where an SAP administrator can accept or reject them and update the user primary records accordingly. Only recommendations for SAP systems can be released to the SAP Admin module.

Each predefined license rule has a Recommended license type list from which you select the license type that should be recommended if the rule criteria are met. To make the full range of license types available in this list, you need to set up the license-type hierarchy before configuring license rules. For more information, see License-Type Hierarchy.

You can tie individual license rules to systems, or alternatively, you can assign license rules grouped together in a license rule set to one or more systems. For information on assigning individual license rules or entire rule sets to systems, see Assigning Rules and Rule Sets to Systems.

You need to manually calculate the current baseline and optimal license position, based on all active rule sets. This helps to ensure that license managers always have an accurate and up-to-date view of their optimal SAP license position, including how the position has changed over time. For more information, see Recalculating the Optimal License Position.

As a first step, you would usually create a license rule set and then, in a second step, add rules to your set. Both processes are explained in more detail in the following sections.

### Introduction to License Rule Sets

License rules are grouped together to form license rule sets.

Each license rule set is tied to a system, a system group, or an entire system landscape for which it can be active. Each rule within the set can also be assigned to specific systems or system groups. You can create multiple rule sets to cover specific parts of the system landscape. Where multiple rules or rule sets apply to the same system, FlexNet Manager for SAP Applications enables you to manage the precedence of rules or rule sets. For more information, see Changing the Order of Rules and Rule Sets.

You maintain your rule sets on the License Assignment Rules: system Landscape name page. Here you can create, view, and delete rule sets.

---

To access the License Assignment Rules page:

1. In IT Asset Management, go to the License Assignment Rules page (Licenses > SAP Optimization > License Assignment Rules). Choose a system landscape and click on it.

   The License Assignment Rules: system Landscape name page is displayed.

2. If you want to switch to a different landscape, click Change Landscape in the top-right corner of the page.

The License Assignment Rules: system Landscape name page contains the following information (you can modify which columns are displayed using Advanced > Choose Fields):

<table>
<thead>
<tr>
<th>Field</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Name</td>
<td>The name of the rule set.</td>
</tr>
</tbody>
</table>
Creating a License Rule Set

To create a license rule set:

1. In IT Asset Management, go to the License Assignment Rules page (Licenses > SAP Optimization > License Assignment Rules). Choose a system landscape and click on it.
   
   The License Assignment Rules: system landscape name page is displayed.

2. If you want to switch to a different landscape, click Change Landscape in the top-right corner of the page.

3. On the License Assignment Rules: system landscape name page, click Add.

4. On the Create New License Assignment Rule Set page, provide the following information:

   - **Name**—Enter a name for the new rule set.
   - **Description**—Enter a description for the new rule set (optional).
   - **Active**—If the rule set should be used to calculate the optimal license position, select the Active check box.
   - **Period**—Specify how many months worth of consumption and user data should be evaluated when the license rule set is applied. License assignments are calculated only on the basis of data of completed months.
   - **Ending**—Select Now if the consumption period should end on the last day of the previous month, or specify a month using the month selector.

5. Click Create.
Deleting a License Rule Set

**To delete a license rule set:**

1. In IT Asset Management, go to the License Assignment Rules page (Licenses > SAP Optimization > License Assignment Rules). Choose a system landscape and click on it.
   
   The License Assignment Rules: *system landscape name* page is displayed.

2. If you want to switch to a different landscape, click Change Landscape in the top-right corner of the page.

3. On the License Assignment Rules: *system landscape name* page, select the rule set that you want to delete and click Delete.

4. In the Delete Rule Set dialog, click Delete to confirm the deletion.

Viewing the Details of a License Rule Set

**To display the details of a license rule set:**

1. In IT Asset Management, go to the License Assignment Rules page (Licenses > SAP Optimization > License Assignment Rules). Choose a system landscape and click on it.
   
   The License Assignment Rules: *system landscape name* page is displayed.

2. If you want to switch to a different landscape, click Change Landscape in the top-right corner of the page.

3. On the License Assignment Rules: *system landscape name* page, select the rule set that you want to view and click View.

4. The License Assignment Rule Set: *rule set name* page opens and displays detailed information on the rule set.

Adding Rules to a License Rule Set

**To add rules to a license rule set:**

1. In IT Asset Management, go to the License Assignment Rules page (Licenses > SAP Optimization > License Assignment Rules). Choose a system landscape and click on it.
   
   The License Assignment Rules: *system landscape name* page is displayed.

2. If you want to switch to a different landscape, click Change Landscape in the top-right corner of the page.

3. On the License Assignment Rules: *system landscape name* page, double-click the rule set to which you want to add rules.
   
   The License Assignment Rule Set: *rule set name* page opens.
4. In the **Rules** section, click **Add**.

5. In the **Select Rule Type** dialog, select the rule that you want to add and click **OK**.

### Copying a License Rule Set

You can copy license rule sets, which is useful for developing "What if" analyses. You can create copies of your rule sets with minor adjustments—for example, to model best-case and worst-case scenarios—and run simulations that incorporate all best-case rule sets at once. For information on license rule simulations, see [Running a Simulation](#).

**To copy a license rule set:**

1. In IT Asset Management, go to the **License Assignment Rules** page (Licenses > SAP Optimization > License Assignment Rules). Choose a system landscape and click on it.

   The **License Assignment Rules: system landscape name** page is displayed.

2. If you want to switch to a different landscape, click **Change Landscape** in the top-right corner of the page.

3. On the **License Assignment Rules: system landscape name** page, select the rule set that you want to copy.

4. Open the **Advanced** menu and select **Make a Copy**.

   A copy of the selected rule with the name **rule set (Copy x)** is added to the grid.

**Tip: Best Practice for Modifying License Rule Sets**

It is good practice to create copies of your rules instead of editing them, and to use meaningful naming conventions. For example, you could name the original set **Rule Set v1.0**. When a change is required, you could create a copy named **Rule Set v1.1** and make any changes to this rule set. A simulation run against the old rules could be named, for example, **Rule Set v1.0 run on 1 July 2019**, and although now inactive, that rule set can be referenced in the future.

If an issue arises, you can easily roll back rule changes by making the new version inactive and the old version active.

### Assigning Rules and Rule Sets to Systems

When you create a rule set, it is tied to the current system landscape by default. However, you can change the default system assignment to target only specific systems or system groups. You can also assign individual rules within the rule set to specific systems.

**To change the default system assignment for individual license rules or rule sets:**

1. Follow the steps described under [Creating a License Rule Set](#) to create a license rule set and [Adding Rules to a License Rule Set](#) to add rules to it.

2. In IT Asset Management, go to the **License Assignment Rules** page (Licenses > SAP Optimization > License Assignment Rules). Choose a system landscape and click on it.

   The **License Assignment Rules: system landscape name** page is displayed.
3. On the **License Assignment Rules: system Landscape name** page, select the license rule set that you want to assign to a system, or select the license rule set that contains the rule for which you want to set an assignment. Click **View** to open the rule set.

The **License Assignment Rule Set: rule set name** page is displayed.

4. If you wish to change the default system assignment for the current license rule set:
   a. In the **Tasks** section, click **Change default system assignment**.
   b. In the **Default System Assignment** dialog, select the check boxes for the systems or the system landscape to which you want to assign the license rule set.
   c. Click **OK**.

   **Note:** The assignment that you set for the rule set will also apply to the rules that it contains, unless you set separate assignments for the individual rules.

5. If you wish to change the default system assignment for an individual license rule:
   a. In the **Rules** section, select the rule and click **View**.
   b. In the **Tasks** section, click **Assign to systems**.
   c. In the **Assign to Systems** dialog, select the check boxes for the systems or the system landscape to which you want to assign the license rule. To assign the rule to the same system(s) as the rule set to which it belongs, select the **Use default rule set assignment** check box.
   d. Click **OK**.

### Rules and Rule Sets in S/4HANA systems

You may choose to segregate your license assignment rules between classic Business Suite and S/4HANA systems.

**To segregate your license assignment rules between classic Business Suite and S/4HANA:**

1. Identify the license assignment rule you want to segregate.
2. Create a new license assignment rule which is the same type as the one you want to segregate.
3. Assign the new rule to S/4HANA systems using the **Assign to systems** action link on the rule details page.
4. Assign the existing rule to Classic systems using the **Assign to systems** action link on the rule details page.
5. Alternatively, you can create separate rule sets and assign one to Classic systems and the other to S/4HANA systems, using **Change default system assignment** action link on the rule set details page.

See [Assigning Rules and Rule Sets to Systems](#).

6. Review the order of rules or rule sets to ensure rules which apply to S/4HANA or Classic system are ordered before rules or rule sets that apply to all systems. This is required to prevent users from being matched against rules that apply to all systems.

See [Changing the Order of Rule Sets](#).
Changing the Order of Rules and Rule Sets

The license rule sets, as well as the rules inside a license set, need to be arranged in the order in which they should be applied. The order is crucial because each rule is applied to a user account on a system until its conditions are met and the user account is assigned a license type. As soon as the user account is assigned a license type, the set of rules is applied to the next user account on the system and so forth (subsequent rules or rule sets will not be applied).

If a user has several accounts on the systems in a landscape, the user accounts are consolidated across systems into logical users. Each logical user is assigned a Named User License, based on the information in the license-type hierarchy that you define in IT Asset Management on the License Types page (Licenses > SAP Optimization > License Types). This license type is recommended for the user. For more information on the license-type hierarchy, see License-Type Hierarchy.

Changing the Order of Rule Sets

To change the order of license-rule sets:

1. In IT Asset Management, go to the License Assignment Rules page (Licenses > SAP Optimization > License Assignment Rules). Choose a system landscape and click on it.
   The License Assignment Rules: system Landscape name page is displayed.
2. If you want to switch to a different landscape, click Change Landscape in the top-right corner of the page.
3. On the License Assignment Rules: system Landscape name page, in the Tasks section, click Change rule set order.
4. In the Change Rule Set Order dialog, select the rule set that you want to move and click the Up or Down arrow, to move it up or down in the rule order. To move multiple rule sets at once, hold the Ctrl key while selecting the rules.
5. Click Save.

Changing the Order of Rules

To change the order of license rules:

1. In IT Asset Management, go to the License Assignment Rules page (Licenses > SAP Optimization > License Assignment Rules). Choose a system landscape and click on it.
   The License Assignment Rules: system Landscape name page is displayed.
2. If you want to switch to a different landscape, click Change Landscape in the top-right corner of the page.
3. On the License Assignment Rules: system Landscape name page, do one of the following:
   - Double-click the name of the rule set that you want to edit.
   - Select the name of the rule set that you want to edit and click View.
4. On the License Assignment Rule Set: rule set name page, in the Tasks section, click Change rule order.
5. In the **Change Rule Order** dialog, select the rule that you want to move and click the Up or Down arrow, to move it up or down in the rule order. To move multiple rules at once, hold the **Ctrl** key while selecting the rules.

6. Click **Save**.

**Previewing License Rule Results**

You can preview the results of individual rules. This enables you to make adjustments to the rule, if necessary, before applying it.

> **To preview license rule results:**

1. In IT Asset Management, go to the **License Assignment Rules** page (Licenses > SAP Optimization > License Assignment Rules). Choose a system landscape and click on it.

   The **License Assignment Rules**: *system Landscape name* page is displayed.

2. If you want to switch to a different landscape, click **Change Landscape** in the top-right corner of the page.

3. On the **License Assignment Rules**: *system Landscape name* page, double-click the rule set that contains the rule that you want to preview.

4. The **License Assignment Rule Set**: *rule set name* page opens. In the **Rules** section, double-click the rule for which you want to preview results.

5. In the **Preview Results** section, click **Show license recommendations**.

The rule results preview is based on the consumption data of the previous month and provides the following information (you can modify which columns are displayed using **Advanced > Choose Fields**).

<table>
<thead>
<tr>
<th>Column Name</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Matched</td>
<td>A green check mark indicates that the conditions of the rule have been met.</td>
</tr>
<tr>
<td>User Name</td>
<td>The User ID of the user on the system on which the rule was run.</td>
</tr>
<tr>
<td>First Name</td>
<td>The first name of the user on the system on which the rule was run.</td>
</tr>
<tr>
<td>Last Name</td>
<td>The last name of the user on the system on which the rule was run.</td>
</tr>
<tr>
<td>Result Reason</td>
<td>Gives details which rule produced the result.</td>
</tr>
<tr>
<td>Accounting Number</td>
<td>The user’s accounting number.</td>
</tr>
<tr>
<td>Change Required</td>
<td><strong>Yes</strong> indicates that a change of license type is recommended; <strong>No</strong> indicates that there is no recommendation to change the license type.</td>
</tr>
<tr>
<td>Client ID</td>
<td>The client ID of the system on which the rule was run.</td>
</tr>
<tr>
<td>Days Since Last Logon</td>
<td>The number of days since the user last logged on to the SAP system.</td>
</tr>
<tr>
<td>Column Name</td>
<td>Description</td>
</tr>
<tr>
<td>------------------</td>
<td>-----------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Developer</td>
<td>Indicates whether the user currently has a developer license.</td>
</tr>
<tr>
<td></td>
<td>Note: This field is currently not supported for S/4HANA systems.</td>
</tr>
<tr>
<td>Email Address</td>
<td>The email address of the user on the system on which the rule was run.</td>
</tr>
<tr>
<td>Extension</td>
<td>The user’s phone extension.</td>
</tr>
<tr>
<td>Inventory Date</td>
<td>The date of the last inventory.</td>
</tr>
<tr>
<td>Last Logon Date</td>
<td>The date when the user last logged on to the SAP system.</td>
</tr>
<tr>
<td>License Type</td>
<td>The license type that is currently assigned to the user on the system.</td>
</tr>
<tr>
<td>(Current)</td>
<td></td>
</tr>
<tr>
<td>License Type</td>
<td>The license type that is recommended for the user.</td>
</tr>
<tr>
<td>(Recommended)</td>
<td></td>
</tr>
<tr>
<td>Locked User</td>
<td>Displays a check mark if the user is currently locked.</td>
</tr>
<tr>
<td>Phone Number</td>
<td>The user’s phone number.</td>
</tr>
<tr>
<td>Production User</td>
<td>Displays a check mark if the user is a production user.</td>
</tr>
<tr>
<td>System ID</td>
<td>The three-character ID of the system on which the rule was run.</td>
</tr>
<tr>
<td>System Type</td>
<td>Specifies whether the system is an SAP system or a non-SAP system.</td>
</tr>
<tr>
<td>User Creation Date</td>
<td>The date when the user was created on the SAP system.</td>
</tr>
<tr>
<td>User Group</td>
<td>The group that the user belongs to.</td>
</tr>
<tr>
<td>User Type</td>
<td>The user type of the user.</td>
</tr>
</tbody>
</table>

### Configuring Default License Rules

After you have created a rule set, you can add rules to it and configure the rules.

In IT Asset Management, FlexNet Manager for SAP Applications provides predefined rules that you can configure according to your needs. These rules are described in more detail in the following sections:

- "Developer" Rule (not supported for S/4HANA systems)
- "Email Addresses" Rule
- "Last Logon" Rule
- "License Type" Rule
- "Locked User" Rule
- "Low Consumption" Rule
• “Non-Production SAP System” Rule
• “Roles” Rule
• “Total Consumption” Rule
• “Transaction Profile by Maximum Object Types Used” Rule
• “Transaction Profile by Maximum Objects Used” Rule
• “Transaction Profile by Percentage” Rule
• “Transaction Profile Limit” Rule
• “User Groups” Rule
• “User Names” Rule
• “User Types” Rule
• “Custom” Rule.

Retiring Users

When you configure a license rule, you define the rule criteria and select the license type that should be recommended if the rule criteria are met. In addition to changing the license type, you can retire users. When you retire a user, the user’s Valid To date is changed so that the user is no longer valid and does not require a license. In the Recommended License Type list, that you find in each license rule configuration view, the setting for retiring users is Retired user.

Excluding Users from the License Position

In some cases it might not be appropriate to include a specific user account in the license position calculation. For these instances, you can select Exclude from license position as the license type that should be recommended if the conditions are met.

User accounts that are marked as Exclude from license position do not contribute to the license position and do not appear in the list of license recommendations on the Current Position page or the Simulations page.

“Developer” Rule (not supported for S/4HANA systems)

Use this rule to assign all users with a developer key a specific license type.

Refer to Creating a License Rule Set and Adding Rules to a License Rule Set for information on creating a rule set and adding rules to it.

Note: This rule matches users with a developer key set in the classic Business Suite. An S/4HANA system uses an authorization object to determine if a user is a developer; therefore this rule will not work for S/4HANA users.

To create your rule, specify the following information:

• Name—Enter the name of the rule.
- **Rule Set**—The rule set that contains your rule. This information is non-editable.

- **Rule for Users with developer key**—This information is non-editable. It describes the condition that needs to be matched in order for a new license type to be recommended.

- **Recommended License Type**—Select the license type that should be recommended if the rule condition is met. For this rule, the type *mySAP Business Suite Developer (55)* is preselected.

When you have provided all necessary information, click **Create**. The rule will be run, and you can examine the results immediately by clicking **Show license recommendations** in the **Preview Results** section.

### “Email Addresses” Rule

This rule enables you to assign license types based on the user’s email address.

**Usage Scenario**: This rule could be useful, for example, in a scenario where your company has acquired another organization and you want to assign all members of that organization self-service licenses.

Refer to **Creating a License Rule Set** and **Adding Rules to a License Rule Set** for information on creating a rule set and adding rules to it.

To create your rule, specify the following information:

- **Name**—Enter the name of the rule.

- **Rule Set**—The rule set that contains your rule. This information is non-editable.

- **Email Addresses**—Enter the email address or part of an email address that must match the email address of the user’s account information in order for a particular license type to be recommended. You can use the wildcard characters * (to replace multiple characters) and ? (to replace one single character). Separate multiple email address criteria with a comma or semicolon.

  **Note**: Only a single * wildcard character is currently supported in SAP custom rule sets. If a custom rule contains two or more * wildcard characters, the contents after the second * wildcard character will be ignored.

- **Recommended License Type**—Select the license type that should be recommended if the rule condition is met. Note that this license type set will be recommended for users within Classic Business Suite, S/4HANA and Non-SAP systems when the "Recommended License Type for S/4HANA" is set to "Same as above" (default).

- **Recommended License Type for S/4HANA**—Select the license type that should be recommended for S/4HANA users if the rule condition is met. Specify a license type other than "Same as above" for cases where matching S/4HANA users should be recommended a different license type from Classic Business Suite users.

When you have provided all necessary information, click **Create**. The rule will be run, and you can examine the results immediately by clicking **Show license recommendations** in the **Preview Results** section.

### “Last Logon” Rule

Use this rule to set the number of days of inactivity before FlexNet Manager for SAP Applications should recommend a specific license type.
Usage Scenario: This rule can help you identify users that have not logged on to the system in a specified time period. This could possibly indicate that they have left the organization and would not need their SAP license any longer.

Refer to Creating a License Rule Set and Adding Rules to a License Rule Set for information on creating a rule set and adding rules to it.

To create your rule, specify the following information:

- **Name**—Enter the name of the rule.
- **Rule Set**—The rule set that contains your rule. This information is non-editable.
- **Users not logged on for more than**—Enter the number of days that a user needs to be inactive in order for a new license type to be recommended.
- **Recommended License Type**—Select the license type that should be recommended if the rule condition is met.
  Note that this license type set will be recommended for users within Classic Business Suite, S/4HANA and Non-SAP systems when the "Recommended License Type for S/4HANA" is set to "Same as above" (default).
- **Recommended License Type for S/4HANA**—Select the license type that should be recommended for S/4HANA users if the rule condition is met.
  Specify a license type other than "Same as above" for cases where matching S/4HANA users should be recommended a different license type from Classic Business Suite users.

When you have provided all necessary information, click Create. The rule will be run, and you can examine the results immediately by clicking Show license recommendations in the Preview Results section.

"License Type" Rule

Use this rule to perform a mass change of license types.

Usage Scenario: You could use this rule if you recently updated your SAP contract and need to replace a specific license type with another license type.

Refer to Creating a License Rule Set and Adding Rules to a License Rule Set for information on creating a rule set and adding rules to it.

To create your rule, specify the following information:

- **Name**—Enter the name of the rule.
- **Rule Set**—The rule set that contains your rule. This information is non-editable.
- **License Types**—Enter the license types that are currently assigned to users that should be changed to a new specific license type. Separate multiple license type values with a comma or semicolon.
- **Recommended License Type**—Select the license type that should be recommended if the rule condition is met.
  Note that this license type set will be recommended for users within Classic Business Suite, S/4HANA and Non-SAP systems when the "Recommended License Type for S/4HANA" is set to "Same as above" (default).
- **Recommended License Type for S/4HANA**—Select the license type that should be recommended for S/4HANA users if the rule condition is met.
  Specify a license type other than "Same as above" for cases where matching S/4HANA users should be recommended a different license type from Classic Business Suite users.
When you have provided all necessary information, click Create. The rule will be run, and you can examine the results immediately by clicking Show license recommendations in the Preview Results section.

“Locked User” Rule

Use this rule to assign a specific license type to all users whose user account is locked.

Refer to Creating a License Rule Set and Adding Rules to a License Rule Set for information on creating a rule set and adding rules to it.

To create your rule, specify the following information:

- **Name**—Enter the name of the rule.
- **Rule Set**—The rule set that contains your rule. This information is non-editable.
- **Rule for Locked Users**—This information is non-editable. It describes the type of user that needs to be matched in order for a new license type to be recommended.
- **Recommended License Type** - Select the license type that should be recommended if the rule condition is met.
  Note that this license type set will be recommended for users within Classic Business Suite, S/4HANA and Non-SAP systems when the "Recommended License Type for S/4HANA" is set to "Same as above" (default).
- **Recommended License Type for S/4HANA** - Select the license type that should be recommended for S/4HANA users if the rule condition is met.
  Specify a license type other than "Same as above" for cases where matching S/4HANA users should be recommended a different license type from Classic Business Suite users.

When you have provided all necessary information, click Create. The rule will be run, and you can examine the results immediately by clicking Show license recommendations in the Preview Results section.

“Low Consumption” Rule

This rule enables you to assign license types based on the CPU time a user has consumed (used primarily for SAP systems), and based on the number of objects that were accessed (used primarily for non-SAP systems).

**Usage Scenario**: You could use this rule to identify users who should be assigned the Test User license type.

Refer to Creating a License Rule Set and Adding Rules to a License Rule Set for information on creating a rule set and adding rules to it.

To create your rule, specify the following information:

- **Name**—Enter the name of the rule.
- **Rule Set**—The rule set that contains your rule. This information is non-editable.
- **CPU Time Limit**—Select this option if the rule is primarily for SAP systems. Enter the CPU value that should set the threshold for the license type assignment. FlexNet Manager for SAP Applications holds CPU times with up to four decimal points. If the consumed CPU time is equal to or lower than the threshold, the rule condition is met and the license type you specify is recommended. If you specify a CPU limit of 0, this will match all users with exactly zero CPU consumption data.
- **Object execution limit**—Select this option if the rule is primarily for non-SAP systems. Enter the threshold value for
the license type assignment. The value represents the maximum number of times that an object has been accessed.

- **Recommended License Type** - Select the license type that should be recommended if the rule condition is met. Note that this license type set will be recommended for users within Classic Business Suite, S/4HANA and Non-SAP systems when the "Recommended License Type for S/4HANA" is set to "Same as above" (default).

- **Recommended License Type for S/4HANA** - Select the license type that should be recommended for S/4HANA users if the rule condition is met. Specify a license type other than "Same as above" for cases where matching S/4HANA users should be recommended a different license type from Classic Business Suite users.

When you have provided all necessary information, click **Create**. The rule will be run, and you can examine the results immediately by clicking **Show license recommendations** in the **Preview Results** section.

**“Non-Production SAP System” Rule**

Use this rule to assign a specific license type to all users on non-production SAP systems.

Refer to **Creating a License Rule Set** and **Adding Rules to a License Rule Set** for information on creating a rule set and adding rules to it.

To create your rule, specify the following information:

- **Name**—Enter the name of the rule.
- **Rule Set**—The rule set that contains your rule. This information is non-editable.
- **Rule for Users from non-production SAP systems**—This information is non-editable. It describes the type of user that needs to be matched in order for a new license type to be recommended.
- **Recommended License Type** - Select the license type that should be recommended if the rule condition is met. Note that this license type set will be recommended for users within Classic Business Suite, S/4HANA and Non-SAP systems when the "Recommended License Type for S/4HANA" is set to "Same as above" (default).

- **Recommended License Type for S/4HANA** - Select the license type that should be recommended for S/4HANA users if the rule condition is met. Specify a license type other than "Same as above" for cases where matching S/4HANA users should be recommended a different license type from Classic Business Suite users.

When you have provided all necessary information, click **Create**. The rule will be run, and you can examine the results immediately by clicking **Show license recommendations** in the **Preview Results** section.

**“Roles” Rule**

Use this rule to maintain the assignment of license types to user roles. User roles enable users to perform certain transactions in SAP. FlexNet Manager for SAP Applications enables you to assign a license type to a role.

**Usage Scenario:** If you have a small number of well-managed roles that accurately represent the employees’ responsibilities, mapping roles to license types can be a simple way of determining appropriate license types (assuming that all users make use of all responsibilities to which they have been assigned).

Refer to **Creating a License Rule Set** and **Adding Rules to a License Rule Set** for information on creating a rule set and
adding rules to it.

To create your rule, specify the following information:

- **Name**—Enter the name of the rule.
- **Rule Set**—The rule set that contains your rule. This information is non-editable.
- **Roles**—Specify the role or roles that are currently assigned to users, which should be used as a basis for license recommendation. You can use the wildcard characters * (to replace multiple characters) and ? (to replace one single character). For example, you can enter the role SAP_BC_* As a result, all roles starting with ‘SAP_BC_’ are taken into account. Separate multiple roles with a comma or semicolon.

**Note:** Only a single * wildcard character is currently supported in SAP custom rule sets. If a custom rule contains two or more * wildcard characters, the contents after the second * wildcard character will be ignored.

- **Recommended License Type**—Select the license type that should be recommended if the rule condition is met. Note that this license type set will be recommended for users within Classic Business Suite, S/4HANA and Non-SAP systems when the "Recommended License Type for S/4HANA" is set to "Same as above" (default).

- **Recommended License Type for S/4HANA**—Select the license type that should be recommended for S/4HANA users if the rule condition is met. Specify a license type other than "Same as above" for cases where matching S/4HANA users should be recommended a different license type from Classic Business Suite users.

When you have provided all necessary information, click **Create**. The rule will be run, and you can examine the results immediately by clicking **Show license recommendations** in the **Preview Results** section.

**“Total Consumption” Rule**

Use this rule to assign the license type based on the amount of CPU time that a user has consumed (used primarily for SAP systems) or based on the number of times that an object was accessed (used primarily for non-SAP systems).

**Usage Scenario:** If all employee license types have already been accounted for in other rules, you could use the Total Consumption rule to differentiate between a Professional and a Limited Professional user.

Refer to **Creating a License Rule Set** and **Adding Rules to a License Rule Set** for information on creating a rule set and adding rules to it.

To create your rule, specify the following information:

- **Name**—Enter the name of the rule.
- **Rule Set**—The rule set that contains your rule. This information is non-editable.
- **Total CPU time from … to …**—Select this option if the rule is primarily for SAP systems. Specify the lower and upper threshold value for the CPU time that must have been consumed in order for a new license type to be recommended.

- **Total object execution from … to …**—Select this option if the rule is primarily for non-SAP systems. Specify the lower and upper threshold value for the total number of times that an object must have been accessed in order for a new license type to be recommended.
• **Recommended License Type** - Select the license type that should be recommended if the rule condition is met. Note that this license type set will be recommended for users within Classic Business Suite, S/4HANA and Non-SAP systems when the “Recommended License Type for S/4HANA” is set to “Same as above” (default).

• **Recommended License Type for S/4HANA** - Select the license type that should be recommended for S/4HANA users if the rule condition is met. Specify a license type other than "Same as above" for cases where matching S/4HANA users should be recommended a different license type from Classic Business Suite users.

When you have provided all necessary information, click **Create**. The rule will be run, and you can examine the results immediately by clicking **Show license recommendations** in the **Preview Results** section.

**“Transaction Profile by Maximum Object Types Used” Rule**

Use this rule to identify users who access a limited number of specified objects of each specific type (transaction, report, and job). The criteria for a suggestion are met only if the counted numbers for all object types are below or equal to the specified maximum value. If one of the values is exceeded, no license type suggestions are made.

The main difference from the “Transaction Profile by Maximum Objects Used” Rule is that, for the “Transaction Profile by Maximum Object Types Used” rule, you define a threshold for each individual object type.

To be able to use this rule, you must have created a transaction profile beforehand. For information about transaction profiles, see [SAP Transaction Profiles](#).

**Usage Scenario**: You could use the Transaction Profile by Maximum Object Types Used rule to distinguish between a Professional and a Limited Professional user, based on the breadth of SAP operations being used.

Refer to [Creating a License Rule Set](#) and [Adding Rules to a License Rule Set](#) for information on creating a rule set and adding rules to it.

To create your rule, specify the following information:

• **Name**—Enter the name of the rule.

• **Rule Set**—The rule set that contains your rule. This information is non-editable.

• **Transaction Profile**—Select the name of the transaction profile that should be matched against the reported user consumption data. The transaction profile defines the scope of the objects that are considered by this rule.

• **Maximum transaction used**—Enter the maximum number of different transactions that were run by the user.

• **Maximum report used**—Enter the maximum number of different reports that were run by the user.

• **Maximum job used**—Enter the maximum number of different jobs that were run by the user.

• **Recommended License Type** - Select the license type that should be recommended if the rule condition is met. Note that this license type set will be recommended for users within Classic Business Suite, S/4HANA and Non-SAP systems when the "Recommended License Type for S/4HANA" is set to "Same as above" (default).

• **Recommended License Type for S/4HANA** - Select the license type that should be recommended for S/4HANA users if the rule condition is met. Specify a license type other than "Same as above" for cases where matching S/4HANA users should be recommended a different license type from Classic Business Suite users.

When you have provided all necessary information, click **Create**. The rule will be run, and you can examine the results immediately by clicking **Show license recommendations** in the **Preview Results** section.
immediately by clicking **Show license recommendations** in the **Preview Results** section.

### “Transaction Profile by Maximum Objects Used” Rule

Use the “Transaction Profile by Maximum Objects Used” rule to assign users who did not use more than a certain number of objects that are defined in a transaction profile a specific license type. A license type is suggested if the counted number of objects is lower than or equal to the specified maximum number.

The main difference from the “Transaction Profile by Maximum Object Types Used” Rule is that, for the “Transaction Profile by Maximum Objects Used” rule, you define a single threshold for all objects.

To be able to use this rule, you must have created a transaction profile. For information about transaction profiles, see **SAP Transaction Profiles**.

**Usage Scenario**: You could use the Transaction Profile by Maximum Objects Used rule to distinguish between a Professional and a Limited Professional user, based on the breadth of SAP operations being used.

Refer to **Creating a License Rule Set** and **Adding Rules to a License Rule Set** for information on creating a rule set and adding rules to it.

To create your rule, specify the following information:

- **Name**—Enter the name of the rule.
- **Rule Set**—The rule set that contains your rule. This information is non-editable.
- **Transaction profile**—Select the name of the transaction profile that should be matched against the reported user consumption data. The transaction profile defines the scope of the objects that are considered by this rule.
- **Max. number of objects used**—Enter the maximum number of different objects that were used by the user.
- **Recommended License Type** - Select the license type that should be recommended if the rule condition is met. Note that this license type set will be recommended for users within Classic Business Suite, S/4HANA and Non-SAP systems when the "Recommended License Type for S/4HANA" is set to "Same as above" (default).
- **Recommended License Type for S/4HANA** - Select the license type that should be recommended for S/4HANA users if the rule condition is met. Specify a license type other than "Same as above" for cases where matching S/4HANA users should be recommended a different license type from Classic Business Suite users.

When you have provided all necessary information, click **Create**. The rule will be run, and you can examine the results immediately by clicking **Show license recommendations** in the **Preview Results** section.

### “Transaction Profile by Percentage” Rule

Use the “Transaction Profile by Percentage” rule to identify users who executed a certain group of transactions, or, in other words, users who match a transaction profile that you created.

To be able to use this rule, you must have created a transaction profile. For information about transaction profiles, see **SAP Transaction Profiles**.

**Usage Scenario**: This rule enables you to differentiate between users who perform operational actions and those who perform self-service actions, and assign them the appropriate license type.
Refer to Creating a License Rule Set and Adding Rules to a License Rule Set for information on creating a rule set and adding rules to it.

To create your rule, specify the following information:

- **Name**—Enter the name of the rule.
- **Rule Set**—The rule set that contains your rule. This information is non-editable.
- **Transaction Profile**—Select the name of the transaction profile that should be matched against the reported user consumption data.
- **CPU time percentage**—Select this option if the rule is primarily for SAP systems. Enter the percentage value that indicates the degree of similarity between the transaction profile and the evaluated user (based on the CPU time a user spent within the transaction code(s) of the transaction profile).
- **Object execution percentage**—Select this option if the rule is primarily for non-SAP systems. Enter the percentage value that indicates the degree of similarity between the transaction profile and the evaluated user (based on the number of objects of the type Non-SAP that were executed within the specified transaction profile).

**Note:** No rounding is applied to this rule. Therefore, if you specify a threshold of 100%, every transaction, or every object executed by the user must be within the specified profile.

- **Recommended License Type** - Select the license type that should be recommended if the rule condition is met. Note that this license type set will be recommended for users within Classic Business Suite, S/4HANA and Non-SAP systems when the "Recommended License Type for S/4HANA" is set to “Same as above” (default).

- **Recommended License Type for S/4HANA** - Select the license type that should be recommended for S/4HANA users if the rule condition is met.

Specify a license type other than "Same as above" for cases where matching S/4HANA users should be recommended a different license type from Classic Business Suite users.

When you have provided all necessary information, click **Create**. The rule will be run, and you can examine the results immediately by clicking **Show license recommendations** in the **Preview Results** section.

### “Transaction Profile Limit” Rule

Use the Transaction Profile Limit rule to assign a license type based on a transaction profile that a user must match or is not allowed to match.

To be able to use this rule, you must have created a transaction profile. For information about transaction profiles, see SAP Transaction Profiles.

Refer to Creating a License Rule Set and Adding Rules to a License Rule Set for information on creating a rule set and adding rules to it.

To create your rule, specify the following information:

- **Name**—Enter the name of the rule.
- **Rule Set**—The rule set that contains your rule. This information is non-editable.
- **Mandatory transaction profile**—Select the transaction profile that contains the objects that must have been used
in order for a license type recommendation to be made.
You need to specify at least a mandatory transaction profile or an allowed transaction profile, or both.

- **Allowed transaction profile** — Select the transaction profile that contains the objects that are allowed, but not mandatory.
  If you specify an allowed transaction profile (but no mandatory transaction profile), at least one allowed object must have been used for a recommendation to be made. If you specify both an allowed transaction profile and a mandatory transaction profile, a recommendation is made if the objects in the mandatory transaction profile have been used.

- **Prohibited transaction profile** — Select the transaction profile that contains the objects that are forbidden. If a user matches a transaction profile that contains prohibited objects, no license type recommendation is made. Specifying a prohibited transaction profile is optional.

- **Recommended License Type** - Select the license type that should be recommended if the rule condition is met.
  Note that this license type set will be recommended for users within Classic Business Suite, S/4HANA and Non-SAP systems when the "Recommended License Type for S/4HANA" is set to "Same as above" (default).

- **Recommended License Type for S/4HANA** - Select the license type that should be recommended for S/4HANA users if the rule condition is met.
  Specify a license type other than "Same as above" for cases where matching S/4HANA users should be recommended a different license type from Classic Business Suite users.

When you have provided all necessary information, click **Create**. The rule will be run, and you can examine the results immediately by clicking **Show license recommendations** in the **Preview Results** section.

### “User Groups” Rule

Use the User Groups rule to assign all users of a specific user group to a specified license type.

**Usage Scenario:** If you had a group called 'TEST', you could use this rule to assign all users in this group the Test User license type.

Refer to **Creating a License Rule Set** and **Adding Rules to a License Rule Set** for information on creating a rule set and adding rules to it.

To create your rule, specify the following information:

- **Name** — Enter the name of the rule.

- **Rule Set** — The rule set that contains your rule. This information is non-editable.

- **User Groups** — Enter the group or groups whose users should be assigned a specific license type. You can use the wildcard characters * (to replace multiple characters) and ? (to replace one single character). Separate multiple groups with a comma or semicolon.

  **Note:** Only a single * wildcard character is currently supported in SAP custom rule sets. If a custom rule contains two or more * wildcard characters, the contents after the second * wildcard character will be ignored.

- **Recommended License Type** - Select the license type that should be recommended if the rule condition is met.
  Note that this license type set will be recommended for users within Classic Business Suite, S/4HANA and Non-SAP systems when the "Recommended License Type for S/4HANA" is set to "Same as above" (default).
• **Recommended License Type for S/4HANA** - Select the license type that should be recommended for S/4HANA users if the rule condition is met.
  Specify a license type other than "Same as above" for cases where matching S/4HANA users should be recommended a different license type from Classic Business Suite users.

When you have provided all necessary information, click **Create**. The rule will be run, and you can examine the results immediately by clicking **Show license recommendations** in the **Preview Results** section.

### “User Names” Rule

The User Names rule enables you to assign license types based on the user name.

**Usage Scenario:** This rule might be useful, for example, if you know—despite the lack of supporting usage data—that a specific user should receive a Professional license (the user might be a seasonal user who only performs operational tasks at the end of the financial year). You can define a rule specifically for this user, using their user name, rather than leaving it up to the SAP administrator to ignore that user’s recommendation during remediation.

Refer to [Creating a License Rule Set](#) and [Adding Rules to a License Rule Set](#) for information on creating a rule set and adding rules to it.

To create your rule, specify the following information:

- **Name**—Enter the name of the rule.
- **Rule Set**—The rule set that contains your rule. This information is non-editable.
- **User Names**—Enter the user name or part of a user name that must match the actual user name of the user’s account information in order for a particular license type to be recommended. You can use the wildcard characters * (to replace multiple characters) and ? (to replace one single character). Separate multiple user names with a comma or semicolon.

**Note:** Only a single * wildcard character is currently supported in SAP custom rule sets. If a custom rule contains two or more * wildcard characters, the contents after the second * wildcard character will be ignored.

- **Recommended License Type** - Select the license type that should be recommended if the rule condition is met.
  Note that this license type set will be recommended for users within Classic Business Suite, S/4HANA and Non-SAP systems when the “Recommended License Type for S/4HANA” is set to “Same as above” (default).

- **Recommended License Type for S/4HANA** - Select the license type that should be recommended for S/4HANA users if the rule condition is met.
  Specify a license type other than "Same as above" for cases where matching S/4HANA users should be recommended a different license type from Classic Business Suite users.

When you have provided all necessary information, click **Create**. The rule will be run, and you can examine the results immediately by clicking **Show license recommendations** in the **Preview Results** section.

### “User Types” Rule

Use the User Types rule to assign specific user types to a specified license type.

**Usage Scenario:** You could define a rule that all system users (user type B) should be assigned license type 91.
To create your rule, specify the following information:

- **Name**—Enter the name of the rule.
- **Rule Set**—The rule set that contains your rule. This information is non-editable.
- **User Types**—Enter the user type or the user types that should be matched in order for a specific license type to be recommended. Separate multiple user types with a comma or semicolon.
- **Recommended License Type**—Select the license type that should be recommended if the rule condition is met. Note that this license type will be recommended for users within Classic Business Suite, S/4HANA and Non-SAP systems when the “Recommended License Type for S/4HANA” is set to ”Same as above” (default).
- **Recommended License Type for S/4HANA**—Select the license type that should be recommended for S/4HANA users if the rule condition is met. Specify a license type other than ”Same as above” for cases where matching S/4HANA users should be recommended a different license type from Classic Business Suite users.

When you have provided all necessary information, click **Create**. The rule will be run, and you can examine the results immediately by clicking **Show license recommendations** in the **Preview Results** section.

"Custom" Rule

The Custom rule gives you the flexibility to define exactly the rule criteria that you require.


**Syntax**

The Custom rule must be authored in C#, with the following extensions:

- **Operator logical-AND**: Use `&&` (usually used in .NET) or `AND` to create a rule where all properties should be matched.
  
  **Example**: `UserName == “JSmith” AND EmailAddress == “JSmith@mycompany.com”`

- **Operator logical-OR**: Use `||` (usually used in .NET) or `OR` to create a rule where either of the properties should be matched.
  
  **Example**: `UserName == “JSmith” OR UserName == “JShoemaker”`

- **Operator logical-NOT**: Use `!` (usually used in .NET) or `NOT` to create a rule where a property should not be matched.
  
  **Example**: `NOT(UserName == “JSmith”)`

- **Comparing two values**: Use `==` or `=` to create a rule that compares two values.
  
  **Example**: `UserName = “JSmith” OR UserName = “JShoemaker”`
Properties and Methods

See Properties and Methods for a list of properties and methods that can be used to define a Custom rule.

Refer to the section Properties and Methods for a list of properties and methods that can be used to define a Custom rule.

Creating a Custom Rule

Refer to Creating a License Rule Set and Adding Rules to a License Rule Set for information on creating a rule set and adding rules to it.

To create your rule, specify the following information:

• **Name**—Enter the name of the rule.

• **Rule Set**—The rule set that contains your rule. This information is non-editable.

• **Condition**—Enter the conditions for the rule.

• **Recommended License Type** - Select the license type that should be recommended if the rule condition is met.
  Note that this license type set will be recommended for users within Classic Business Suite, S/4HANA and Non-SAP systems when the "Recommended License Type for S/4HANA" is set to "Same as above" (default).

• **Recommended License Type for S/4HANA** - Select the license type that should be recommended for S/4HANA users if the rule condition is met.
  Specify a license type other than "Same as above" for cases where matching S/4HANA users should be recommended a different license type from Classic Business Suite users.

When you have provided all necessary information, click Create. The rule will be run, and you can examine the results immediately by clicking Show license recommendations in the Preview Results section.

Custom Rule Usage Scenarios

**Usage Scenario 1**

The following custom rule condition assigns a specific license type to all professional users in the Finance role:

\[
\text{HasRoleMatch("Finance") AND GetTransactionProfilePercentage("Professional Profile")} > 0.9
\]

**Usage Scenario 2**

The following custom rule condition assigns a specific license type to all users who are assigned a specific combination of roles:

\[
\text{HasRoleMatch("Admin") AND HasRoleMatch("Accounting")}
\]

License Rule Set Simulations

You can simulate running a rule set on one or more SAP systems to determine how the changes affect your license position. This analysis is based on the data of the previous three months.

Simulations enable you to make adjustments to your rule set or rule sets, such as changing the order in which rules are run; and to work out the best-case scenario for your licensing situation, without having to change live data. Simulations can be run on active or inactive rules.
On the Simulations page in SAP mode, you can do the following:

- **View** simulation details to use them as reference for future optimization processes. For more information, see Viewing the Simulations History.

- **Delete** unwanted simulations. For more information, see Deleting Simulations.

It is not possible to release simulation results to the SAP Admin module.

### Running a Simulation

You can simulate the application of one or more rule sets to see what outcome it will have before applying a rule set.

**Tip:** You can create copies of your rule sets with minor adjustments and run simulations to identify the best possible results. For information on copying rule sets, see Copying a License Rule Set.

To run a simulation of one or more rule sets:

1. In IT Asset Management, go to the License Assignment Rules page (Licenses > SAP Optimization > License Assignment Rules). Choose a system landscape and click on it.

   The License Assignment Rules: system landscape name page is displayed.

2. If you want to switch to a different landscape, click Change Landscape in the top-right corner of the page.

3. On the License Assignment Rules: system landscape name page, select one or more rule sets that you want to simulate.

4. In the Tasks section, click Run Simulation.

5. In the Create New Simulation dialog, enter a name and description (optional) of the simulation.

6. Click Create.

   The Simulation: simulation name page is displayed.

You can preview the results of the simulation in the grid in the License Assignment Summary section. It lists the license type and the corresponding description, the current number of licenses of a specific type (No. of Licenses (Current) column), and the projected number of licenses of a specific type that would be achieved if the rule set was applied in its current state (No. of Licenses (Simulation) column).

### Viewing Simulations

To access the Simulations page:

1. In IT Asset Management, go to the Simulations page (Licenses > SAP Optimization > Simulations). Choose a system landscape and click on it.
Deleting Simulations

In SAP mode, the Simulations page enables you to see all simulations. You can delete any unwanted simulations from the Simulations page.

To delete a simulation:

1. In IT Asset Management, go to the Simulations page (Licenses > SAP Optimization > Simulations). Choose a system landscape and click on it.
2. On the Simulations page, select the simulation that you want to delete and click Delete.
3. In the Delete Simulation dialog, confirm by clicking Delete.

The simulation is removed from the list.

Simulation Details

The Simulation: simulation name page shows detailed information for a particular simulation. The page is structured in a similar way to the Current Position page.

Details Section

The Details section provides the following information.

<table>
<thead>
<tr>
<th>Option</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Name</td>
<td>The name of the simulation.</td>
</tr>
<tr>
<td>Description</td>
<td>A description of the simulation (optional).</td>
</tr>
<tr>
<td>System Landscape</td>
<td>The system landscape for which the simulation was created.</td>
</tr>
<tr>
<td>License position calculated at</td>
<td>The date and time when the simulation was created.</td>
</tr>
<tr>
<td>Status</td>
<td>The value Simulation indicates that this is a simulation.</td>
</tr>
<tr>
<td>Total</td>
<td>The number of individual recommendations that have been made available to the SAP Admin module for the purpose of updating the user primary records in the SAP systems.</td>
</tr>
<tr>
<td>Created by</td>
<td>The user name of the user who created the simulation.</td>
</tr>
<tr>
<td>Created at</td>
<td>The date and time when the simulation was created.</td>
</tr>
<tr>
<td>Last updated by</td>
<td>The user name of the user who updated the simulation.</td>
</tr>
<tr>
<td>Last updated at</td>
<td>The date and time when the simulation was updated.</td>
</tr>
</tbody>
</table>

License Assignment Summary Section

The License Assignment Summary section informs you about the current position and the optimal license position,
grouped by license type. For more information, see the table in License Position — Named Users.

The Show license recommendations option below the summary view enables you to view detailed simulation results based on license rules (on the License Assignment Recommendations tab) and the Duplicate User rule (on the Duplicate User Recommendations tab).

For information about the content of both tabs, see Viewing License Assignment Recommendations and Viewing Duplicate User Recommendations.

**Viewing the Simulations History**

In SAP mode, the Simulations page enables you to see all simulations that have been run. You can view detailed information for each simulation, from a summary view to the individual recommendations.

To display simulation details:

1. In IT Asset Management, go to the Simulations page (Licenses > SAP Optimization > Simulations). Choose a system landscape and click on it.
2. On the Simulations page, select the simulation for which you want to view more information, and click View.
3. The Simulation: **simulation name** page is displayed, and you can view the details of the simulation.

**List of Simulations**

In SAP mode in IT Asset Management, the Simulations page lists all rule set simulations that have been run.

<table>
<thead>
<tr>
<th>Column Name</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Name</td>
<td>The name of the simulation.</td>
</tr>
<tr>
<td>Description</td>
<td>A description of the simulation (optional).</td>
</tr>
<tr>
<td>Date Created</td>
<td>The date and time when the simulation set was created.</td>
</tr>
<tr>
<td>Created By</td>
<td>The user who created the simulation.</td>
</tr>
<tr>
<td>Last Updated</td>
<td>The date and time when the simulation was last updated.</td>
</tr>
<tr>
<td>Updated By</td>
<td>The user who updated the simulation.</td>
</tr>
</tbody>
</table>

**Duplicate User Rule**

The Duplicate User rule helps you identify potential duplicate users across one or more systems. It does not differentiate between SAP and non-SAP systems.

A user might be counted more than once during system measurement if:

- The user is using several systems, but has a different user ID on each system.
- The user is using one system, but has multiple accounts on this system.
The Duplicate User rule can be used to identify user primary records of users that fail to be consolidated during user consolidation but who are actually the same person.

**Note:** Because of the way the Duplicate User rule complements the User Consolidation, ensure that you select different criteria in the Duplicate User rule than in the User Consolidation.

**Example:** A user has user accounts on two SAP systems, but in one account no email address is specified. If the User Consolidation is performed based on the email address field, these accounts will not be consolidated correctly, and two Named User licenses will be required for this user. A Duplicate User rule based on the field **Last Name, First Name** might identify these accounts as belonging to the same user. The SAP administrator can add the missing email address to the user primary record, and the User Consolidation will now consolidate the two accounts correctly.

You specify the selection criteria (fields in the user primary record, such as the user ID, user name, email address, and accounting number) that need to match in order for the rule to identify potential duplicate users. Optionally, you can define additional conditions to fine-tune the analysis. The Duplicate User rule analyzes the user primary data to identify such users. You are then presented with a list of potentially duplicate users, bundled in groups.

During license optimization analysis, the recommended license position factors in optimizations achieved by applying Duplicate User rules, and these results can be viewed in the **Current Position** page (Licenses > SAP Optimization > Current Position) in IT Asset Management. This applies to users of SAP systems and of non-SAP systems.

Further steps depend on the system type:

- • In the **Current Position** page, results for duplicate SAP system users can be released to the SAP Admin module. In the SAP Admin module, an SAP administrator can change the user data in the affected SAP systems so that the users can later be successfully consolidated.

- • Results for duplicate users of non-SAP systems can not be sent to their original remote systems for remediation. Instead, an operator with suitable access rights would need to manually change the user data in the remote systems. After the user data has been changed, the updated user records should be imported into the IT Asset Management database so that the changes are reflected in the non-SAP system’s users list.

By default, the Duplicate User rule is run across all available systems (SAP systems and non-SAP systems) in the landscape.

The Duplicate Users rule is divided into two sections—**General Criteria** and **Custom Criteria**—that offer different levels of ease-of-use and flexibility. You can use only general criteria, or only custom criteria, or a combination of both to define your rule.

The **Activate** flag (located in the **Custom Criteria** dialog) enables you to activate custom criteria. The general criteria always apply and do not need to be activated.

### General Criteria for the Duplicate User Rule

The **General Criteria** section enables you to quickly select your search criteria from a list of most commonly used fields to identify duplicate users. When the rule is run, FlexNet Manager for SAP Applications finds all users that match all the criteria you selected.

**Example:** A Duplicate User rule with the general criterion **User Name** will return all users who have the same user name across different systems. A Duplicate User rule with the general criteria **User Name** and **Email Address** will return all users who have the same user name OR who have the same email address across different systems.
Custom Criteria for the Duplicate User Rule

The Custom Criteria section offers a higher degree of flexibility, enabling you to specify the user primary record fields that have to be matched for the original and the duplicate user. In addition, you can define separate conditions for each user. The search criteria (condition and matched field) for the original user and the duplicate user are then compared using one of the available comparison types, such as Exact Match, Contains, Similar.

You can add multiple sets of custom criteria to define your Duplicate User rule.

The condition and match string must be authored in C#. See Properties and Methods for a list of properties and methods that can be used in the Custom Criteria section. Refer to the section Properties and Methods for a list of properties and methods that can be used in the Custom Criteria section.

The following comparison types are available for your custom Duplicate User rule.

<table>
<thead>
<tr>
<th>Compare by</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Exact match</td>
<td>The search criteria for the original user must exactly match that of the duplicate user, but the search is not case sensitive.</td>
</tr>
<tr>
<td>Exact match (case sensitive)</td>
<td>The search criteria for the original user must exactly match that of the duplicate user, and the search is case sensitive.</td>
</tr>
<tr>
<td>Contains</td>
<td>The search criteria for the original user must contain that of the duplicate user, but the search is not case sensitive.</td>
</tr>
<tr>
<td>Contains (case sensitive)</td>
<td>The search criteria for the original user must contain that of the duplicate user, and the search is case sensitive.</td>
</tr>
<tr>
<td>Similar (at least 90%)</td>
<td>The search criteria for the original user must have a degree of similarity with that of the duplicate user of at least 90%.</td>
</tr>
<tr>
<td>Similar (at least 70%)</td>
<td>The search criteria for the original user must have a degree of similarity with that of the duplicate user of at least 70%.</td>
</tr>
<tr>
<td>Similar (at least 50%)</td>
<td>The search criteria for the original user must have a degree of similarity with that of the duplicate user of at least 50%.</td>
</tr>
<tr>
<td>Similar (at most 1 character)</td>
<td>The search criteria for the original user must be similar to that of the duplicate user; they are not allowed to differ by more than 1 character.</td>
</tr>
<tr>
<td>Similar (at most 2 characters)</td>
<td>The search criteria for the original user must be similar to that of the duplicate user; they are not allowed to differ by more than 2 characters.</td>
</tr>
<tr>
<td>Similar (at most 3 characters)</td>
<td>The search criteria for the original user must be similar to that of the duplicate user; they are not allowed to differ by more than 3 characters.</td>
</tr>
</tbody>
</table>

Defining a Duplicate User Rule

You can use only general criteria, or only custom criteria, or a combination of both to define a Duplicate User rule.
To define a Duplicate User rule:

1. In IT Asset Management, go to the **Duplicate Users** page (**Licenses > SAP Optimization > Duplicate Users**). Choose a system landscape and click on it.

2. On the **Duplicate User Rules** page, in the **General Criteria** section, click **Edit** to switch to write-enabled mode.

3. Select the check box for each field that should be used to find duplicate users. The following criteria are available:
   - User Name
   - Last Name, First Name
   - Email Address
   - Accounting No.
   - Phone No.
   - Phone No., Extension

4. Finish your selection by clicking **Save**.

   In read-only mode, the criteria you selected are marked with **Yes**; unselected criteria are marked with **No**.

5. On the **Duplicate User Rules** page, in the **Custom Criteria** section, click **Add** to open the **Create Custom Rule** dialog. Provide the following information to define the custom criteria:
   - **Name**—Enter a name for the rule.
   - Select the **Active** check box if you want the custom criteria to be used for license optimization.
   - **Original user** section – **Condition**—Enter the condition for your original user (optional).
   - **Original user** section – **Match**—Enter the field or an expression that should be matched for your original user.
   - **Duplicate user** section – **Condition**—Enter the condition for your duplicate user (optional).
   - **Duplicate user** section – **Match**—Enter the field or an expression that should be matched for your duplicate user.

6. Click **Create**.

   You can repeat steps 5 and 6 to create multiple custom criteria for your rule.

An organization wants to find hidden duplicates based on the format of the company email address. Therefore, the license administrator creates a duplicate rule with the following custom criteria:

- **Name**—Company Email Format
- **Original user – Condition**—FirstName <> ""
This custom rule will identify duplicate users who satisfy the following criteria:

- The first name and last name of the original user are correct.
- The duplicate user's email address has the required format `FirstNameLastName@mycompany.com`.

Previewing Duplicate User Rule Results

After you have configured the rule, you can preview its results. This enables you to make adjustments to the rule, if necessary.

A preview is available only for custom criteria rules that have been marked as Active.

**Note:** Duplicate User rule criteria that have already been met by user consolidation rules are not considered as matches. In these cases, the **Result Reason** column displays an explanation. For information on the User Consolidation, see [User Consolidation](#).

To preview the results of the Duplicate User rule:

1. Follow the steps described in section **Defining a Duplicate User Rule** to create a Duplicate User rule.
2. In IT Asset Management, go to the **Duplicate Users** page (Licenses > SAP Optimization > Duplicate Users). Choose a system landscape and click on it.
3. On the **Duplicate User Rules** page, in the **Preview Results** section, click **Show duplicate recommendations**.

The **Preview Results** section provides the following information (you can modify which columns are displayed using **Advanced > Choose Fields**):

<table>
<thead>
<tr>
<th>Column Name</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Matched</td>
<td>A green check mark indicates that the conditions of the rule have been met.</td>
</tr>
<tr>
<td>Duplicate Group #</td>
<td>The duplicate users that have been identified are presented in groups, and each duplicate group has a number which is shown in this column.</td>
</tr>
<tr>
<td>User Name</td>
<td>The User ID of the user on the system on which the user was identified.</td>
</tr>
<tr>
<td>First Name</td>
<td>The first name of the user on the system on which the user was identified.</td>
</tr>
<tr>
<td>Last Name</td>
<td>The last name of the user on the system on which the user was identified.</td>
</tr>
<tr>
<td><strong>Column Name</strong></td>
<td><strong>Description</strong></td>
</tr>
<tr>
<td>----------------</td>
<td>----------------</td>
</tr>
<tr>
<td><strong>Result Reason</strong></td>
<td>Gives details which rule produced the result.</td>
</tr>
<tr>
<td><strong>Accounting Number</strong></td>
<td>The user’s accounting number.</td>
</tr>
<tr>
<td><strong>Client ID</strong></td>
<td>The client ID of the system on which the user was identified.</td>
</tr>
<tr>
<td><strong>Email Address</strong></td>
<td>The email address of the user on the system on which the user was identified.</td>
</tr>
<tr>
<td><strong>Extension</strong></td>
<td>The user’s phone extension.</td>
</tr>
<tr>
<td><strong>License Type (Current)</strong></td>
<td>The license type that is currently assigned to the user on the system.</td>
</tr>
<tr>
<td><strong>Phone Number</strong></td>
<td>The user’s phone number.</td>
</tr>
<tr>
<td><strong>System ID</strong></td>
<td>The three-character ID of the system on which the duplicate user was identified.</td>
</tr>
<tr>
<td><strong>System Type</strong></td>
<td>Indicates whether the duplicate user was identified on an SAP system or a non-SAP system.</td>
</tr>
</tbody>
</table>

## SAP Package Licensing

SAP packages are optional components for which additional licenses must be purchased. Each user who accesses a package requires a named user license.

SAP packages were formerly known as SAP Engines. This terminology may be more familiar to long-time SAP users.

FlexNet Manager for SAP Applications enables your SAP packages to be measured and the total license consumption of each SAP package across your organization to be determined. Where possible, the contribution of each SAP system towards your organization’s total license consumption is also calculated.

## Workflow of SAP Package Consumption Analysis

The usual package measurement and analysis workflow includes the following steps:

1. You ensure that package measurement data is available in the staging database in the SAP Admin module. Package measurement data can be collected from dependent SAP systems using the Staging Database Monitor or by initiating the package measurement in the SAP Admin module. For more information, in the FlexNet Manager for SAP Applications User Guide, see Data Collection Using the Staging Database Monitor and SAP Package Analysis in the SAP Admin Module, respectively. For more information, see Data Collection Using the Staging Database Monitor and SAP Package Analysis in the SAP Admin Module, respectively.

2. Package data is imported directly from the SAP systems into IT Asset Management. For more information, see Collection of User Details and Consumption Data from SAP Systems.

3. FlexNet Manager for SAP Applications displays the list of identified packages in IT Asset Management. For more information, see Displaying SAP Packages in IT Asset Management.
4. You can manually add SAP packages or edit the details of packages. This step is optional. For more information, see Manually Adding Packages and Editing Package Information.

5. The package consumption is calculated, and you can view the results. For more information, see Previewing the Package Consumption and License Position — SAP Packages.

Package Metrics and Formulas

Package consumption is calculated using a combination of metrics (decimal values) in a formula. The metrics that are used for package licensing are unique to each package. The licensed units of each package are based on the objects that it contains. For example, the package SAP Payroll Processing uses the number of user primary records, while SAP E-Recruiting uses the number of employees. Other metrics include the number of orders, contracts, patients, etc.

In many cases, a single metric is the consumption (for example, the number of end users), or the formula to calculate the consumption is relatively simple (for example, metric1 + metric2). In rare cases, the formula is more complicated, and a different formula based on the SAP Basis release or SAP price list version may be required. When measured, SAP packages often return more metrics than is required for licensing purposes, making it difficult to determine which metric or metrics to use.

Package License Templates

For many packages, FlexNet Manager for SAP Applications provides predefined formulas and metrics, in addition to explanatory read-only information. These formulas are included in package license templates that are downloadable from the IT Asset Management website. These templates enable you to automate the calculation of the package consumption.

The package license templates are contained within the Product Use Rights Library (PURL). The PURL can be downloaded from the IT Asset Management website using a scheduled task. There are two scheduled tasks available for this purpose:

- The Import SAP package license scheduled task downloads only the PURL with SAP-related content.
- The Recognition data import scheduled task downloads updates to the Application Recognition Library (ARL), SKU library, and PURL, that are used by IT Asset Management.

Both of these scheduled tasks are enabled by default, and scheduled to run daily. If you only want to use the SAP mode of IT Asset Management to manage SAP licenses, it is recommended to activate the Import SAP package license scheduled task.

If you want to use the SAP mode and additional features of IT Asset Management to manage your SAP licenses or a wide range of licenses, it is recommended that you only activate the Recognition data import scheduled task. This is because using the IT Asset Management requires that the Application Recognition Library is installed.

**Important:** The licensing terms for SAP packages are encoded by IT Asset Management in the PURL and published regularly to simplify your licensing efforts. However, because licensing terms change over time, and can vary from one customer to another, you retain legal responsibility for ensuring that you model the exact terms of the licenses that you have purchased.
Displaying SAP Packages in IT Asset Management

Before you can display SAP packages in IT Asset Management, the following preconditions must be met:

- Package measurement data is present in the staging database on the SAP Admin module. This can be achieved by doing the following:
  - You specify in the Staging Database Monitor in the SAP Admin module that package data should be collected from dependent SAP systems. For more information, see *Collecting Data from Dependent SAP Systems* in the *FlexNet Manager for SAP Applications User Guide* PDF. For more information, see *Collecting Data from Dependent SAP Systems*.
  - You initiate the package measurement in the SAP Admin module. For more information, see *SAP Package Analysis in the SAP Admin Module* in the *FlexNet Manager for SAP Applications User Guide* PDF. For more information, see *SAP Package Analysis in the SAP Admin Module*.
- The SAP Inventory Agent has been scheduled to import inventory data from the SAP Admin module or independent SAP systems. For more information, see *Collection of User Details and Consumption Data from SAP Systems*.

The SAP Inventory Agent imports the SAP package name, the package ID and any available metrics to be used to calculate the overall consumption. IT Asset Management tries to match the application IDs of the found packages against the application IDs of the packages in the FlexNet Manager for SAP Applications PURL. You can then view a list of the identified SAP packages on the Packages page (*Licenses > SAP Optimization > Packages*). IT Asset Management creates the required package licenses. The following scenarios are possible:

- If the imported package matches a package in the FlexNet Manager for SAP Applications PURL, the package license that is created will have a formula pre-populated. The package license is marked as active and immediately generates license consumption results (consumption results are visible on the Current Position page).
- If the package is not found in the FlexNet Manager for SAP Applications PURL, a placeholder package license is created. The package license is marked as inactive (it is not included in the license position). To calculate this package’s consumption, you must manually set this package to active and populate the formula. If you do not want FlexNet Manager for SAP Applications to calculate the consumption, you can set the package to active and set a self-declared amount.

For more information, see *Manually Adding Packages* and *Defining a Custom Formula*.

- In special cases, multiple matches may be found in the FlexNet Manager for SAP Applications PURL for a package (because some application IDs may have multiple applicable license types). In this case, IT Asset Management creates one package license for each license template that matches the application ID. Some of these licenses may generate zero consumption. If you want to remove a package license from your organization’s license position, you can mark it as inactive.

**Important:** It is recommended that you review the package licenses that are used for calculating your organization’s license position to ensure that they model the exact terms of the licenses that you have purchased.

Manually Adding Packages

If a new package matches a package in the FlexNet Manager for SAP Applications PURL, the package information will be automatically imported into IT Asset Management. However, if a matching package is not contained in the PURL (or a
package is licensed to your organization based on a different business metric than is normal), you will need to manually add a package.

If IT Asset Management cannot find a match in the FlexNet Manager for SAP Applications PURL for a package that you are using, and you create a formula to calculate the package consumption, you are invited to share this information with IT Asset Management. Ask your registered support contact (a designated person within your enterprise who has access rights and login details) to open a new support case at https://community.flexera.com/t5/forums/postpage/board-id/@support, including a clear description of the issue. (In this case, identify the missing package information.) Flexera will endeavor to incorporate the package information into a future release of the FlexNet Manager for SAP Applications PURL.

To manually add a package:

1. In IT Asset Management, go to the Packages page (Licenses > SAP Optimization > Packages). Choose a system landscape and click on it.

2. If you want to switch to a different landscape, click Change Landscape in the top-right corner of the page.

3. On the SAP Packages: system landscape name page, click Add.

4. In the Add a Package dialog, do one of the following:
   - To search the downloadable content for packages, select Search list of packages. Select the package that you want to add.
   - To add a custom package, select Custom package.

5. Click Create.

6. On the Create New SAP Package page, provide the following information.

<table>
<thead>
<tr>
<th>Option</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Name</td>
<td>The name of the package.</td>
</tr>
<tr>
<td>Description</td>
<td>A description of the package (optional).</td>
</tr>
<tr>
<td>Active</td>
<td>Select this check box if the package should be included in the license position.</td>
</tr>
<tr>
<td>Factory comments</td>
<td>Read-only information on the package's license requirements.</td>
</tr>
<tr>
<td>Number purchased</td>
<td>The number of licenses that your organization has purchased for this package.</td>
</tr>
<tr>
<td>Unit price</td>
<td>The price for one license for this package.</td>
</tr>
<tr>
<td>Metric</td>
<td>The metric that is used for licensing the package.</td>
</tr>
</tbody>
</table>

The currency values that are available in the Unit Price field depend on the settings you selected when you installed IT Asset Management. If required, you can change the available currencies.
Option | Definition
---|---
**Formula name** | Select this option if FlexNet Manager for SAP Applications should calculate the package consumption. The corresponding field shows the formula that will be used. Depending on the package you selected, more than one *Formula name* field may be displayed. This information is available only if you selected a package from the list of packages in the Add a package dialog (see step 4 above).

**Custom rule** | Select this option if FlexNet Manager for SAP Applications should calculate the package consumption based on a custom formula, and enter the custom formula that should be used.

**Self-declared amount** | Select this option if the package consumption should not be calculated by FlexNet Manager for SAP Applications. This option enables you to keep a record of package licenses that cannot or should not be calculated, but that should be managed in IT Asset Management. Enter the number of package licenses that have been consumed.

7. Click Create. The SAP Package: *name* page returns to read-only mode, and the package is added to the list of packages on the SAP Packages: *system landscape name* page.

You can preview the package consumption on the Create New SAP Package page, by clicking Show package consumption in the Preview Results section. For more information, see Previewing the Package Consumption.

**Viewing Package Details**

You can display information for each package on its details page.

**To display the details page for a package:**

1. In IT Asset Management, go to the Packages page (Licenses > SAP Optimization > Packages). Choose a system landscape and click on it.

2. If you want to switch to a different landscape, click Change Landscape in the top-right corner of the page.

3. On the SAP Packages: *system landscape name* page, do one of the following:
   - In the list of SAP packages, select the package for which you want to display details and click View.
   - In the list of SAP packages, double-click the package for which you want to display details. The SAP Package: *name* page displays the package details.

**SAP Package Details**

Details Page—Details Section

<table>
<thead>
<tr>
<th>Option</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Name</td>
<td>The name of the package.</td>
</tr>
<tr>
<td>Option</td>
<td>Definition</td>
</tr>
<tr>
<td>------------------</td>
<td>---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td><strong>Active</strong></td>
<td>Yes indicates that the package is included in the license position. No indicates that the package is not included in the license position.</td>
</tr>
<tr>
<td><strong>Description</strong></td>
<td>A description of the package (optional).</td>
</tr>
<tr>
<td><strong>Factory comments</strong></td>
<td>Read-only information on the package's license requirements.</td>
</tr>
<tr>
<td><strong>Number purchased</strong></td>
<td>The number of licenses that your organization has purchased for this package.</td>
</tr>
<tr>
<td><strong>Unit price</strong></td>
<td>The price for one license for this package. The currency values that are available in the Unit Price field depend on the settings you selected when you installed IT Asset Management. If required, you can change the available currencies.</td>
</tr>
<tr>
<td><strong>Metric</strong></td>
<td>The metric that is used for licensing the package.</td>
</tr>
<tr>
<td><strong>Custom rule</strong></td>
<td>The custom formula that is used to calculate the package consumption. This information is only displayed if a custom formula was provided.</td>
</tr>
<tr>
<td><strong>Self-declared total</strong></td>
<td>The number of package licenses that have been consumed. This number has not been calculated by FlexNet Manager for SAP Applications, but was typed in manually. This information is only displayed if a self-declared total was provided.</td>
</tr>
<tr>
<td><strong>Formula name</strong></td>
<td>The name of the predefined formula that is used to calculate the package consumption. This information is only displayed if a predefined formula is used.</td>
</tr>
</tbody>
</table>

**Details Page—System Measurements Section**

This section is only visible if the package has been measured in the SAP Admin module beforehand. It provides information on the measurement values (imported from the SAP Admin module) on which the package license calculation is based.

<table>
<thead>
<tr>
<th>Option</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Name</strong></td>
<td>The name of the metric that is returned by SAP's own package measurement functions.</td>
</tr>
<tr>
<td><strong>Metric ID</strong></td>
<td>The metric ID that was used.</td>
</tr>
<tr>
<td><strong>System ID</strong></td>
<td>The system ID of the system that was measured.</td>
</tr>
<tr>
<td><strong>Client ID</strong></td>
<td>The client ID of the client that was measured.</td>
</tr>
<tr>
<td><strong>Period Type</strong></td>
<td>The period type of the measurement.</td>
</tr>
<tr>
<td><strong>Period End Date</strong></td>
<td>The end date of the measurement period.</td>
</tr>
<tr>
<td><strong>Value</strong></td>
<td>The value that was produced by the measurement.</td>
</tr>
</tbody>
</table>

Click Hide in the section's upper right corner to hide this section, and click Show to display it.

**Details Page—Preview Results Section**
This section enables you to view a preview of the package consumption. For information about the contents of this section and how to create a preview, see Previewing the Package Consumption.

**Editing Package Information**

You can change the following package information: name, description, Active flag, number of purchases, and unit price. In addition, you can choose a predefined consumption formula (if available) or enter your own custom formula. For more information on defining a custom formula, see Defining a Custom Formula.

---

**To edit the package information:**

1. In IT Asset Management, go to the Packages page (Licenses > SAP Optimization > Packages). Choose a system landscape and click on it.

2. If you want to switch to a different landscape, click Change Landscape in the top-right corner of the page.

3. On the SAP Packages: system Landscape name page, do one of the following:
   - In the list of SAP packages, select the package that you want to edit and click Edit.
   - In the list of SAP packages, double-click the package that you want to edit.

   The SAP Package: name page displays the package details.

4. On the SAP Package: package name page, click Edit to open the page in write-enabled mode.

5. Edit the package information. For information on editable fields, see the table in the procedure described under Manually Adding Packages.

   The currency values that are available in the Unit Price field depend on the settings you selected when you installed IT Asset Management. If required, you can change the available currencies.

6. Click Save.

---

**Assigning Packages to Systems**

IT Asset Management collects the package consumption on a per-system basis, and this consumption is then summed for all systems—or the entire landscape—to calculate your organization’s overall package license consumption.

In SAP mode, on the package details page, you can select the SAP systems, system groups, or landscapes for which the license consumption should be calculated. This enables you to exclude specific SAP systems, system groups, or landscapes from the package calculation (the package consumption from these systems will not be included in the license position).

---

**To assign a package to a system or system landscape:**

1. In IT Asset Management, go to the Packages page (Licenses > SAP Optimization > Packages). Choose a system landscape and click on it.

2. If you want to switch to a different landscape, click Change Landscape in the top-right corner of the page.

3. On the SAP Packages: system Landscape name page, do one of the following:
In the list of SAP packages, select the package that you want to assign and click Edit.

In the list of SAP packages, double-click the package that you want to assign.

The SAP Package: name page displays the package details.

4. On the SAP Package: package name page, in the Tasks section, click Set assignment to systems.

5. In the Assign to systems dialog, select the check boxes for the systems or system landscape to which you want to assign the package (default setting: entire landscape).

6. Click OK.

Defining a Custom Formula

You can define a custom formula for calculating the package consumption. The formula syntax for custom package formulas is similar to the syntax of custom license assignment rules and duplicate rules.

See Package Rule Properties and Methods for a list of properties and methods that can be used to define a custom package formula.

Refer to section Package Rule Properties and Methods for a list of properties and methods that can be used to define a custom package formula.

To define a custom formula for a package:

1. In IT Asset Management, go to the Packages page (Licenses > SAP Optimization > Packages). Choose a system landscape and click on it.

2. If you want to switch to a different landscape, click Change Landscape in the top-right corner of the page.

3. On the SAP Packages: system landscape name page, do one of the following:
   
   • In the list of SAP packages, select the package for which you want to define a custom formula and click Edit.
   
   • In the list of SAP packages, double-click the package for which you want to define a custom formula.

   The SAP Package: name page displays the package details.

4. On the SAP Package: package name page, click Edit to open the page in write-enabled mode.

5. Under Consumption per system, select Custom rule.

6. Enter the custom formula.

7. Click Save.

Deleting a Package

If you no longer want to display a package in the list of packages on the SAP Packages page, you can delete it.

Note that only manually added packages can be permanently deleted from this list. Packages that are automatically imported from the SAP systems will reappear after every import.
To delete a package:

1. In IT Asset Management, go to the Packages page (Licenses > SAP Optimization > Packages). Choose a system landscape and click on it.

2. If you want to switch to a different landscape, click Change Landscape in the top-right corner of the page.

3. On the SAP Packages: system landscape name page, select the package that you want to delete and click Delete.

4. In the Delete Package dialog, click Delete to delete the package.

Previewing the Package Consumption

On the package details page you can preview the consumption of a particular package. This preview is based on the selected package formula and the system-specific metric values. Previews can not be saved and will not appear in the license position.

To preview the package consumption:

1. In IT Asset Management, go to the Packages page (Licenses > SAP Optimization > Packages). Choose a system landscape and click on it.

2. If you want to switch to a different landscape, click Change Landscape in the top-right corner of the page.

3. On the SAP Packages: system landscape name page, do one of the following:
   - In the list of SAP packages, select the package for which you want to display a consumption preview and click View.
   - In the list of SAP packages, double-click the package for which you want to display a consumption preview.

   The SAP Package: name page displays the package details.

4. In the Preview Results section, click Show package consumption to display the consumption for this package.

   The Preview Results section contains the following information.

   - **Total consumption**—This area shows the total consumption of the package, based on the metric that was used.
   - **System Consumption**—This area shows the package consumption per system.

<table>
<thead>
<tr>
<th>Option</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>System ID</td>
<td>The ID of the system on which the package is used.</td>
</tr>
<tr>
<td>Client ID</td>
<td>The ID of the client on which the package is used.</td>
</tr>
<tr>
<td>Consumed</td>
<td>The number of units that the package has consumed.</td>
</tr>
<tr>
<td>Result Reason</td>
<td>This field can be used to provide additional context about a package consumption calculation.</td>
</tr>
</tbody>
</table>

If you changed any information, such as the formula or the metric, after you displayed the preview, you can refresh the
preview results. To do so, click **Refresh**.

Click **Hide** in the section's upper right corner to hide this section, and click **Show** to display it.

For information on calculating the package consumption, see **License Position — SAP Packages**.

For information about other data that is available on the package details page, see **Viewing Package Details**.
Remediation in the SAP Admin Module

Remediation is the process of reviewing and acting on license-type recommendations that have been imported from IT Asset Management.

FlexNet Manager for SAP Applications calculates the optimal license position based on active rules and reports. This data is saved to its database in the form of license-type and duplicate user recommendations (see Regular Optimization of the SAP License Position in IT Asset Management). You need to release and accept these recommendations in SAP mode in IT Asset Management to make them available to the SAP Admin module. For information on releasing recommendations in IT Asset Management to the SAP Admin module, see Releasing Recommendations to the SAP Admin Module.

When the recommendations are available to the SAP Admin module, the remediation process can begin. This usually comprises the following steps:

1. Importing the recommendations from SAP mode in IT Asset Management into the SAP Admin module. See Importing Recommendations.
2. Displaying the recommendations in the Process License Recommendations report or the Process Duplicate Users report.
3. Processing (accepting, rejecting, or overwriting) the recommendations.
4. Sending the changes to the dependent SAP systems that are connected to the SAP Admin module and committing them in the corresponding dependent SAP systems.

After a recommendation has been processed and committed, the SAP Admin module sends a notification to IT Asset Management. This notification includes the final status of the recommendation (for example, Accepted or Rejected), which will be saved in a dedicated table. This step ensures that the status of previous recommendations can be taken into account when you import new recommendations. For information on the status values, see License-Type Recommendation Status.

A separate report is available to display a history of the license-type recommendations that were released from IT Asset Management to the SAP Admin module. For more information, see Creating a Recommendation History Report.
Importing Recommendations

Before you import recommendations from IT Asset Management into the SAP Admin module, ensure that you have done the following:

- You released the recommendations in IT Asset Management.
- You accepted the recommendations in IT Asset Management, which makes them available to the SAP Admin module.

Importing the license-type and duplicate user recommendations is the first step in the remediation process.

You import the recommendations from IT Asset Management to process them in the SAP Admin module using the Process License Recommendations or Duplicate Users reports.

During the import, the Process License Recommendations and Duplicate Users reports are unavailable, to prevent data inconsistencies.

To import recommendations from IT Asset Management into the SAP Admin module:

1. In the Main menu of the SAP Admin module, click Reporting and select Process Recommendations to open the Process Recommendations screen. If new recommendations are available, the Import button is enabled.

   If recommendations are available in IT Asset Management that are more recent than the ones that have already been imported into the SAP Admin module, a warning message displays after you click Process Recommendations. In this case, click Continue to import the latest recommendations.

   If the recommendation set that was imported from IT Asset Management to the SAP Admin module is subsequently deleted in IT Asset Management, then you will be prompted to re-import a recommendation set into the SAP Admin module from IT Asset Management. This is to block access from recommendation sets that are considered no longer valid in IT Asset Management.

2. Click Import.

   The Import recommendations from FNMP dialog displays.

3. Click OK to import all available data (license-type recommendations and duplicate user lists).

The recommendations are imported into a dedicated table in the SAP Admin module. Existing recommendations will not be overwritten, but the following checks will be performed during the import:

- If a recommendation is made for a user who has an active Ignore date, the status of the imported recommendation will automatically be set to Ignored.

- If a recommendation is made for a user who already has a pending recommendation, the status of the old recommendation for this user will automatically be changed during the import from Pending to Unprocessed. This old recommendation can not be processed any more. There can only be one current recommendation for a user. Unprocessed recommendations are available in the Recommendations History report. For more information, see Recommendation History Report.

Note: If any errors occur during the import, use transaction SM37 to find more information about the errors. This transaction also provides information about the number of imported recommendations and consumption details.
Process License Recommendations Report

The Process License Recommendations report is based on the active license-type optimization rules that you configure and manage in IT Asset Management.

After IT Asset Management has identified the most appropriate license type for each user, you can release these recommendations (bundled with the duplicate user recommendations) to the SAP Admin module. For more information on license rules, see Introduction to License Rules.

The Process License Recommendations report lists the license-type recommendations, filtered, if required, by different criteria (for example, by system, user, license type, date range, or recommendation status).

You use this report to review the license-type recommendations and process them, that is, you accept, reject, or overwrite the recommendations. Afterwards, you commit these changes to the SAP database.

Creating a Process License Recommendations Report

Ensure that you have imported the recommendations from IT Asset Management into the SAP Admin module before running this report. For more information, see Importing Recommendations.

Create a Process License Recommendations report to list and process the license-type recommendations.

To create a Process License Recommendations report:

1. In the Main menu of the SAP Admin module, click Reporting and select Process Recommendations.

   The Process Recommendations screen provides an overview of all recommendations that have been imported over time into the SAP Admin module.

2. In the Monitor section, select the License Recommendations option. The following options are available:

   - To create an automated report that contains only recommendations of a specific status, in the Monitor section, click the number underneath the respective status. For information on the status types, see License-Type Recommendation Status.

<table>
<thead>
<tr>
<th>Option</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pending</td>
<td>Returns recommendations that have already been imported but have not yet been processed.</td>
</tr>
<tr>
<td>Accepted</td>
<td>Returns recommendations that have been imported previously and were accepted.</td>
</tr>
<tr>
<td>Rejected</td>
<td>Returns recommendations that have been imported previously and were rejected.</td>
</tr>
<tr>
<td>Overwritten</td>
<td>Returns recommendations that have been imported previously and for which the recommended license type was not accepted but instead changed to a different license type.</td>
</tr>
<tr>
<td>Ignored</td>
<td>Returns recommendations that have been imported previously but for which the status Ignore was set.</td>
</tr>
<tr>
<td>Total</td>
<td>Returns all available recommendations.</td>
</tr>
</tbody>
</table>
If you want to create a customized report, specify your selection criteria in the License Recommendations section. If you leave a field blank, all values are automatically selected for the report.

<table>
<thead>
<tr>
<th>Option</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>RFC Destination</td>
<td>Enter the system ID or range of system IDs that should be included in the report.</td>
</tr>
<tr>
<td>User Name</td>
<td>Enter the user ID or range of user IDs that should be included in the report.</td>
</tr>
<tr>
<td>Original License Type</td>
<td>Enter the license type or a range of license types that should be included in the report.</td>
</tr>
<tr>
<td>Recommended Lic. Type</td>
<td>Enter the recommended license type or a range of recommended license types that should be included in the report.</td>
</tr>
<tr>
<td>Pending</td>
<td>Select this check box if you want to include recommendations that have already been imported but have not yet been processed.</td>
</tr>
<tr>
<td>Accepted</td>
<td>Select this check box if you want to include recommendations that have the status Accepted.</td>
</tr>
<tr>
<td>Rejected</td>
<td>Select this check box if you want to include recommendations that have the status Rejected.</td>
</tr>
<tr>
<td>Overwritten</td>
<td>Select this check box if you want to include recommendations that have the status Overwritten.</td>
</tr>
<tr>
<td>New License Type ... to ...</td>
<td>This option is available when you select the Overwritten check box. You can use it to further limit the report to specific license-type recommendations that were overwritten. To do so, enter the new license type or a range of new license types.</td>
</tr>
<tr>
<td>Ignored</td>
<td>Select this check box if you want to include recommendations that have the status Ignored.</td>
</tr>
<tr>
<td>Include systems with no RFC</td>
<td>Select this check box if you want to include recommendations that are assigned to a system for which a logical RFC destination has not been set in the system landscape. These recommendations can be displayed, but they cannot be processed because the corresponding system cannot be accessed via RFC.</td>
</tr>
</tbody>
</table>

3. Click Execute to execute the report.

The Process License Recommendations screen opens where you can evaluate the recommendations.

After you evaluated the recommendations, you can accept, reject, overwrite, and reset the recommended license type for each user. For information, see Processing License-Type Recommendations.

**Information in the Process License Recommendations Report**

Review the following information in the Process License Recommendations screen to decide how to process the recommendations.

<table>
<thead>
<tr>
<th>Column Name</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>System</td>
<td>The system (uniquely identified by its RFC destination) on which the user is active.</td>
</tr>
<tr>
<td><strong>Column Name</strong></td>
<td><strong>Description</strong></td>
</tr>
<tr>
<td>---------------------</td>
<td>-----------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>System ID</td>
<td>The three-character ID of the system on which the user was identified.</td>
</tr>
<tr>
<td>Client</td>
<td>The client ID of the system on which the user was identified.</td>
</tr>
<tr>
<td>S/4HANA</td>
<td>Displays a check mark if this is an SAP S/4HANA system. No check mark indicates that the system is a classic SAP Business Suite system.</td>
</tr>
<tr>
<td>User Name</td>
<td>The user ID of the user for whom a change of license type is recommended.</td>
</tr>
<tr>
<td>First Name</td>
<td>The first name of the user for whom a change of license type is recommended.</td>
</tr>
<tr>
<td>Last Name</td>
<td>The last name of the user for whom a change of license type is recommended.</td>
</tr>
<tr>
<td>Status</td>
<td>The status of the license-type recommendation. The following status values are available:</td>
</tr>
<tr>
<td></td>
<td>• Pending</td>
</tr>
<tr>
<td></td>
<td>• Accepted</td>
</tr>
<tr>
<td></td>
<td>• Rejected</td>
</tr>
<tr>
<td></td>
<td>• Overwritten</td>
</tr>
<tr>
<td></td>
<td>• Ignored</td>
</tr>
<tr>
<td></td>
<td>For information on status values, see License-Type Recommendation Status.</td>
</tr>
<tr>
<td>Original License Type</td>
<td>The license type in the SAP system.</td>
</tr>
<tr>
<td>Description</td>
<td>A description of the original license type, for example, Test or mySAP Limited Prof. (CAT III).</td>
</tr>
<tr>
<td>Recommended License Type</td>
<td>The license type that was calculated by FlexNet Manager for SAP Applications based on the current optimization rules (all active license rules, the Duplicate User rules, and the user consolidation), and taking any contractual obligations (such as a license ratio or spare superior licenses) into account. For information about license ratios, see Managing SAP License Ratios. For information about consuming spare superior licenses, see Handling Over-Consumption of License Types.</td>
</tr>
<tr>
<td>Description</td>
<td>A description of the recommended license type, for example, Test or mySAP Limited Prof. (CAT III).</td>
</tr>
<tr>
<td>Optimal License Type</td>
<td>The new license type that was calculated by FlexNet Manager for SAP Applications based on the current optimization rules (all active license rules, the Duplicate User rules, and the user consolidation). This value shows the best possible scenario. However, it does not take into account any contractual obligations that your organization might need to consider with regard to its SAP licenses, such as a license ratio or spare superior licenses.</td>
</tr>
<tr>
<td>Description</td>
<td>A description of the optimal license type, for example, Test or mySAP Limited Prof. (CAT III).</td>
</tr>
</tbody>
</table>
### Column Name | Description
--- | ---
**Processed License Type**  
If the license recommendation has the status Overwritten because the recommendation was not accepted, the new license type that was assigned to the user instead of the recommended license type will be shown here.  
The value -- indicates that the user has been retired (the user's Valid To date has been changed).

**Description**  
A description of the processed license type, for example, Test or mySAP Limited Prof. (CAT III).  
If the Processed License Type value is --, the description shows the text User retired.  
This indicates that the user's Valid To date has been changed.

**Ignore date**  
This column displays the active Ignore dates that have been set for recommendations. You can set an Ignore date when you reject or overwrite a recommendation. Double-click this field to add, remove or edit an Ignore date.

**Note**  
When you reject or overwrite a recommendation, you can enter a reason. The text that you enter will be displayed here.

**License Rule Set**  
The name of the license rule set that contains the rule that produced the recommendation.

**Rule**  
The name of the license rule that produced the recommendation.

**Rule Explanation**  
Provides information what criterion was met to produce the recommendation.

### Processing License-Type Recommendations

**Syntax:**  
Review the license-type recommendations in the Process License Recommendations report. Decide whether to accept, reject, or overwrite recommendations, and commit license-type changes to the database to make them permanent.

### License-Type Recommendation Status

When you process the recommendations in a Process License Recommendations report, you change the status of the recommendation.

The status of a recommendation is also influenced by the checks that are performed during the import process; that is, recommendations are set to a certain status automatically when specific conditions are fulfilled.

Recommendations can have one of the following status values:

<table>
<thead>
<tr>
<th>Status</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Pending</strong></td>
<td>This status is assigned automatically during import to recommendations that have already been imported, but that have not been processed (no status was assigned). When an updated recommendation is imported for the same user, the status of the existing pending recommendation is automatically set to Unprocessed so that the new recommendation can be taken into account.</td>
</tr>
<tr>
<td>Status</td>
<td>Description</td>
</tr>
<tr>
<td>------------</td>
<td>---------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Accepted</td>
<td>Recommendations that have been accepted (the license type was updated according to the recommendation) have the status Accepted.</td>
</tr>
<tr>
<td>Rejected</td>
<td>Recommendations that have been rejected (the license type was not changed) have the status Rejected. When you reject a recommendation, you can select whether recommendations for that user should be ignored indefinitely or until a date that you specify.</td>
</tr>
<tr>
<td>Overwritten</td>
<td>Recommendations that had their license type changed to a value that is different to the recommended value have the status Overwritten. When you overwrite a recommendation, you can select whether recommendations for that user should be ignored indefinitely or until a date that you specify.</td>
</tr>
<tr>
<td>Ignored</td>
<td>The status of recommendations for users who have an active Ignore date will automatically be set to Ignored during import. When you reject or overwrite a recommendation, you can select whether recommendations for that user should be ignored indefinitely or until a date that you specify.</td>
</tr>
<tr>
<td>Unprocessed</td>
<td>Recommendations that have the status Pending at the time when a new recommendation is imported are automatically set to the status Unprocessed. This alerts you that the recommendation is obsolete. Recommendations with the status Unprocessed only appear in the Recommendations History report, and their status can not be changed.</td>
</tr>
</tbody>
</table>

**Color-Coding of Recommendations**

The recommendations are color-coded to indicate their processing status:

- Orange indicates that recommendations have been processed (accepted/rejected/overwritten), but they have not been committed to the database.
- Green indicates that recommendations have been committed to the database.
- Red indicates that recommendations failed to be committed to the database.
- Gray indicates that recommendations are read-only. This could have a number of reasons, such as the target system has no logical RFC destination, the target system may be unavailable, the user may not have sufficient rights for the system, or the recommendation may be blocked by another user.

**Note:** If the RFC destinations are not correctly defined, or if the CUA settings are incorrect, the color-coding might not work correctly. For example, a line might be green even though the license type was not changed. Review the log to see the correct processing status.

**Log**

You can display additional information on the processing of the data in the target system by clicking the Log button. The log contains a standard error message that is returned by an SAP function. The same error message should be expected if the license type was manually changed using the transaction SU01.

**Accepting License-Type Recommendations**

Accepting recommendations changes the license type only in the report. The user primary data remain unchanged.
until you commit your changes.

Accepted recommendations that have not been committed to the database are orange.

To accept a license-type recommendation:

1. Run a Process License Recommendations report (see Creating a Process License Recommendations Report), and select for which user, or users, you want to accept the recommendations.

2. Click Accept. The license type in the report is changed to the recommended value.

3. If you accept recommendations to assign the new license type 04 (Substitute) or 11 (Multi-Client/System) and click OK, you are prompted to enter the following additional information.

   - **License Type 04 (Substitute)**
     
     | Field    | Description                                      |
     |----------|--------------------------------------------------|
     | From     | The start date of the period when this user acts as a substitute. |
     | To       | The end date of the period when this user acts as a substitute. |
     | User Name| The name of the user who acts as a substitute. |

   - **License Type 11 (Multi-Client/System)**
     
     | Field    | Description                                      |
     |----------|--------------------------------------------------|
     | SAP System| The SAP system on which the user is defined.       |
     | Client   | The client on which the user is defined.           |
     | User Name| The user name of the user who is assigned license type 11. |

4. When you are finished, click OK.

Rejecting License-Type Recommendations

When you reject a license-type recommendation, you can specify that future recommendations for this user should be ignored.

Rejected recommendations that have not been committed to the database are orange.

To reject a license-type recommendation:

1. Run a Process License Recommendations report (see Creating a Process License Recommendations Report), and select the user or users whose license type should be left unchanged.

2. Click Reject.

3. The Ignore Recommendation dialog displays. In the Reason field, enter a reason for the rejection.

4. Select from the following options to specify whether future recommendations for this user should be ignored:

   - **Ignore indefinitely** — This is the default setting. All future recommendations will be ignored indefinitely.
   - **Ignore until** — Enter a date to indicate until when recommendations should be ignored.
   - **Do not ignore** — Select this option if recommendations should not be ignored in the future.
5. Click **OK** to confirm the rejection.

**Overwriting License-Type Recommendations**

Instead of accepting or rejecting a recommendation, you can overwrite it and assign a different license type than the one that is recommended.

In addition to changing the license type to one of the "usual" values, you can retire users. When you retire a user, the user's Valid To date is changed so that the user is no longer valid, and does not require a license.

Overwritten recommendations that have not been committed to the database are orange.

---

To overwrite a license-type recommendation:

1. Run a Process License Recommendations report (see *Creating a Process License Recommendations Report*), and select the user or users whose license type should be changed to a value of your choice.

2. Click **Overwrite**.

3. The **Process License Recommendations** dialog displays. The following options are available:

   - To assign a new license type:
     
     a. In the **New License Type** field, enter the new license type you want to assign. The description of the new license type displays next to the value.
     
     b. In the **Reason** field, enter a reason why the recommendation is overwritten (optional).
     
     c. Select whether future recommendations for this user should be ignored. For more information, see *Ignoring License-Type Recommendations*.
     
     d. If in step 3.a you assign the new license type 04 (Substitute) or 11 (Multi-Client/System) and you click **OK**, you are prompted to enter additional information. For more information, see step 3 in *Accepting License-Type Recommendations*.

   - To retire the user:
     
     a. Select the **Retire User** check box to retire the user.
     
     b. Enter a date in the **Valid to** field to define when the user should be retired. If the field is blank, the current date is used. When retiring a user, the **New License Type** field is set to "-" in the report. This value only serves as a placeholder in the report; that is, when you commit the change to the user primary data, only the user's Valid To date is modified. If you specify a Valid To date that lies before the last logon date, the Valid To date is automatically set to the last logon date. It is impossible to retire a user who was active after the date that the user was supposed to be retired.

4. Select from the following options to specify whether future recommendations for this user should be ignored:

5. Click **OK** to confirm the overwrite action.

The license type in the report is changed to the value you specified.
Ignoring License-Type Recommendations

When you reject or overwrite a license-type recommendation in the Process License Recommendations report, you can select to ignore the recommendations.

To ignore a license-type recommendation:

1. Run a Process License Recommendations report (see Creating a Process License Recommendations Report), and select the user or users for whom you want to ignore recommendations.

2. Click Reject or Overwrite. For more information on these options, see Rejecting License-Type Recommendations and Overwriting License-Type Recommendations, respectively.

   Depending on your selection, the Ignore Recommendation or Overwrite Recommendation dialog displays.

3. In the Reason field, enter a reason for rejection or overwriting the recommendation. If you selected Overwrite in step 2, enter a new license type.

4. Select from the following options to specify whether future recommendations for this user should be ignored:
   - Ignore indefinitely — This is the default setting. All future recommendations will be ignored indefinitely.
   - Ignore until — Enter a date to indicate until when recommendations should be ignored.
   - Do not ignore — Select this option if recommendations should not be ignored in the future.

5. Click OK.

Resetting License-Type Recommendations

The Reset button enables you to change a license recommendation to the status that is currently saved in the database.

To reset a license-type recommendation:

1. Run a Process License Recommendations report (see Creating a Process License Recommendations Report), and select the license-type recommendation that you want to reset.

2. Click Reset.

The recommendation is reset to the status that is currently saved in the SAP database.

You run a report, and the license recommendation for user JSmith has the status Pending. You accept the recommendation and its status changes to Accepted. By clicking Reset, the status in the report is returned to its previous status, which is Pending.

You then decide to accept the recommendation and commit it to the database. A subsequent recommendation for user JSmith is processed later, which you reject, but you do not commit. If you click Reset at this point, the status is returned to the value that was saved to the database, which is Accepted.
Committing License-Type Changes

When you accept or overwrite license recommendations, the license type and the recommendation status in the FlexNet Manager for SAP Applications report is changed accordingly. To make these changes permanent, you need to commit this data to the user primary records in the SAP database.

To commit license type changes to the user primary records in SAP:

1. Run a Process License Recommendations report (see Creating a Process License Recommendations Report), and process the license-type recommendations.

2. Select the user or users whose primary records should be updated. To do this, you have the following options:
   - Click Select to quickly select all users that have been processed.
   - Manually select individual users (press the Ctrl key to select multiple users).

3. Click Commit.

The user primary data in the SAP database is changed accordingly.

Recommendation History Report

The Recommendation History report contains all recommendations. You cannot delete recommendations from this table.

You can either view the history for only one user, or create a Recommendations History report for several users. The Recommendations History report is read-only.

The Recommendations History report is available from the Reporting menu and from the Process License Recommendations report, where it can be run by clicking the History button.

Creating a Recommendation History Report

You can create a Recommendation History report to see the history of license-type recommendations.

To create a Recommendation History report:

1. Do one of the following:
   - In the Main menu of the SAP Admin module, open the Reporting menu and click Recommendations History.
   - In the SAP Admin module, run a Process License Recommendations report by following the steps described in Creating a Process License Recommendations Report. In the Process License Recommendations report, click History.

2. Specify your selection criteria. If you leave a field blank, all values are automatically selected for the report.
### Option Description

<table>
<thead>
<tr>
<th>Option</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>System ID</td>
<td>Enter the system ID or range of system IDs that should be contained in the report. If you select a user in the Process License Recommendations report and click <strong>History</strong>, this field is already populated.</td>
</tr>
<tr>
<td>Client</td>
<td>Enter the client ID or range of client IDs that should be contained in the report. If you select a user in the Process License Recommendations report and click <strong>History</strong>, this field is already populated.</td>
</tr>
<tr>
<td>User Name</td>
<td>Enter the user ID or range of user IDs that should be contained in the report. If you select a user in the Process License Recommendations report and click <strong>History</strong>, this field is already populated.</td>
</tr>
<tr>
<td>Original License Type</td>
<td>Enter the original license type or a range of license types that should be contained in the report.</td>
</tr>
<tr>
<td>Recommended License Type</td>
<td>Enter the recommended license type or a range of recommended license types that should be contained in the report.</td>
</tr>
</tbody>
</table>
| Recommendation Status      | Enter the status of the recommendations that should be contained in the report. Possible values:  
  • P—Pending  
  • A—Accepted  
  • R—Rejected  
  • O—Overwritten  
  • I—Ignored  
  • U—Unprocessed  

For information about status values, see License-Type Recommendation Status.

3. Click **Execute**.

### Information in the Recommendations History Report

The Information in the Recommendations History Report is read-only.

<table>
<thead>
<tr>
<th>Column Name</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Set name</td>
<td>The name of the recommendation set that was processed.</td>
</tr>
<tr>
<td>Creation date</td>
<td>The date when the recommendation set that was created.</td>
</tr>
<tr>
<td>System ID</td>
<td>The three-character ID of the system on which the user was identified.</td>
</tr>
<tr>
<td>Client</td>
<td>The client ID of the system on which the user was identified.</td>
</tr>
<tr>
<td>Column Name</td>
<td>Description</td>
</tr>
<tr>
<td>------------------</td>
<td>---------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>S/4HANA</td>
<td>Displays a check mark if this is an SAP S/4HANA system. No check mark indicates that the system is a classic SAP Business Suite system.</td>
</tr>
<tr>
<td>User Name</td>
<td>The user ID of the user for whom a change of license type is recommended.</td>
</tr>
<tr>
<td>First Name</td>
<td>The first name of the user for whom a change of license type is recommended.</td>
</tr>
<tr>
<td>Last Name</td>
<td>The last name of the user for whom a change of license type is recommended.</td>
</tr>
<tr>
<td>Active</td>
<td>A ticked check box indicates that the recommendation can be processed. If a recommendation is not active, this could mean that there is a newer recommendation available for this user.</td>
</tr>
<tr>
<td>Status</td>
<td>The status of the license-type recommendation. The following status values are available:</td>
</tr>
<tr>
<td></td>
<td>• Pending</td>
</tr>
<tr>
<td></td>
<td>• Accepted</td>
</tr>
<tr>
<td></td>
<td>• Rejected</td>
</tr>
<tr>
<td></td>
<td>• Overwritten</td>
</tr>
<tr>
<td></td>
<td>• Unprocessed</td>
</tr>
<tr>
<td></td>
<td>• Ignored</td>
</tr>
<tr>
<td></td>
<td>For information on status values, see License-Type Recommendation Status.</td>
</tr>
<tr>
<td>Original License Type</td>
<td>The license type in the SAP system.</td>
</tr>
<tr>
<td>Recommended License Type</td>
<td>The new license type that is recommended by FlexNet Manager for SAP Applications based on the current optimization rules.</td>
</tr>
<tr>
<td>Optimal License Type</td>
<td>The new license type that was calculated by FlexNet Manager for SAP Applications based on the current optimization rules (all active license rules, the Duplicate User rules, and the user consolidation). This value shows the best possible scenario. However, it does not take into account any contractual obligations that your organization might need to consider with regard to its SAP licenses, such as a license ratio or spare superior licenses.</td>
</tr>
<tr>
<td>Processed License Type</td>
<td>If the license recommendation has the status Overwritten because the recommendation was not accepted, the new license type that was assigned to the user instead of the recommended license type will be shown here.</td>
</tr>
<tr>
<td>Note</td>
<td>When you reject or overwrite a recommendation, you can enter a reason. The text that you enter is displayed here.</td>
</tr>
<tr>
<td>License Rule Set</td>
<td>The name of the license rule set that contains the rule that produced the recommendation.</td>
</tr>
<tr>
<td>Rule</td>
<td>The name of the license rule that produced the recommendation.</td>
</tr>
<tr>
<td>Rule Explanation</td>
<td>Provides information what criterion was met to produce the recommendation.</td>
</tr>
</tbody>
</table>
Duplicate User Recommendations Report

The Duplicate User rules help you identify potential duplicate users across one or more systems. These users might fail to be consolidated during user consolidation, which could result in a user consuming more than one license.

The Duplicate User Recommendations report is based on the settings of the Duplicate User rules that you configure in the Duplicate Users page (Licenses > SAP Optimization > Duplicate Users) in IT Asset Management. For more information, see Duplicate User Rule.

After IT Asset Management has identified potential duplicate users and generated the duplicate user recommendations, you can release these recommendations (bundled with the license-type recommendations) to the SAP Admin module.

You use the Duplicate User Recommendations report to review the duplicate user recommendations in the SAP Admin module, modify the user data in the report, and commit the changes to the SAP database to update the user primary data.

The report shows the duplicate users bundled in duplicate groups, marked by alternating colors. Each group is a collection of users who have been identified by IT Asset Management as being the same user on different systems (or one user with several accounts on one system).

Creating a Duplicate User Recommendations Report

Ensure that you have imported the recommendations from IT Asset Management into the SAP Admin module before running this report. For more information, see Importing Recommendations.

To create a Duplicate Users Recommendations report:

1. In the Main menu of the SAP Admin module, click Reporting and select Process Recommendations.

   The Process Recommendations screen provides an overview of all recommendations that have been imported over time into the SAP Admin module.

2. In the Monitor section, select the Duplicate Users option. The following options are available:

   - To create an automated report that contains only recommendations of a specific status, in the Monitor section, click the number underneath the respective status.

<table>
<thead>
<tr>
<th>Option</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pending</td>
<td>Returns recommendations that have already been imported but have not yet been processed.</td>
</tr>
<tr>
<td>Completed</td>
<td>Returns recommendations for which user data has been changed.</td>
</tr>
<tr>
<td>Ignored</td>
<td>Returns recommendations that have been imported previously but for which the status Ignore was set.</td>
</tr>
<tr>
<td>Total</td>
<td>Returns all available recommendations.</td>
</tr>
</tbody>
</table>

   - If you want to create a customized report, specify your selection criteria in the Duplicate Users section. If you leave a field blank, all values are automatically selected for the report. Click Execute to run the report.
<table>
<thead>
<tr>
<th>Option</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>RFC Destination</strong></td>
<td>Enter the system ID or range of system IDs that should be contained in the report.</td>
</tr>
<tr>
<td><strong>Duplicate Group</strong></td>
<td>Enter the user ID or range of user IDs that should be contained in the report.</td>
</tr>
<tr>
<td><strong>User Name</strong></td>
<td>Enter the user name or a range of user names that should be contained in the report.</td>
</tr>
<tr>
<td><strong>Status</strong></td>
<td>Enter the status or range of status values that should be contained in the report. The following values are available:</td>
</tr>
<tr>
<td></td>
<td>• P (Pending): The recommendation has not yet been processed.</td>
</tr>
<tr>
<td></td>
<td>• C (Completed): User data has been changed to accommodate the recommendation.</td>
</tr>
<tr>
<td></td>
<td>• I (Ignored): The recommendation was ignored.</td>
</tr>
</tbody>
</table>

The **Process Duplicate Users** screen opens where you can review and process the recommendations.

**Duplicate User Recommendation Status**

Each recommendation for a duplicates group is assigned a status. The status helps you to select the unprocessed recommendations (status Pending) for future runs of the report. The status is always valid for all users in a duplicates group.

Recommendations can have one of the following status values:

- **Pending**—This status is assigned automatically to recommendations during import. Pending recommendations have not yet been processed.

- **Completed**—You can mark recommendations as Completed to indicate that a recommendation has been processed. However, this does not indicate that the corresponding user data has been changed. The status can be changed at any time.

- **Ignored**—You can mark recommendations as Ignored if you want to indicate that recommendations should be ignored. This has no effect on the corresponding user data. The status can be changed at any time.

**Duplicate User Recommendations Review**

Verify the information in the Duplicate User Recommendations report, and process the recommendations.

After you reviewed the recommendations in the Duplicate User Recommendations report, you can change the user data of one or more duplicate users, so that they will be identified as the same user during consolidation. For example, you might need to modify a user’s email address or their last name to enable consolidation. This procedure is also referred to as **processing**.

You can also ignore the recommendation. Depending on your choice, the recommendations for duplicates groups are assigned a status. The status helps you track your progress when you process the recommendations.

Note that FlexNet Manager for SAP Applications identifies the duplicates, but does not make any recommendations regarding which user details need to be changed so that the duplicate users can be consolidated.
The processing of duplicate user recommendations usually comprises the following steps:

1. Modifying the user data in the grid. See Modifying User Data in the Grid.
2. Changing the recommendations status in the grid. See Changing the Recommendation Status in the Grid.
3. Committing the changes to the database to update the user primary data. See Committing Duplicate User Data Changes to the Dependent SAP Systems.

Recommendations that are gray are read-only and cannot be processed. This could have a number of reasons, such as the target system has no logical RFC destination, the target system may be unavailable, the user may not have sufficient rights for the system, or the recommendation may be blocked by another user.

### Modifying User Data in the Grid

**To modify the user data in the grid:**

1. Run a Duplicate User Recommendations report (see Creating a Duplicate User Recommendations Report).
2. On the **Process Duplicate Users** screen, select the user, or users (using Ctrl + click), whose data you want to modify and click **Change User Data**.
3. In the **Selection** dialog, select the check boxes for the user primary data fields that you want to change. Click **Continue** or press **Enter**.
4. In the **Enter values** dialog, enter the new values. Click **Continue** or press **Enter**.

The values you entered are copied to the corresponding lines in the grid. The color orange indicates that the cell content has been changed.

The changes are not committed to the SAP systems. You can access them at a later date, if required, or commit them (see Committing Duplicate User Data Changes to the Dependent SAP Systems).

### Changing the Recommendation Status in the Grid

You can change the status of duplicate user recommendations. However, changing the status only helps you to categorize recommendations for the **Process Recommendations** screen; the underlying data is not changed. The status can be changed at any time.

- You can mark recommendations as **Pending** to indicate that the recommendation has not been processed.
- You can mark recommendations as **Completed** to indicate that the recommendation has been processed.
- You can mark recommendations as **Ignored** if you want to indicate that a recommendations should be ignored.

Recommendations that are gray are read-only and cannot be processed. This could have a number of reasons, such as the target system has no logical RFC destination, the target system may be unavailable, the user may not have sufficient rights for the system, or the recommendation may be blocked by another user.

**To modify the recommendation status in the grid:**

1. Run a Duplicate User Recommendations report (see Creating a Duplicate User Recommendations Report).
2. On the Process Duplicate Users screen, select the user, or users (using Ctrl + click), whose recommendation status you want to modify and click the corresponding status button (Completed, Ignored, or Pending).

3. Click Yes in the dialog.

   The Status column displays the new status.

   The status of all users in a duplicate group will be changed.

### Committing Duplicate User Data Changes to the Dependent SAP Systems

To make the changes permanent, you need to commit them to the user primary records in the SAP database. There are two ways to commit the changes:

- Using the Update User Data button.
- Using the User Maintenance button (transaction SU01).

**Important:** If the SAP Admin module is connected to IdM, it is recommended to make changes to user data using the Update User Data button, and NOT using the User Maintenance button.

Recommendations that are gray are read-only and cannot be processed. This could have a number of reasons, such as the dependent SAP system has no logical RFC destination, the dependent SAP system may be unavailable, the user may not have sufficient rights for the system, or the recommendation may be blocked by another user.

**To commit duplicate user data changes to the dependent SAP systems:**

1. Run a Duplicate User Recommendations report (see Creating a Duplicate User Recommendations Report).
2. On the Process Duplicate Users screen, select for which user, or users (using Ctrl + click), you want to accept the recommendations. Follow one of the following procedures:
   - Click Update User Data to update the user data using FlexNet Manager for SAP Applications features.
     a. In the Update dialog, select the check boxes for the user primary data fields that you want to update. Usually, these will be the fields that you modified earlier. Click Continue or press Enter.
     b. Click Yes in the dialog.
     c. If the update was successful, the cell that contains the updated value is highlighted in green. If the update was not successful, the cell is red. If multiple fields were selected for the update, but only one field returns an error, all selected fields are highlighted in red.
   - Click User Maintenance to access the user data directly on the dependent SAP system. This will open the transaction SU01 on the dependent SAP system. This requires that the Dialog RFC destination has been set up for the system that you want to access. Perform the usual steps for user maintenance in SAP to change the user data.

   **Important:** Any changes that are made using the User Maintenance button (transaction SU01) will not be reflected in the Duplicate User Recommendations report.

You can display additional information on the processing of the data in the dependent SAP system by clicking the Log.
button. The log contains a standard error message that is returned by an SAP function. The same error message appears if the license type was manually changed using the transaction SU01.
SAP Package Analysis in the SAP Admin Module

You can measure and analyze the consumption of SAP packages across your organization.

An SAP package (also called simply package) is an optional piece of software for which you can purchase a separate license from SAP. The licensed units of the packages are determined in accordance with sizes, such as the number of orders, contracts, and contract accounts. A named user license is required for users who access packages.

If you do not use the Staging Database Monitor to remotely launch the USMM and collect package measurement data, you must use the Package Analysis feature if you want to import and measure package data from dependent SAP systems. As a prerequisite to importing data using the Package Analysis feature, the Satellite transport must be installed on the corresponding SAP systems. The package measurement data that is generated using the Package Analysis feature (by importing source data and measuring it) is automatically added to the staging database on the SAP Admin module. The SAP Inventory Agent can connect to this staging database and load the data into the IT Asset Management database.

SAP packages were formerly known as SAP Engines. This terminology may be more familiar to long-time SAP users.

The SAP package analysis workflow in the SAP Admin module usually includes the following steps:

- Importing the source data of packages
- Displaying all packages of the system landscape
- Measuring all installed packages
- Setting package usage alerts.

Importing Source Data of Packages

Package data can be collected only from dependent systems that have the Satellite transport installed. If the Satellite transport is not installed, use the Staging Database Monitor with the Launch USMM remotely option to collect package measurement data. For more information, see Collecting Data from Dependent SAP Systems.

You must import the source/primary data of the packages to the SAP Admin module to display the packages that are available. When you import the source data, an RFC connection is automatically established and relevant data is imported.
To import the source data of packages to the SAP Admin module:

1. In the Main menu of the SAP Admin module, select an active system from the system landscape.
2. Click Packages, then select Package Analysis from the menu.
3. In the Package Analysis screen, select the systems from which you want to import source data, and then click the Execute button or press F8.
4. Click Import Master Data.
5. In the Restrict Value Range dialog, double-click the system from which you want to import source data. If you double-click a system that was not selected in the initial Package Analysis screen (see step 3), the packages of this system will be added to the list in the following Package Analysis screen.

The source data is imported. You can now measure the packages to determine your package usage.

Deleting Primary Data

You can delete the primary data for packages from the SAP Admin module.

To delete the primary data of packages from the SAP Admin module:

1. In the Main menu of the SAP Admin module, select an active system from the system landscape.
2. Click Packages, then select Package Analysis from the menu.
3. In the Package Analysis screen, select the systems for which you want to delete primary data and then click the Execute button or press F8.
4. Select the row of the package for which you want to delete the primary data and click Delete Master Data.

The relevant package and its primary data is removed from the list. This package can no longer be measured.

Displaying Packages of Installed Systems

You can display the packages only after you have imported the primary data of the packages to the SAP Admin module. For more information, see Importing Source Data of Packages.

You can display an overview of selected systems to show all assigned packages which you could theoretically use. Here you can decide which packages should be measured.

To display the packages of installed systems:

1. In the Main menu of the SAP Admin module, select an active system from the system landscape.
2. Click Packages, then select Package Analysis from the menu.
3. In the Package Analysis screen, select the systems for which you want to display packages. Then click the Execute button or press F8.
SAP Package Measurement

Measuring packages in the SAP Admin module and analyzing the package data in IT Asset Management enables you to determine the total license consumption of each SAP package across your organization.

The measurement program contains counting modules to automatically determine the packages used. This measurement runs in the background; the results are listed in the measurement log.

To ensure that the overall license position is as accurate as possible, it is recommended to measure all SAP systems at a similar time.

Executing a Package Measurement

Before you execute a package measurement, you must have imported the primary data of the packages and displayed the packages that are available for you to use. For more information, see Importing Source Data of Packages and Displaying Packages of Installed Systems, respectively.

With FlexNet Manager for SAP Applications, you can continually run (simulate) the measurement of the packages without triggering the USMM itself.

Simulating the package measurement enables you to keep an overview of the current load of your used packages. FlexNet Manager for SAP Applications can measure all of the packages that SAP can measure.

To execute a package measurement:

1. In the Main menu of the SAP Admin module, select an active system from the system landscape.
2. Click Packages, then select Package Analysis from the menu.
3. In the Package Analysis screen, select the desired systems and click the Execute button or press F8.
4. In the Package Analysis – Display screen, select the packages you want to measure. The check box in the Measure column (long name: Measure Package) shows a check mark if the package has been selected for measurement. You have the following options:
   - To select or deselect individual packages, select or clear the check box of a package in the Measure column.
   - To select or deselect multiple packages, select the corresponding rows, then click Check Selections or Uncheck Selections.
5. Click Save to save your selection.
6. Click Start Measurement.

The measurement status is color-coded:
- **Green** — Measurement results are available.
- **Yellow** — The package is currently being measured.
- **Red** — The package measurement was not completed due to errors during the measuring process. If the status is red, the Error Message column contains information about the issue.
- **Gray** — The package has not been measured, or the measurement result was zero.
After the measurement you can display the measurement results and set package usage alerts, if desired.

The package measurement results are automatically added to the staging database on the SAP Admin module. The SAP Inventory Agent can connect to this staging database and load the data into the IT Asset Management database.

**Displaying Package Measurement Results**

Before performing the following procedure, you must have executed a package measurement. For more information, see *Executing a Package Measurement*.

You can display measurement results for packages that show a green status.

1. In the Main menu of the SAP Admin module, select an active system from the system landscape.
2. Click *Packages*, then select *Package Analysis* from the menu.
3. In the *Package Analysis* screen, select the desired systems and click the *Execute* button or press F8.

   **Note:** You might need to refresh the *Package Analysis* screen by clicking *Refresh Measurement Results*.

4. In the *Package Analysis – Display* screen, select the package for which you want to display detailed information and click *Display Measurement Results*.

The *Display Results* screen displays a list with information on all package units.

The *Number* column shows how many objects (primary records, contracts, and so on) were counted for a particular unit.

If the *Info* column shows a *Details* icon, you can click it to display further information about the counted objects.

**Setting Package Usage Alerts**

You can only set an alarm for packages that you have measured. For more information, see *Executing a Package Measurement*.

An email alert can be triggered when usage occurs on a package unit or when the usage on a package unit is higher than during previous periods.

When a usage alert is triggered, an email containing the appropriate information is sent to the email address that was specified. This enables you to detect at an early stage when a measurement-relevant package is used. You can deactivate the alert at any time by using the option *Deactivate Alert*.

1. In the Main menu of the SAP Admin module, select an active system from the system landscape.
2. Click *Packages*, then select *Package Analysis* from the menu.
3. In the *Package Analysis* screen, select the desired systems and click the *Execute* button or press F8.
4. In the **Package Analysis – Display** screen, select the packages for which you want to set up an alert, and click **Display Measurement Results**.

5. In the **Display Results** screen, select the units for which you want to set an alert and click **Activate Alert**.

6. In the **Email** dialog that opens, enter the email address to which alerts should be sent. Confirm with **Enter**.

   In the **Display Results** screen, a check mark in the **Email** column and the email address indicate that an alert has been set.

   After you set up an alert, you need to do the following:
   
   • Specify the parameters for the alert.
   
   • Schedule a regular report.

### Setting Parameters for Package Usage Alerts

Specify when an alert should be triggered for usage of package units.

<table>
<thead>
<tr>
<th>To set the parameters for email alerts:</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. In the Main menu of the SAP Admin module, click <strong>Packages</strong>, then select <strong>Packages Usage Alert</strong> from the menu.</td>
</tr>
<tr>
<td>2. In the <strong>Packages Usage Alert</strong> screen, select the desired systems in the <strong>System</strong> field.</td>
</tr>
<tr>
<td>3. Under <strong>Options</strong>, select when an alert should be triggered. The following options are available:</td>
</tr>
<tr>
<td>• <strong>Email: Consumption &gt; 0</strong> — An alert should be triggered when usage occurs on a package.</td>
</tr>
<tr>
<td>• <strong>Email: Consumption &gt; Older Consumption</strong> — An alert should be triggered when the usage is higher than during previous periods.</td>
</tr>
<tr>
<td>4. Select the <strong>Simulation</strong> check box if you want to simulate an alert situation. A log displays when you activate this feature, however no email is sent when an alert is triggered.</td>
</tr>
<tr>
<td>5. Click <strong>Execute</strong> or press <strong>F8</strong> to confirm and to display the log.</td>
</tr>
</tbody>
</table>

### Displaying All Packages of the System Landscape

As a precondition for this report, the relevant packages have to be measured beforehand using the Package Analysis report in FlexNet Manager for SAP Applications. For detailed information about measuring packages, see executing a Package Measurement. If the Package Analysis report produced a yellow status (package is currently being measured) or red status (measurement failed), the status displays in the Package Analysis Overview report will be gray.

The Package Analysis Overview report from the **Packages** menu enables you to display a list of all packages in the system landscape (or a subset of systems that you specify) that were previously measured.

The list shows all packages with their measurement status. The measurement status can be either green — indicating that measurement results are available — or gray, indicating that no measurement results are available (the measurement result was zero).
To display a list of measured packages in the system landscape or a subset of systems and detailed measurement results:

1. In the Main menu of the SAP Admin module, select the system landscape or a subset of systems for which you want to display available packages. For example, you could select one or more system groups or several individual systems by holding the Ctrl button and clicking the desired system names.

2. Click Packages, then select Package Analysis Overview from the menu.
   
The Package Analysis Overview screen displays. The System field has automatically been populated with the system names that you selected in the previous step.

3. Run the report by clicking Execute or pressing F8.
   
The Package Analysis Overview – Applications screen displays a list of all packages of the selected systems that have previously been measured. The list shows the application ID, the application name, and the status.

4. For each package with a green status, you can display detailed measurement results by selecting the package and clicking the Details button. This will open the Package Analysis Overview – Units screen which contains the following information.

<table>
<thead>
<tr>
<th>Column Name</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Application</td>
<td>The package ID.</td>
</tr>
<tr>
<td>Unit</td>
<td>The unit ID.</td>
</tr>
<tr>
<td>Start Date</td>
<td>The date when usage started.</td>
</tr>
<tr>
<td>End Date</td>
<td>The date when usage ended.</td>
</tr>
<tr>
<td>Number</td>
<td>The number indicating how often this unit was counted.</td>
</tr>
<tr>
<td>Unit Name</td>
<td>The name of the unit.</td>
</tr>
<tr>
<td>Application Name</td>
<td>The name of the package.</td>
</tr>
</tbody>
</table>

5. You can display details for each package unit; for example, on which systems usage occurred for the unit. Select the unit and click Details to open the Package Analysis Overview – Details screen which contains the following information.

<table>
<thead>
<tr>
<th>Column Name</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Installation Number</td>
<td>The installation number of the system on which the package was used.</td>
</tr>
<tr>
<td>System ID</td>
<td>The ID of the system on which the package was used.</td>
</tr>
<tr>
<td>Client</td>
<td>The client on which the package was used.</td>
</tr>
<tr>
<td>Application</td>
<td>The package ID.</td>
</tr>
<tr>
<td>Unit</td>
<td>The unit ID.</td>
</tr>
<tr>
<td>Unit Name</td>
<td>The name of the unit.</td>
</tr>
<tr>
<td>Start Date</td>
<td>The date when usage started.</td>
</tr>
</tbody>
</table>
### XI Adapter Data Volume Report

To be able to use this feature, the XI system must be integrated into the system landscape.

The XI Adapter Data Volume report is relevant for system landscapes that use an SAP XI (SAP Exchange Infrastructure) component.

The SAP XI software facilitates the exchange of information between SAP and non-SAP systems. For more information about SAP XI, refer to the SAP documentation.

License fees for an SAP XI system are charged based on the data volume that passes through it. The XI Adapter Data Volume report enables you to monitor the data volume at regular intervals. When viewed in combination with the relevant SAP license contract, the volume figure enables you to keep track of the amount of licensing charges that is to be expected when an SAP system measurement is run.

In addition to providing the overall amount of data volume that passed through the XI system in a specified time period, the XI Adapter Data Volume report also provides detailed information about when data was sent or received, and who sent or received the data.

#### To execute the XI Adapter Data Volume report:

1. In the Main menu of the SAP Admin module, select the XI system from the system landscape. This step is optional.
2. Click **Packages**, then select **XI Adapter Data Volume** from the menu.
3. Enter the details for the report.

<table>
<thead>
<tr>
<th>Option</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>System</td>
<td>Select the XI system. If you selected the system in step 1, this field has already been populated. (F4 Help opens a list with the systems that are recorded in the FlexNet Manager for SAP Applications system data.)</td>
</tr>
<tr>
<td>From... To...</td>
<td>Enter the date range of the period for which data should be evaluated. If you enter a single day, data will be evaluated for a 24-hour period. The default setting is the current date.</td>
</tr>
<tr>
<td>Measuring Unit</td>
<td>Select the measuring unit. The available values are KB, GB, and MB. The default value is MB. (F4 Help opens a list with available values.)</td>
</tr>
<tr>
<td>Option</td>
<td>Description</td>
</tr>
<tr>
<td>------------------------------</td>
<td>---------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Layout</td>
<td>If you want to use a specific layout, enter the name of the saved layout in the <strong>Layout</strong> field.</td>
</tr>
<tr>
<td>Communication Party (Sender)</td>
<td>Use this field to filter the report to specific sender communication parties (optional).</td>
</tr>
<tr>
<td>Service (Sender)</td>
<td>Use this field to filter the report to specific sender services (optional).</td>
</tr>
<tr>
<td>Interface Name (Sender)</td>
<td>Use this field to filter the report to specific sender interface names (optional).</td>
</tr>
<tr>
<td>Interface Namespace (Sender)</td>
<td>Use this field to filter the report to specific sender interface namespaces (optional).</td>
</tr>
<tr>
<td>Communication Party (Receiver)</td>
<td>Use this field to filter the report to specific receiver communication parties (optional).</td>
</tr>
<tr>
<td>Service (Receiver)</td>
<td>Use this field to filter the report to specific receiver services (optional).</td>
</tr>
<tr>
<td>Interface Name (Receiver)</td>
<td>Use this field to filter the report to specific receiver interface names (optional).</td>
</tr>
<tr>
<td>Interface Namespace (Receiver)</td>
<td>Use this field to filter the report to specific receiver interface namespaces (optional).</td>
</tr>
</tbody>
</table>

4. Click **Execute** (or press **F8**) to start the evaluation.

The resulting report displays detailed information about the data that passed through the XI system. You can convert the measuring unit to display all volume information in KB, MB, or GB, by clicking the relevant **Convert into unit** button.
You can measure the SAP systems in your SAP landscape using features of the SAP Admin module.

SAP requires their customers to regularly perform a system measurement. This is executed using the transaction USMM and the LAW (License Administration Workbench). While FlexNet Manager for SAP Applications is not necessary to run a system measurement, it gives you the tools to store and analyze valuable licensing and usage data of your systems.

The system measurement workflow in FlexNet Manager for SAP Applications usually comprises the following steps:

1. Optimizing the license types. For more information, see Optimization in the SAP Admin Module, Regular Optimization of the SAP License Position in IT Asset Management, and Remediation in the SAP Admin Module.

2. Running the measurement program (standard SAP transaction USMM). For more information, see Performing a System Measurement.

3. Consolidating the USMM results in the LAW and sending the output to SAP, if desired. For more information, see Consolidating Measurement Results in the LAW.

4. Uploading the LAW results into FlexNet Manager for SAP Applications for evaluation. For more information, see Loading the LAW Measurement Results.

Performing a System Measurement

When you run a system measurement in the SAP Admin module, FlexNet Manager for SAP Applications triggers the transaction USMM.

The transaction USMM is the SAP standard transaction for the measurement program. The USMM determines the number of users and chargeable objects of the packages of the SAP software for each system. The measurement is run in the background by executing the report RSUVM001, and results are written in a measurement log. Each time you run a measurement in SAP using the transaction USMM, the results of the previous measurement are overwritten. The results can also be output as a printable fax in SAP.

Using the SAP Admin module of FlexNet Manager for SAP Applications, you can measure systems remotely via an RFC connection without the need to login to each system individually. After running the measurement, you can download the measurement data to a local file on your PC. This file will be used for processing on the LAW system. It can be read
directly in the LAW or it can be exported from FlexNet Manager for SAP Applications into the LAW. By saving measurement results locally, FlexNet Manager for SAP Applications enables you to create a history of previous measurements and keep track of all changes.

Before executing the system measurement, it is recommended that you verify the user classification using the User Data Validation report in the SAP Admin module (see User Data Validation Report). Also, you can view the clients that are included in the measurement, as well as the active price lists and license types for the selected systems. You can create variants in order to simplify and standardize repeated analyses.

You can only measure SAP systems that have a valid RFC destination and that have a system status of Active. Excluded systems cannot be measured.

**Note:** To include or exclude a system from measurement, right-click the system or system group in the system landscape in the SAP Admin module and select Include System or Exclude System from the context menu.

During the SAP measurement, a number of activity checks are run to find potential fraudulent activities. See Activity Checks for more information.

**To perform a system measurement using FlexNet Manager for SAP Applications:**

1. In the SAP Admin module, select an active system in the system landscape. Click Measurement/LAW, then select System Measurement from the menu.
2. In the next screen, select the systems that you want to measure and click Execute.
   
   You can select to view specific system data:
   
   - To display the license types of the selected systems, click License Types.
   - To display all clients of the selected systems, click Clients.

   **Note:** If the Note column contains the text Excluded, the client has been excluded from the system measurement.

   - To display the price lists of the selected systems, click Prices.
3. Select the systems that you want to measure from the list and click Start Measurement to start the measurement. This triggers the transaction USMM.
4. To save the measurement data locally, click Download Measurement Data and browse to the folder where the file should be saved using the suggested file name.

### Consolidating Measurement Results in the LAW

After you have performed the system measurement (transaction USMM), you can upload the measurement logs via FlexNet Manager for SAP Applications into the LAW (transaction LICENSE_ADMIN) to combine users and consolidate the measurement results.
To invoke the LAW using FlexNet Manager for SAP Applications for consolidating measurement results:

1. In the SAP Admin module, click Measurement/LAW, then select LAW Result Lists from the menu.
2. On the LAW Measurements tab, click the icon on the right side of the FlexNet Manager button and select Execute LAW.
3. Select a destination. The transaction LICENSE_ADMIN is called automatically. Perform the required steps. (Refer to the SAP documentation for further information.)

Loading the LAW Measurement Results

Loading the LAW measurement results into FlexNet Manager for SAP Applications enables you to display the results, build a history of results, and use the Statistics features in the SAP Admin module.

After the system measurement results have been consolidated in the LAW, you can load them into FlexNet Manager for SAP Applications. The LAW Result Lists feature enables you to access the result lists of the LAW and provides a number of tabs to display them. The LAW Measurements tab contains a list of all saved measurements and enables you to build a history. You can evaluate the measurement results using the other tabs in the LAW Measurement History screen. The results will give you insight into the distribution of your license types across systems and could potentially be used for internal chargeback, for example. You can download the data from each tab in various file formats by clicking Export.

Note: In order to be able to use the features of the Statistics menu for evaluating the system measurement results, you need to load the measurement results into FlexNet Manager for SAP Applications.

To load the measurement results into FlexNet Manager for SAP Applications:

1. In the SAP Admin module, click Measurement/LAW, then select LAW Result Lists from the menu.
2. On the LAW Measurements tab, click the icon on the right side of the FlexNet Manager button and select Load Current LAW Measurement to open the Load Current Measurement dialog.
3. In the Destination field, enter the RFC destination of the LAW system. F4 Help displays all newly set up RFC connections. Use the transaction SM59 to set up a new RFC connection, if desired.
4. In the Description field, enter the name that should be used to save the results of the LAW for further evaluation in FlexNet Manager for SAP Applications.
5. Click Continue.
Statistics in the SAP Admin Module

With FlexNet Manager for SAP Applications, you can create various statistical reports, to provide you at a glance with valuable information on your licensing situation.

You can see the distribution of licenses across the entire system landscape. Also, if evaluations are run on a regular basis, they can help you to see developments in your licensing situation and recognize trends so that you can make provisions for the future, if necessary.

All statistics are based on centrally collected LAW measurement data, as well as the SAP license contract information. Therefore, before running any of the statistics reports, you need to ensure that the relevant LAW measurement data has been uploaded into FlexNet Manager for SAP Applications (for more information, see Loading the LAW Measurement Results). Also, verify that the corresponding contract information has been properly maintained (see SAP License Contract Information in the SAP Admin Module for more information on how to add and maintain license contract information).

All statistics can be displayed as ALV grid lists or as graphical representations.

Management Summary

The Management Summary report shows the utilization of the SAP license contracts.

Using this report, you can quickly identify the number of licenses that are included in the license contract and compare this to the actual number of used licenses, broken down by individual license types. If you are using more licenses than stated in your contract, the report will list these licenses in a separate row. The color-coded status indicator enables you to check the licensing status for individual license types at a glance.

Creating a Management Summary Report

Before you can create a Management Summary report, you must do the following:

- Provide the relevant license contract information in the Customizing section.

- Upload the LAW measurement data that is to be analyzed into FlexNet Manager for SAP Applications. (See SAP License Contract Information in the SAP Admin Module for more information.)
To create a Management Summary report:

1. In the Main menu of the SAP Admin module, click Statistics, then select Management Summary from the menu.

2. Under Selection for License Evaluation, select the LAW measurement data that the report should be based on. (The relevant names were specified at the measurement.)

3. In the Thresholds for Status Indicator section, set the thresholds for the status indicator:
   - A green status typically indicates that the number of used licenses lies within the number specified in the license contract.
   - A yellow status indicates that the number of used licenses is close to the number of licenses specified in the contract.

4. Click Execute or press F8 to run the analysis.

Data in the Management Summary Report

<table>
<thead>
<tr>
<th>Column</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Measurement Date</td>
<td>Date of the measurement on which the statistical evaluation is based. This column is visible only if the evaluation is based on more than one LAW measurement.</td>
</tr>
<tr>
<td>Status</td>
<td>The threshold for the status colors are determined by your selection under Thresholds for Status Indicator in the Contract Utilization screen:</td>
</tr>
<tr>
<td></td>
<td>• A green status typically indicates that the number of used licenses lies within the number specified in the license contract.</td>
</tr>
<tr>
<td></td>
<td>• A yellow status indicates that the number of used licenses is close to the number of licenses specified in the contract.</td>
</tr>
<tr>
<td></td>
<td>• A red status indicates that the number of used licenses is higher than the number of licenses available, according to the license contract.</td>
</tr>
<tr>
<td>Contract No.</td>
<td>Shows the number of the SAP license contract.</td>
</tr>
<tr>
<td>Description / Informational Text</td>
<td>Shows the name of the license type, for example Professional User.</td>
</tr>
<tr>
<td>License Type</td>
<td>Shows the number of the license type, for example 52.</td>
</tr>
<tr>
<td>Assignm. to Spec. Version</td>
<td>Indicates if the license type has been assigned a special version.</td>
</tr>
<tr>
<td>Country Surcharge</td>
<td>Indicates if the license type has been assigned a country surcharge.</td>
</tr>
<tr>
<td>Valid from</td>
<td>Shows the start date of the license contract.</td>
</tr>
<tr>
<td>Valid to</td>
<td>Shows the end date of the license contract.</td>
</tr>
<tr>
<td>No. Lic. in Contract</td>
<td>Shows the total number of licenses of a particular type, per the license contract.</td>
</tr>
<tr>
<td>Column</td>
<td>Description</td>
</tr>
<tr>
<td>---------</td>
<td>-------------</td>
</tr>
<tr>
<td>Number</td>
<td>Shows the total number of licenses of a particular type that are currently in use.</td>
</tr>
<tr>
<td>Percent</td>
<td>Shows the percentage of used licenses versus the number of licenses included in the SAP license contract.</td>
</tr>
</tbody>
</table>

**License Analysis**

The License Analysis report analyzes the usage of SAP licenses.

You can evaluate the usage of licenses over a fixed period of time or compare the license usage across different systems, for example.

The report can be displayed as an ALV grid list or as a graphic by SAP Business Graphics.

**Creating a License Analysis Report**

Before you can create a License Analysis report, you must do the following:

- Provide the relevant license contract information in the Customizing section.
- Upload the LAW measurement data that is to be analyzed into FlexNet Manager for SAP Applications. (See SAP License Contract Information in the SAP Admin Module for more information.)

To create a License Analysis report:

1. In the Main menu of the SAP Admin module, click Statistics, then select License Analysis from the menu.
2. Under Selection for License Evaluation, specify the parameters for the report. If you leave a field blank, all relevant available data will be evaluated.
   - **Description/Info** — Select the LAW measurement data on which the report should be based. (The relevant names were specified at the measurement.)
   - **System** — Enter the name of the system that should be analyzed. If no data is provided, all systems are analyzed that were included in the LAW measurement selected above.
   - **License Type** — Limit the evaluation to specific license types. (The relevant names were specified at the measurement.)
3. Select your output options:
   - Select **Output as Graph** if the data should be passed to the SAP Business Graphics.
   - Select **Output as ALV Grid List** if the data should be displayed in an ALV grid list.
   - Select the **Display in Percent** check box to display license data by percentage.
4. The SAP Business Graphics can display a maximum of three dimensions. Under Selection Criteria for Graphic, select which of the four criteria should be evaluated.
5. Click **Execute** or press F8.
Data in the License Analysis Report

If you chose to display the results of a License Analysis report in an ALV grid list, the table can contain the following columns. The columns that are displayed depend on your selection under Selection for License Evaluation.

<table>
<thead>
<tr>
<th>Column</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>License Type</td>
<td>Shows the number of the license type, for example 52, including the special version or country surcharge, if applicable.</td>
</tr>
<tr>
<td>Systems</td>
<td>Shows the system that was evaluated.</td>
</tr>
<tr>
<td>Clients</td>
<td>Shows the client that was evaluated.</td>
</tr>
<tr>
<td>Measurement Date</td>
<td>Shows the date of the measurement on which the statistical evaluation is based.</td>
</tr>
<tr>
<td>Number of Licenses</td>
<td>Shows the total number of licenses of a particular type as specified in the license contract.</td>
</tr>
<tr>
<td>Percent</td>
<td>Shows the number of licenses of a particular type as a percentage of the total number of licenses in the analysis.</td>
</tr>
</tbody>
</table>

SAP Business Graphics provides a variety of different design options. The layout can be saved in the graphic or you can load a saved layout.

Contract Utilization Analysis

The Contract Utilization Analysis report, which is similar to the Management Summary report, evaluates the utilization of the SAP license contracts and provides options for a more differentiated approach.

Creating a Contract Utilization Analysis Report

Before you can create a Contract Utilization Analysis report, you must do the following:

- Provide the relevant license contract information in the Customizing section.
- Upload the LAW measurement data that is to be analyzed into FlexNet Manager for SAP Applications. (See SAP License Contract Information in the SAP Admin Module for more information.)

To create a Contract Utilization Analysis report:

1. In the Main menu of the SAP Admin module, click Statistics, then select Contract Utilization Analysis from the menu.
2. Under Selection for License Evaluation, specify the parameters for the report. If you leave a field blank, all relevant available data will be evaluated.
   - Description/Info — Select the LAW measurement data on which the report should be based. (The relevant names were specified at the measurement.)
   - License Type — Limit the evaluation to specific license types.
3. Select your output options:
   - Select **Output as Graph** if the data should be passed to the SAP Business Graphics.
   - Select **Output as ALV Grid List** if the data should be displayed in an ALV grid list.

4. Select the evaluation type:
   - Select **License Analysis (Variance)** to compare the actual number of used licenses against the target number of available licenses in the contract.
   - Select **License Usage Contracts Total** to display the number of used and unused licenses.
   - Select **Contract Utilization** to only show the number of used licenses.

5. Click **Execute** or press **F8**.

### Data in the Contract Utilization Analysis Report—License Analysis (Variance)

The License Analysis (Variance) evaluation type compares the actual number of used licenses against the target number of available licenses in the contract.

<table>
<thead>
<tr>
<th>Column</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tar/Act. (Target/Actual)</td>
<td>Shows whether the row contains the number of licenses stated in the corresponding contract (value: Tar_N.) or the number of licenses that are in use (value: Act).</td>
</tr>
<tr>
<td>Lic. Type</td>
<td>Shows the number of the license type, for example 52.</td>
</tr>
<tr>
<td>Measurement Date</td>
<td>Shows the date of the measurement on which the statistical evaluation is based.</td>
</tr>
<tr>
<td>Amount</td>
<td>Shows the number of licenses of a specific license type in the corresponding contract (value: Tar_N.) or the number of licenses that are in use (value: Act).</td>
</tr>
</tbody>
</table>

### Data in the Contract Utilization Analysis Report—License Usage Contract Total

The License Usage Contract Total evaluation type displays the number of used and unused licenses.

<table>
<thead>
<tr>
<th>Column</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Utiliz. (Utilization)</td>
<td>Shows whether the row contains the number of used (value: Used) or unused licenses (value: Unused) or whether the number of used licenses exceeds the number of licenses agreed in the license contract (value: Over).</td>
</tr>
<tr>
<td>Measurement Date</td>
<td>Shows the date of the measurement on which the statistical evaluation is based.</td>
</tr>
<tr>
<td>Lic. Type</td>
<td>Shows the number of the license type, for example 52.</td>
</tr>
<tr>
<td>Amount</td>
<td>Shows the number of licenses of a specific license type that are used or unused.</td>
</tr>
</tbody>
</table>
Data in the Contract Utilization Analysis Report—Contract Utilization

The Contract Utilization evaluation type shows only the number of used licenses.

<table>
<thead>
<tr>
<th>Column</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>SAP Contr.</td>
<td>Shows the name of the relevant SAP contract.</td>
</tr>
<tr>
<td>Measurement Date</td>
<td>Shows the date of the measurement on which the statistical evaluation is based.</td>
</tr>
<tr>
<td>Lic. Type</td>
<td>Shows the number of the license type, for example 52.</td>
</tr>
<tr>
<td>Amount</td>
<td>Shows the number of licenses of a specific license type that are in use.</td>
</tr>
</tbody>
</table>
Working with Independent 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 component FlexNet Beacon, which is included in the IT Asset Management installation package, along with the SAP Inventory Agent enables you to export the user and consumption data as well as package measurement results from an independent SAP system into an inventory file. This inventory file can then be imported for analysis into IT Asset Management.

Activity checks data from independent SAP systems cannot be analyzed in IT Asset Management.

Workflow for independent SAP systems

1. Configure the independent SAP system. See Setup of Independent SAP Systems in the FlexNet Manager for SAP Applications Installation Guide PDF.

2. If you want to analyze and optimize package consumption, measure the packages on the independent SAP system. See Measuring Packages on Independent SAP Systems.

3. On an inventory beacon, define a connection to the independent SAP system, and execute the SAP Inventory Agent (SAPReader.exe) on the independent SAP system to collect user and consumption data (and package consumption data, if required). See SAP Inventory Agent and Data Collection from Independent SAP Systems. The SAP Inventory Agent transfers this data to the IT Asset Management database.

4. Analyze the user and consumption data to identify the optimal license type for each user on the independent SAP system. See Regular Optimization of the SAP License Position in IT Asset Management.

5. Generate a file that contains all recommendations. See Exporting Recommendations for Independent SAP Systems.

6. Import the recommendations file into the independent SAP system. See Importing License-Type Recommendations.

7. Process the recommendations on the independent SAP system and commit the changes to the SAP tables. See Recommendation Processing on Independent SAP Systems.
Data Collection from Independent SAP Systems

The collection of user data and package measurement results from an independent SAP system is facilitated by an inventory beacon and the SAP Inventory Agent.

Package measurement data can be collected only after a package measurement has been executed. For more information, see Measuring Packages on Independent SAP Systems.

Data Collection Using an Inventory Beacon

Because you are using IT Asset Management in a Cloud implementation, you need to collect user data and package measurement results from an independent SAP system using an inventory beacon and the SAP Inventory Agent.

When an inventory beacon is used to collect SAP data from an independent SAP system, you need to define a connection to the independent SAP system on the beacon.

To define a connection to an independent 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. Click **Test Connection** to test whether a connection could be established.

6. Click **Save**.

After you set up the connection to the independent SAP system, you can execute the connection to trigger the data collection through the SAP Inventory Agent.

## 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 IT Asset Management online help.

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

1. **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**.

## Measuring Packages on Independent SAP Systems

The following preconditions apply for creating and executing package measurements:

- A user who wants to define package measurement jobs on an independent SAP system requires an account of type Dialog and should be assigned the role `/LICMAN/ADMIN_MODULE`.

- The Satellite transport and the Roles transport must be installed on the independent SAP system. See *Setup of Independent SAP Systems* in the *FlexNet Manager for SAP Applications Installation Guide* PDF.

You can schedule package measurements on independent SAP systems to be executed at a future time and date. If the measurement should be executed periodically, you can set the recurrence. You can also create ad-hoc measurements.

FlexNet Manager for SAP Applications creates a separate job for each package that should be measured. When you change the package measurement schedule, any old measurement jobs are deleted. There can be only one active set of measurement jobs at a time.
To schedule and execute a package measurement on an independent SAP system:

1. On the independent SAP system, execute the transaction /n/LICMAN/OFFLINE.

2. In the Recommendation Processing and Package Measurements screen, under Package Measurements, click Select Packages.

3. In the Offline Package Measurement screen, select the packages that you want to measure.

4. When you are done, click Save. Return to the previous screen by clicking the Back button or pressing F3.

5. Click Run Package Measurement.

6. In the Offline Package Measurement dialog, specify when the packages should be measured.
   - To start the measurement immediately, select Start immediately.
   - To schedule the measurement for a specific date and time, select Start at, and set the start date and time in the Date and Time fields.
   - To set the recurrence of the measurement, select the Repeat check box and set the recurrence pattern (daily, weekly, or monthly).

7. Click OK or press F5.

FlexNet Manager for SAP Applications automatically saves the measurement results in a dedicated table. This table is updated every time a package measurement is executed. Any previous measurement results are overwritten with the new results. This means that at any time, the table contains only one active set of package measurement results.

After the package measurement, the measurement results are collected by running the SAP Inventory Agent.

Previous Package Measurements

The entry screen for executing package measurements on independent SAP systems displays information on previous package measurements for this independent SAP system.

<table>
<thead>
<tr>
<th>Field</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Last Measured</td>
<td>The date on which the last package measurement was executed on this independent SAP system.</td>
</tr>
<tr>
<td>Succeeded</td>
<td>The number of successful package measurements that were executed for this independent SAP system.</td>
</tr>
<tr>
<td>Failed</td>
<td>The number of failed package measurements that were executed for this independent SAP system.</td>
</tr>
<tr>
<td>Schedule</td>
<td>The package measurement can be run daily, weekly, or monthly.</td>
</tr>
<tr>
<td>Next Job</td>
<td>The date and time of the next scheduled package measurement for this independent SAP system.</td>
</tr>
<tr>
<td>Scope</td>
<td>The number of packages that are to be measured in the next measurement.</td>
</tr>
</tbody>
</table>

Exporting Recommendations for
Independent SAP Systems

Before you can process license-type recommendations on independent SAP systems, you need to do the following:

1. Calculate the current license position. For more information, see Recalculating the Optimal License Position.

2. Create a recommendation set and release it to the SAP Admin module. For more information, see Releasing Recommendations to the SAP Admin Module.

3. Review and accept the recommendations of the recommendation set you created in step 2. For more information, see Reviewing and Processing Released Recommendations.

You export license-type recommendations in SAP mode in IT Asset Management into an XML file. You then use this XML file to import the recommendations into an independent SAP system.

After you have performed the previously described prerequisite steps, the License Position page (available in SAP mode in IT Asset Management) shows the option Export recommendations sent to SAP in the Tasks section. You can export the released recommendations into an XML file.

To export license-type recommendations for independent SAP systems:

1. In IT Asset Management, go to the Current Position page (Licenses > SAP Optimization > Current Position).

2. On the Current Position page, in the Tasks section, click Export recommendations sent to SAP.

   Depending on your browser, a dialog displays asking whether you want to open or save this file. Select the option to save, and click OK or Save.

3. Depending on your browser, the file may automatically download to your default location, or a Save As dialog may display. If there is a Save As dialog, browse to a folder to store the exported grid, and enter an appropriate file name. Click Save.

The XML file that you saved contains all current recommendations that have been released to the SAP Admin module. Use this file to import the recommendations into the corresponding independent SAP system. The file can contain recommendations for several systems. During import, the independent SAP system will import only the recommendations that are appropriate for that system.

Importing License-Type Recommendations

After you exported the license-type recommendations from IT Asset Management into an XML file, you can import the recommendations into an independent SAP system for processing.

The transaction /LICMAN/OFFLINE starts the required functionality. The entry screen provides information about the independent SAP system, as well as high-level details about the previous set of license-type recommendations that have been imported and processed on the system.

To import license-type recommendations into an independent SAP system:

1. On the independent SAP system, execute the transaction /n/LICMAN/OFFLINE.

3. In the Process Recommendations Offline screen, click Import from file.

4. Browse to the file with the recommendations, and click Continue to import the recommendations.

The recommendations are imported and are ready to process.

Recommendation Processing on Independent SAP Systems

The Process Recommendations Offline report lists the license-type recommendations for an independent SAP system and enables you to process the recommendations to optimize your organization’s SAP license position.

Like the Process License Recommendations report for dependent SAP systems, the Process Recommendations Offline report is based on the active license-type optimization rules that you configure and manage in IT Asset Management. The report lists the license-type recommendations, filtered, if required, by specific criteria.

Creating a Process Recommendations Offline Report

Ensure that you have imported the recommendations from IT Asset Management into an independent SAP system using an XML file. For more information, see Importing License-Type Recommendations.

To create a Process License Recommendations Offline report:

1. On the independent SAP system, execute the transaction /n/LICMAN/OFFLINE.


The Process Recommendations Offline screen provides an overview of all recommendations that have been imported into the independent SAP system.

3. Select from the following options:

   - To create an automated report that contains only recommendations of a specific status, in the Monitor section, click the number underneath the respective status. For status information, see Recommendation Status Values for Independent SAP Systems.
   - To create a report with all recommendations, click Total.
   - If you want to create a customized report, specify your selection criteria in the area below the Monitor section. If you leave a field blank, all values are automatically selected for the report. After you made your selections, click Execute to run the report.

<table>
<thead>
<tr>
<th>Option</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>User Name</td>
<td>Enter the user ID or range of user IDs that should be included in the report.</td>
</tr>
<tr>
<td>Option</td>
<td>Description</td>
</tr>
<tr>
<td>----------------------</td>
<td>---------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Original License Type</td>
<td>Enter the license type or a range of license types that should be included in the report.</td>
</tr>
<tr>
<td>Recommended Lic. Type</td>
<td>Enter the recommended license type or a range of recommended license types that should be included in the report.</td>
</tr>
<tr>
<td>Pending</td>
<td>Select this check box if you want to include recommendations that have already been imported but have not yet been processed.</td>
</tr>
<tr>
<td>Accepted</td>
<td>Select this check box if you want to include recommendations that have the status Accepted.</td>
</tr>
<tr>
<td>Rejected</td>
<td>Select this check box if you want to include recommendations that have the status Rejected.</td>
</tr>
<tr>
<td>Overwritten</td>
<td>Select this check box if you want to include recommendations that have the status Overwritten.</td>
</tr>
<tr>
<td>New License Type ... to ...</td>
<td>This option is available when you select the Overwritten check box. You can use it to further filter the report for specific license-type recommendations that were overwritten. To do so, enter the new license type or a range of new license types.</td>
</tr>
<tr>
<td>Ignored</td>
<td>Select this check box if you want to include recommendations that have the status Ignored.</td>
</tr>
</tbody>
</table>

The Process Recommendations Offline screen opens where you can process the recommendations.

Recommendation Status Values for Independent SAP Systems

When you process the recommendations in a Process Recommendations Offline report on an independent SAP system, you have the choice to accept, reject, or overwrite the recommendations. By doing so, you change the status of the recommendation.

The status of a recommendation is also influenced by the checks that are performed during the import process; that is, recommendations are set to a specified status automatically when conditions are fulfilled. Recommendations can have one of the following status values.

<table>
<thead>
<tr>
<th>Status</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pending</td>
<td>This status is assigned automatically during import to recommendations that have already been imported, but that have not been processed (no status was assigned). When an updated recommendation is imported for the same user, the status of the existing pending recommendation is automatically set to Unprocessed so that the new recommendation can be taken into account.</td>
</tr>
<tr>
<td>Accepted</td>
<td>Recommendations that have been accepted (the license type was updated according to the recommendation) have the status Accepted.</td>
</tr>
</tbody>
</table>
## Status & Description

<table>
<thead>
<tr>
<th>Status</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rejected</td>
<td>Recommendations that have been rejected (the license type was not changed) have the status Rejected. When you reject a recommendation, you can select whether recommendations for that user should be ignored indefinitely or until a date that you specify.</td>
</tr>
<tr>
<td>Overwritten</td>
<td>Recommendations that had their license type changed to a value that is different to the recommended value have the status Overwritten. When you overwrite a recommendation, you can select whether recommendations for that user should be ignored indefinitely or until a date that you specify.</td>
</tr>
<tr>
<td>Ignored</td>
<td>The status of recommendations for users who have an active Ignore date will automatically be set to Ignored during import. When you reject or overwrite a recommendation, you can select whether recommendations for that user should be ignored indefinitely or until a date that you specify.</td>
</tr>
<tr>
<td>Unprocessed</td>
<td>Recommendations that have the status Pending at the time when a new recommendation is imported are automatically set to the status Unprocessed. This alerts you that the recommendation is obsolete. Recommendations with the status Unprocessed only appear in the Recommendations History report, and their status can not be changed.</td>
</tr>
</tbody>
</table>

## Information in the Process Recommendations Offline Report

The Process Recommendations Offline report shows detailed information on the license-type recommendations for individual users, such as, for example, the original and optimal license type, and the rule that produced the recommendation.

The following information is available in the Process Recommendations Offline report.

<table>
<thead>
<tr>
<th>Column Name</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>System ID</td>
<td>The three-character ID of the system on which the user was identified.</td>
</tr>
<tr>
<td>Client</td>
<td>The client ID of the system on which the user was identified.</td>
</tr>
<tr>
<td>User Name</td>
<td>The user ID of the user for whom a change of license type is recommended.</td>
</tr>
<tr>
<td>First Name</td>
<td>The first name of the user for whom a change of license type is recommended.</td>
</tr>
<tr>
<td>Last Name</td>
<td>The last name of the user for whom a change of license type is recommended.</td>
</tr>
<tr>
<td>Column Name</td>
<td>Description</td>
</tr>
<tr>
<td>----------------------------</td>
<td>-----------------------------------------------------------------------------</td>
</tr>
<tr>
<td><strong>Status</strong></td>
<td>The status of the license-type recommendation. The following status values are available:</td>
</tr>
<tr>
<td></td>
<td>• Pending</td>
</tr>
<tr>
<td></td>
<td>• Accepted</td>
</tr>
<tr>
<td></td>
<td>• Rejected</td>
</tr>
<tr>
<td></td>
<td>• Overwritten</td>
</tr>
<tr>
<td></td>
<td>• Unprocessed</td>
</tr>
<tr>
<td></td>
<td>• Ignored</td>
</tr>
<tr>
<td></td>
<td>For information on status values, see Recommendation Status Values for Independent SAP Systems.</td>
</tr>
<tr>
<td><strong>Original License Type</strong></td>
<td>The license type in the SAP system.</td>
</tr>
<tr>
<td><strong>Description</strong></td>
<td>A description of the license type, for example, Test or mySAP Limited Prof. (CAT III).</td>
</tr>
<tr>
<td><strong>Recommended License Type</strong></td>
<td>The new license type that is recommended for this user.</td>
</tr>
<tr>
<td></td>
<td>The license type was calculated by FlexNet Manager for SAP Applications based on the current optimization rules (all active license rules, the Duplicate User rules, and the user consolidation), and taking any contractual obligations (such as a license ratio or spare superior licenses) into account.</td>
</tr>
<tr>
<td><strong>Description</strong></td>
<td>A description of the license type, for example, Test or mySAP Limited Prof. (CAT III).</td>
</tr>
<tr>
<td><strong>Optimal License Type</strong></td>
<td>The optimal license type that was calculated by FlexNet Manager for SAP Applications based on the current optimization rules (all active license rules, the Duplicate User rules, and the user consolidation). This value shows the best possible scenario. However, it does not take into account any contractual obligations that your organization might need to consider with regard to its SAP licenses, such as a license ratio or spare superior licenses.</td>
</tr>
<tr>
<td><strong>Description</strong></td>
<td>A description of the license type, for example, Test or mySAP Limited Prof. (CAT III).</td>
</tr>
<tr>
<td><strong>Processed License Type</strong></td>
<td>If the license recommendation has the status Overwritten because the recommendation was not accepted, the new license type that was assigned to the user instead of the recommended license type will be shown here. The value -- indicates that the user has been retired (the user’s Valid To date has been changed).</td>
</tr>
<tr>
<td><strong>Description</strong></td>
<td>A description of the license type, for example, Test or mySAP Limited Prof. (CAT III).</td>
</tr>
<tr>
<td></td>
<td>If the <strong>Processed License Type</strong> value is --, the description shows the text User retired. This indicates that the user’s Valid To date has been changed.</td>
</tr>
<tr>
<td><strong>Ignore Date</strong></td>
<td>This column displays the active Ignore dates that have been set for recommendations. You can set an Ignore date when you reject or overwrite a recommendation. Double click this field to add, remove, or edit an Ignore date.</td>
</tr>
</tbody>
</table>
The recommendations are color-coded to indicate their processing status:

- Orange indicates that the recommendation was processed (accepted/rejected/overwritten), but has not been committed to the database.
- Green indicates that the recommendation has been committed to the database.
- Red indicates that the recommendation failed to be committed to the database.
- Gray indicates that a recommendation is read-only. This could have a number of reasons, such as the target system has no logical RFC destination, the target system may be unavailable, the user may not have sufficient rights for the system, or the recommendation may be blocked by another user.

You can display additional information on the processing of the data in the target system by clicking the Log button. The log contains a standard error message that is returned by an SAP function. The same error message should be expected if the license type was manually changed using the transaction SU01.

## Accepting Recommendations

Accept a recommendation if you want to implement the recommendation from FlexNet Manager for SAP Applications.

Accepting recommendations changes the license type only in the report. The user primary data remain unchanged until you commit your changes.

### To accept a license-type recommendation:

1. Run a Process Recommendations Offline report, and select for which user, or users, you want to accept the recommendations.
2. Click Accept. The license type in the report is changed to the recommended value.
3. If you accept recommendations to assign the new license type 04 (Substitute) or 11 (Multi-Client/System) and click OK, you are prompted to enter the following additional information.

   - **License Type 04 (Substitute)**
     - **From** The start date of the period when this user acts as a substitute.
     - **To** The end date of the period when this user acts as a substitute.
     - **User Name** The name of the user who acts as a substitute.

   - **License Type 11 (Multi-Client/System)**
4. When you are finished, click **OK**.

Accepted recommendations are highlighted in orange.

You need to commit the changes to the SAP database for the changes to take effect. See [Committing License-Type Changes](#).

## Rejecting Recommendations

Reject a recommendation if you do not want to implement the recommendation from FlexNet Manager for SAP Applications.

**To reject a license-type recommendation:**

1. Run a Process Recommendations Offline report, and select the user or users whose license type should be left unchanged.

2. Click **Reject**.

   The **Ignore Recommendation** dialog displays.

3. In the **Reason** field, enter a reason for the rejection.

4. Select from the following options to specify whether future recommendations for this user should be ignored:
   - **Ignore indefinitely** — This is the default setting. All future recommendations will be ignored indefinitely.
   - **Ignore until** — Enter a date to indicate until when recommendations should be ignored.
   - **Do not ignore** — Select this option if recommendations should not be ignored in the future.

5. Click **OK** to confirm the rejection.

Rejected recommendations are highlighted in orange.

## Overwriting Recommendations

Instead of accepting or rejecting a recommendation from FlexNet Manager for SAP Applications, you can overwrite it and assign a different license type than the one that is recommended. In addition to changing the license type to one of the "usual" values, you can retire users. When you retire a user, the user’s Valid To date is changed so that the user is no longer valid, and does not require a license.

**To overwrite a license-type recommendation:**

1. Run a Process Recommendations Offline report, and select the user or users whose license type should be changed to a value of your choice.
2. Click **Overwrite**.

   The **Overwrite Recommendations** dialog displays.

3. You now have the following options:

   • To assign a new license type, do the following:

     a. In the **New License Type** field, enter the new license type you want to assign.

        The description of the new license type displays next to the value.

     b. In the **Reason** field, enter a reason why the recommendation is overwritten (optional).

     c. Select whether future recommendations for this user should be ignored. For more information, see **Ignoring License-Type Recommendations**.

     d. If in step 3.a you assign the new license type 04 (Substitute) or 11 (Multi-Client/System) and you click **OK**, you are prompted to enter additional information. For more information, see step 3 in **Accepting Recommendations**.

   • To retire the user, do the following:

     a. Select the **Retire User** check box to retire the user.

     b. Enter a date in the **Valid to** field to define when the user should be retired. If the field is blank, the current date is used. When retiring a user, the **New License Type** field is set to -- in the report. This value only serves as a placeholder in the report; that is, when you commit the change to the user primary data, only the user’s Valid To date is modified. If you specify a Valid To date that lies before the last logon date, the Valid To date is automatically set to the last logon date. It is impossible to retire a user who was active after the date that the user was supposed to be retired.

4. Click **OK** to confirm the overwrite action.

   The license type in the report changes to the value you specified. Overwritten recommendations are highlighted in orange.

   You need to commit the changes to the SAP database for the changes to take effect. See **Committing License-Type Changes**.

---

### Resetting Recommendations

You can undo any processing action that was not committed to the SAP database.

When you reset a license-type recommendation, you change a license recommendation to the status that is currently saved in the database.

---

**To reset a license-type recommendation:**

1. Run a Process Recommendations Offline report, and select the license-type recommendation that you want to reset.

2. Click **Reset**.

The recommendation is reset to the status that is currently saved in the SAP database.
Example

You run a report, and the license recommendation for user JSmith has the status Pending. You accept the recommendation and its status changes to Accepted. By clicking Reset, the status in the report is returned to its previous status, which is Pending.

You then decide to accept the recommendation and commit it to the database. A subsequent recommendation for user JSmith is processed later, which you reject, but you do not commit. If you click Reset at this point, the status is returned to the value that was saved to the database, which is Accepted.

Committing License-Type Changes

When you accept or overwrite license recommendations, the license type and the recommendation status in the FlexNet Manager for SAP Applications report is changed accordingly. To make these changes permanent, you need to commit this data to the user primary records in the SAP database.

To commit license type changes to the user primary records in SAP:

1. Run a Process Recommendations Offline report, and process the license-type recommendations.
2. Select the user or users whose primary records should be updated. You have the following options:
   - Click Select to select all users that have been processed.
   - Manually select individual users (press the Ctrl key to select multiple users).
3. Click Commit.

The user primary data in the SAP database changes accordingly.
User Exits in the SAP Admin Module

With FlexNet Manager for SAP Applications, you can add functionality via user exits. This enables you to provide your own data-check conditions, connect an LDAP system, or integrate packages. For information on user exits, refer to the SAP documentation.

User Exits: Data Check

The user exit for the data check enables you to maintain your own conditions for the validation of the user primary data. If you select an ID of the user exit or create a new one, a list containing the fields of the user primary data is displayed in which you can enter your own conditions for deactivating the users. Conditions are added using function modules.

For more information on the user data check, see User Data Validation Report.

Creating a User Exit ID for the User Data Check

To create a user exit ID for the user data check:

1. In the Main menu of the SAP Admin module, click Administration, then select User Exits User Data Check from the menu.
2. Click Create. In the Description dialog, enter a description. Click Continue.
3. Assign the user exit to a system, a system group, or to the system landscape and click Continue.
4. Select the row that you want to modify. You have the following options:
   - Change an existing function module: Click Change and enter a function module and a description.
   - Insert a new function module: Click Insert and enter a function module and a description.
   - Delete a function module: Click Delete.
5. Click Assignment to assign the user exit to a different system or to add an assignment.
6. When you have finished, click Save.
Modifying a User Exit ID for the User Data Check

To modify a user exit ID for the user data check:

1. In the Main menu of the SAP Admin module, click Administration, then select User Exits User Data Check from the menu.
2. Select the user exit that you want to modify and click Change/Display.
3. Select the row that you want to modify. You have the following options:
   - Change an existing function module: Click Change and enter a function module and a description.
   - Insert a new function module: Click Insert and enter a function module and a description.
   - Delete a function module: Click Delete.
4. Click Assignment to assign the user exit to a different system or to add an assignment.
5. Click Save.

Copying a User Exit ID for the User Data Check

To copy a user exit ID for the user data check:

1. In the Main menu of the SAP Admin module, click Administration, then select User Exits User Data Check from the menu.
2. Select the user exit that you want to copy and click Copy.
3. In the Description dialog, enter a description. Click Continue.
4. Assign the user exit to a system, a system group, or to the system landscape and click Continue.
5. Click Save.

Changing the Description of a User Exit ID for the User Data Check

To change the description of a user exit ID for the user data check:

1. In the Main menu of the SAP Admin module, click Administration, then select User Exits User Data Check from the menu.
2. Select the user exit whose description you want to change and click Description.
3. Change the description and click Continue.
Deleting a User Exit ID for the User Data Check

To delete a user exit ID for the user data check:

1. In the Main menu of the SAP Admin module, click Administration, then select User Exits User Data Check from the menu.
2. Select the user exit that you want to delete and click Delete.

User Exits for LDAP Connections

The LDAP field in the user data can be populated via a user exit.

FlexNet Manager for SAP Applications includes the function module /LICMAN/MS_LDAP which allows the connection to an LDAP system. If at this point you want to integrate a custom function module, you need to ensure that the interface of the function module /LICMAN/ MS_LDAP is used and that the ldap_value field in the t_user return table is populated.

In addition, you can enter the LDAP server and an RFC destination for a system in which the LDAP connection was set up via the transaction LDAP (see SAP documentation).

Creating a User Exit ID for an LDAP Connection

To create user exit IDs for an LDAP connection:

1. Ensure that you have established a connection between the SAP system and the LDAP server (using the transaction LDAP).
2. In SAP, create a custom function module based on the template /LICMAN/MS_LDAP.
3. In the Main menu of the SAP Admin module, click Administration, then select User Exits LDAP Connection from the menu.
4. Click Insert to add a new LDAP connection. In the Details dialog, define the LDAP server for the connection that you established in step 1. Provide the following information:

<table>
<thead>
<tr>
<th>System Assignment</th>
<th>The system destination. The user exit will be executed only for the system that is assigned to this destination.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Function Module</td>
<td>The name of the function module that you created based on the template /LICMAN/MS_LDAP in step 3.</td>
</tr>
<tr>
<td>Description</td>
<td>The description of the user exit that you are creating.</td>
</tr>
<tr>
<td>Destination</td>
<td>The RFC destination to the function module that you created in step 3.</td>
</tr>
<tr>
<td>LDAP Server</td>
<td>The ID of the LDAP connection.</td>
</tr>
</tbody>
</table>

5. Click Continue.
User Exits for Packages

The user exit for packages integrates customer-specific counting routines in FlexNet Manager for SAP Applications. The function module /LICMAN/MS_ENGINE_CUSTTEMPLATE should be used as a template.

Here, the interface to custom modules needs to be adopted without any modifications.

In addition, the module must be implemented on the system on which objects are to be counted. From there it will be called through the RFC destination that is maintained in the Customizing section (see Dialog RFC Destinations in the SAP Admin Module).

In the function module, ensure that data is output for the following fields: **Unit**, **Unitname**, and **Counter**.

Creating a User Exit for Packages

To create a user exit ID for packages:

1. In the Main menu of the SAP Admin module, click **Administration**, then select **User Exits Packages** from the menu.
2. Click **Insert** to add a new user exit.
3. Provide the following information:
   - **System Assignment**: The system on which the user exit should be implemented.
   - **Function Module**: The customer-specific function module (that is based on the template /LICMAN/MS_ENGINE_CUSTTEMPLATE).
   - **Description**: A meaningful description of the user exit.
4. Click **Continue**.

Modifying a User Exit for Packages

To modify a user exit for packages:

1. In the Main menu of the SAP Admin module, click **Administration**, then select **User Exits Packages** from the menu.
2. Select a row in the list and click **Change**.
3. You can change the description of the user exit.
19

Properties and Methods

FlexNet Manager for SAP Applications provides an editable set of rules that let you control how it calculates an optimal SAP license position for your enterprise.

Properties for Custom License Assignment, Duplicate User, and User Consolidation Rules

Use these properties to define Custom rules, Duplicate User rules, and the User Consolidation.

<table>
<thead>
<tr>
<th>Property</th>
<th>Type</th>
<th>Example Value</th>
<th>Example Condition</th>
</tr>
</thead>
<tbody>
<tr>
<td>UserName</td>
<td>FirstName</td>
<td>LastName</td>
<td>EmailAddress</td>
</tr>
<tr>
<td>SystemID</td>
<td>string</td>
<td>&quot;ABC-001&quot;</td>
<td>SystemID.ToUpper().StartsWith(&quot;ABC&quot;)</td>
</tr>
<tr>
<td>ClientID</td>
<td>string</td>
<td>&quot;001&quot;</td>
<td>ClientID = &quot;001&quot;</td>
</tr>
<tr>
<td>CurrentLicenseType</td>
<td>string</td>
<td>&quot;52&quot;</td>
<td>CurrentLicenseType = &quot;52&quot; OR CurrentLicenseType = &quot;53&quot;</td>
</tr>
<tr>
<td>AccountID</td>
<td>string</td>
<td>&quot;1234567890&quot;</td>
<td>AccountID = &quot;1234567890&quot;</td>
</tr>
<tr>
<td>TelephoneNumber</td>
<td>string</td>
<td>&quot;+441234567890&quot;</td>
<td>TelephoneNumber = &quot;+441234567890&quot;</td>
</tr>
<tr>
<td>TelephoneExtension</td>
<td>string</td>
<td>&quot;890&quot;</td>
<td>TelephoneExtension = &quot;890&quot;</td>
</tr>
<tr>
<td>IsDeveloper</td>
<td>bool</td>
<td>true</td>
<td>IsDeveloper = true</td>
</tr>
<tr>
<td>Property</td>
<td>Type</td>
<td>Example Value</td>
<td>Example Condition</td>
</tr>
<tr>
<td>----------------------</td>
<td>---------</td>
<td>---------------</td>
<td>-----------------------------------------------------------------------------------</td>
</tr>
</tbody>
</table>
| UserLockStatus       | int     | 96            | (UserLockStatus & 32) > 0  
Possible values:  
• 0: Not locked  
• 32: Locked by CUA administrator  
• 64: Locked by administrator  
• 128: Locked after failed logon |
| DaysSinceLastLogon   | int?    | NULL 365      | DaysSinceLastLogon != null AND  
DaysSinceLastLogon > 365  
The value is relative to the inventory date. |
| LastLogonDate        | DateTime? | NULL "20190628" | LastLogonDate != null AND  
LastLogonDate.Value.Date == DateTime.Parse("06/28/2019") |
| LastLogonDateLocal   | DateTime? | NULL "20190628" | LastLogonDateLocal != null AND  
LastLogonDateLocal.Date == DateTime.Parse("06/28/2019") |
| UserCreationDate     | DateTime? | NULL "20190628" | UserCreationDate != null AND  
UserCreationDate.Value.Date == DateTime.Parse("06/28/2019") |
| UserCreationDateLocal| DateTime? | NULL "20190628" | UserCreationDateLocal != null AND  
UserCreationDateLocal.Date == DateTime.Parse("06/28/2019") |
| InventoryDate        | DateTime? | NULL "20190628" | InventoryDate != null AND  
InventoryDate.Value.Date == DateTime.Parse("06/28/2019") |
| InventoryDateLocal   | DateTime? | NULL "20190628" | InventoryDateLocal != null AND  
InventoryDateLocal.Date == DateTime.Parse("06/28/2019") |
| UserGroup            | string  | "QA"          | UserGroup = "QA" |

Properties and Methods

304
IT Asset Management 2023 R1.2 FlexNet Manager for SAP Applications User Guide
<table>
<thead>
<tr>
<th>Property</th>
<th>Type</th>
<th>Example Value</th>
<th>Example Condition</th>
</tr>
</thead>
<tbody>
<tr>
<td>UserType</td>
<td>string</td>
<td>&quot;A&quot;</td>
<td>UserType = &quot;A&quot; OR UserType = &quot;B&quot;</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Possible values:</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>• A: Dialog</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>• B: System</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>• C: Communication Data</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>• D: BDC</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>• L: Reference</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>• S: Service</td>
</tr>
<tr>
<td>IsProductionUser</td>
<td>bool</td>
<td>true</td>
<td>IsProductionUser</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>IsProductionUser = true</td>
</tr>
<tr>
<td>SystemDefaultLicenseType</td>
<td>string</td>
<td>&quot;91&quot;</td>
<td>SystemDefaultLicenseType = &quot;91&quot;</td>
</tr>
<tr>
<td>TotalCPUTime</td>
<td>double</td>
<td>1.500</td>
<td>TotalCPUTime &gt; 10</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>CPU time is stated in seconds.</td>
</tr>
<tr>
<td>IsUserLocked</td>
<td>bool</td>
<td>false</td>
<td>NOT IsUserLocked</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>IsUserLocked = false</td>
</tr>
<tr>
<td>TotalAccessCount</td>
<td>double</td>
<td>10</td>
<td>TotalAccessCount &gt; 10</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Retrieves the total object access count for a user.</td>
</tr>
<tr>
<td>SystemSuiteType</td>
<td>string</td>
<td>ClassicBusinessSuite</td>
<td>SystemSuiteType = &quot;S4Hana&quot;</td>
</tr>
<tr>
<td></td>
<td></td>
<td>S4HANA</td>
<td>SystemSuiteType.ToLower() = &quot;s4hana&quot;</td>
</tr>
<tr>
<td></td>
<td></td>
<td>&quot;&quot;</td>
<td>SystemSuiteType = &quot;&quot;</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>(for a non-SAP system)</td>
</tr>
</tbody>
</table>

### Custom Rule Methods

Use these methods to define custom rules.

<table>
<thead>
<tr>
<th>Method</th>
<th>Type</th>
<th>Example Condition</th>
</tr>
</thead>
<tbody>
<tr>
<td>HasMatch(string originalString, params string[] matches)</td>
<td>bool</td>
<td>HasMatch(UserName,&quot;plewis&quot;)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>HasMatch(UserName, &quot;plewis&quot;, &quot;mshepherd&quot;, &quot;rwilliams&quot;)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>HasMatch(EmailAddress, &quot;*@company.com&quot;)</td>
</tr>
<tr>
<td>HasUserNameMatch(params string[] matches)</td>
<td>bool</td>
<td>HasUserNameMatch(&quot;plewis&quot;, &quot;mshepherd&quot;, &quot;rwilliams&quot;)</td>
</tr>
<tr>
<td>HasEmailAddressMatch(params string[] matches)</td>
<td>bool</td>
<td>HasEmailAddressMatch(&quot;*@company.com&quot;)</td>
</tr>
<tr>
<td>Method</td>
<td>Type</td>
<td>Example Condition</td>
</tr>
<tr>
<td>--------------------------------</td>
<td>-------</td>
<td>----------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>HasOnlyRolesWithin(bool usedRolesOnly, params string[] matches)</td>
<td>bool</td>
<td>HasOnlyRolesWithin(false, &quot;Dev*&quot;, &quot;Manager&quot;)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Valid values for usedRolesOnly:</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• true — Only user's roles that have consumption are returned.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• false — All roles assigned to a user are returned (regardless of consumption of a role).</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Example Scenario:</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• User1 roles: Dev1, Manager, Tester</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• User2 roles: Dev2, Manager</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• User3 roles: Dev3</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Any set of roles that contain only elements within the (Dev*, Manager) superset is considered valid. In this example, the following roles are considered within the (Dev*, Manager) superset:</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• User2 roles: Dev2, Manager</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• User3 roles: Dev3</td>
</tr>
<tr>
<td></td>
<td></td>
<td>User1 (Dev1, Manager, Tester) does not contain only roles within the (Dev*, Manager) superset because the Tester role is not included in the superset.</td>
</tr>
<tr>
<td></td>
<td></td>
<td><strong>Note:</strong> HasOnlyRolesWithin supports composite roles.</td>
</tr>
<tr>
<td>HasRoleMatch(bool usedRolesOnly, params string[] matches)</td>
<td>bool</td>
<td>HasRoleMatch(true, &quot;MyRole1&quot;)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Valid values for usedRolesOnly:</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• true — Only user's roles that have consumption are returned.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• false — All roles assigned to a user are returned (regardless of consumption of a role).</td>
</tr>
<tr>
<td>HasUserGroupMatch(params string[] matches)</td>
<td>bool</td>
<td>HasEmailAddressMatch(&quot;*@company.com&quot;)</td>
</tr>
<tr>
<td>HasUserTypeMatch(params string[] matches)</td>
<td>bool</td>
<td>HasEmailAddressMatch(&quot;*@company.com&quot;)</td>
</tr>
<tr>
<td>HasCurrentLicenseTypeMatch(params string[] matches)</td>
<td>bool</td>
<td>HasEmailAddressMatch(&quot;*@company.com&quot;)</td>
</tr>
<tr>
<td>GetTransactionProfilePercentage(string profileName)</td>
<td>double</td>
<td>GetTransactionProfilePercentage(&quot;ProfessionalProfile&quot;) &gt; 0.9</td>
</tr>
</tbody>
</table>
## Properties and Methods

<table>
<thead>
<tr>
<th>Method</th>
<th>Type</th>
<th>Example Condition</th>
</tr>
</thead>
<tbody>
<tr>
<td>HasTransactionProfileLimitMatch(string mandatoryTransactionProfileName, string allowedTransactionProfileName, string prohibitedTransactionProfileName)</td>
<td>bool</td>
<td>HasTransactionProfileLimitMatch(&quot;MandatoryProfile&quot;, &quot;AllowedProfile&quot;, &quot;ProhibitedProfile&quot;)</td>
</tr>
<tr>
<td>GetTransactionProfileNumberObjectsUsed(string sapTransactionProfileName)</td>
<td>integer</td>
<td>GetTransactionProfileNumberObjectsUsed(&quot;ProfessionalProfile&quot;) &gt; 50</td>
</tr>
<tr>
<td>GetTransactionProfileNumberTransactionsUsed(string sapTransactionProfileName)</td>
<td>integer</td>
<td>GetTransactionProfileNumberTransactionsUsed(&quot;ProfessionalProfile&quot;) &gt; 30</td>
</tr>
<tr>
<td>GetTransactionProfileNumberReportsUsed(string sapTransactionProfileName)</td>
<td>integer</td>
<td>GetTransactionProfileNumberReportsUsed(&quot;ProfessionalProfile&quot;) &gt; 15</td>
</tr>
<tr>
<td>GetTransactionProfileNumberJobsUsed(string sapTransactionProfileName)</td>
<td>integer</td>
<td>GetTransactionProfileNumberJobsUsed(&quot;ProfessionalProfile&quot;) &gt; 5</td>
</tr>
<tr>
<td>HasTransactionProfileMaxObjectTypesMatch(string sapTransactionProfileName, int maxTransaction, int maxReport, int maxJob)</td>
<td>bool</td>
<td>HasTransactionProfileMaxObjectTypesMatch(&quot;ProfessionalProfile&quot;, 30, 15, 5)</td>
</tr>
<tr>
<td>TotalConsumptionInRange(string p_ConsumptionType, double p_fromCPUTime, double p_toCPUTime, double p_fromAccessCount, double p_toAccessCount)</td>
<td>bool</td>
<td>TotalConsumptionInRange(&quot;CPUTime&quot;, 0, 100, 0, 0)</td>
</tr>
</tbody>
</table>

Options for p_ConsumptionType:
- CPUTime
- AccessCount

<table>
<thead>
<tr>
<th>Method</th>
<th>Type</th>
<th>Example Condition</th>
</tr>
</thead>
<tbody>
<tr>
<td>GetRoles(bool usedRolesOnly)</td>
<td>string[]</td>
<td>GetRoles(false)</td>
</tr>
</tbody>
</table>

Parameters for usedRolesOnly:
- true — Only user's roles that have consumption are returned.
- false — All roles assigned to a user are returned (regardless of consumption of a role).

<table>
<thead>
<tr>
<th>Method</th>
<th>Type</th>
<th>Example Condition</th>
</tr>
</thead>
<tbody>
<tr>
<td>GetRoles(bool usedRolesOnly, bool withoutCompositeRole = false)</td>
<td>string[]</td>
<td>GetRoles(false)</td>
</tr>
</tbody>
</table>

Parameters for usedRolesOnly:
- true — Only user's roles that have consumption are returned.
- false — All roles assigned to a user are returned (regardless of consumption of a role).

<table>
<thead>
<tr>
<th>Method</th>
<th>Type</th>
<th>Example Condition</th>
</tr>
</thead>
<tbody>
<tr>
<td>IsLowConsumption(string p_ConsumptionType, double p_maxCPU, double p_maxAccessCount)</td>
<td>bool</td>
<td>IsLowConsumption(&quot;CPUTime&quot;, 1000, 0)</td>
</tr>
</tbody>
</table>

Options for p_ConsumptionType:
- CPUTime
- AccessCount
### Package Rule Properties and Methods

The following properties and methods enable you to define custom package formulas. All properties and methods are case sensitive. If a number is the result of the formula, then this number is the consumption value. If a string is returned, then there is no consumption value available and a message is returned instead. If a result `Consumption(...)` is returned, then both a consumption value and a message are returned.

#### Properties for custom package formulas

<table>
<thead>
<tr>
<th>Property</th>
<th>Type</th>
<th>Example Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>SystemID</td>
<td>string</td>
<td>&quot;T7A-001&quot;</td>
</tr>
<tr>
<td>ClientID</td>
<td>string</td>
<td>&quot;001&quot;</td>
</tr>
</tbody>
</table>

#### Methods for custom package formulas

<table>
<thead>
<tr>
<th>Method</th>
<th>Type</th>
<th>Example Condition</th>
<th>Note</th>
</tr>
</thead>
<tbody>
<tr>
<td>HasMetric(int metricID)</td>
<td>bool</td>
<td>HasMetric(1000)</td>
<td>Determines whether a specific metric has a value from any measurement</td>
</tr>
<tr>
<td>HasMetric(int metricID, int numMonths)</td>
<td>bool</td>
<td>HasMetric(1000, 12)</td>
<td>Determines whether a specific metric has a value that is relevant within the specified period of time</td>
</tr>
</tbody>
</table>
| HasMetric(int metricID, int numMonths, string periodType) | bool  | HasMetric(1100, 12, "C")  | Determines whether a specific metric has a value that is relevant within the specified period of time and where the period of the value has the specified type. Allowed period values:  
  - Y: The metric is for the last 12 months (relative to the date of measurement).  
  - C: The metric is for the last full calendar year.  
  - T: The metric is for the current calendar year (year to date).  
  - M: The metric is measured monthly and each measurement returns 12 values.  
  - Q: The metric is measured quarterly and each measurement returns 4 values.  
  - 6: The metric is measured half yearly and each measurement returns 2 values.  
  - U: No period is specified, meaning that the metric holds the "current value". |
<table>
<thead>
<tr>
<th>Method</th>
<th>Type</th>
<th>Example Condition</th>
<th>Note</th>
</tr>
</thead>
<tbody>
<tr>
<td>Metric(int metricID)</td>
<td>integer</td>
<td>Metric(1000)</td>
<td>Returns the value of the specified metric. Where a single measurement returns multiple values (distinct periods) for a single metric on a single SAP system, the value is the sum of all values. When used in a global context (within the TotalConsumption method), the value is the sum of all values across all SAP systems.</td>
</tr>
<tr>
<td>Metric(int metricID, int numMonths)</td>
<td>integer</td>
<td>Metric(1000, 12)</td>
<td>Returns the value of the specified metric for the specified period of time. Where a single measurement returns multiple values (distinct periods) for a single metric on a single SAP system, the value is the sum of all values. When used in a global context (within the TotalConsumption method), the value is the sum of all values across all SAP systems.</td>
</tr>
<tr>
<td>Method</td>
<td>Type</td>
<td>Example Condition</td>
<td>Note</td>
</tr>
<tr>
<td>---------------------------------------------</td>
<td>------------</td>
<td>-------------------</td>
<td>---------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
</tbody>
</table>
| Metric(int metricID, int numMonths, string periodType) | integer    | Metric(1000, 12, "C") | Returns the value of the specified metric for the specified period of time and where the period of the value has the specified type. Where a single measurement returns multiple values (distinct periods) for a single metric on a single SAP system, the value is the sum of all values. When used in a global context (within the TotalConsumption method), the value is the sum of all values across all SAP systems. Allowed period values:  
  - Y: The metric is for the last 12 months (relative to the date of measurement).  
  - C: The metric is for the last full calendar year.  
  - T: The metric is for the current calendar year (year to date).  
  - M: The metric is measured monthly and each measurement returns 12 values.  
  - Q: The metric is measured quarterly and each measurement returns 4 values.  
  - 6: The metric is measured half yearly and each measurement returns 2 values.  
  - U: No period is specified, meaning that the metric holds the "current value". |
<p>| Metric(int metricID)                        | IEnumerable&lt;int&gt; | Metrics(1000) | Returns a collection of all distinct values for the specified metric. Where a single measurement returns multiple values (distinct periods) for a single metric on a single SAP system, multiple values are returned. When used in a global context (within the TotalConsumption method), values for all distinct periods but summed up across all SAP systems are returned. |</p>
<table>
<thead>
<tr>
<th>Method</th>
<th>Type</th>
<th>Example Condition</th>
<th>Note</th>
</tr>
</thead>
<tbody>
<tr>
<td>Metrics(int metricID, int numMonths)</td>
<td>IEnumerable&lt;int&gt;</td>
<td>Metrics(1000, 12)</td>
<td>Returns a collection of all distinct values for the specified metric for the specified period of time. Where a single measurement returns multiple values (distinct periods) for a single metric on a single SAP system, multiple values are returned. When used in a global context (within the TotalConsumption method), values for all distinct periods but summed up across all SAP systems are returned.</td>
</tr>
</tbody>
</table>
| Metrics(int metricID, int numMonths, string periodType) | IEnumerable<int> | Metrics(1000, 12, "C") | Returns a collection of all distinct values for the specified metric for the specified period of time and where the period of the value has the specified type. Where a single measurement returns multiple values (distinct periods) for a single metric on a single SAP system, multiple values are returned. When used in a global context (within the TotalConsumption method), values for all distinct periods but summed up across all SAP systems are returned. Allowed period values:  
  • Y: The metric is for the last 12 months (relative to the date of measurement).  
  • C: The metric is for the last full calendar year.  
  • T: The metric is for the current calendar year (year to date).  
  • M: The metric is measured monthly and each measurement returns 12 values.  
  • Q: The metric is measured quarterly and each measurement returns 4 values.  
  • 6: The metric is measured half yearly and each measurement returns 2 values.  
  • U: No period is specified, meaning that the metric holds the "current value". |
<p>| Active(bool condition) | string | Active(Metric(1000) &gt; 0) | Returns &quot;Active&quot; if the specified condition is evaluated as true, otherwise returns &quot;Inactive&quot;. |
| If(bool condition, int trueResult, int falseResult) | integer | If(Metric(1000) &gt; 0, Metric(1000), 0) | If executes a different formula depending on whether the specified condition is true. |</p>
<table>
<thead>
<tr>
<th>Method</th>
<th>Type</th>
<th>Example Condition</th>
<th>Note</th>
</tr>
</thead>
<tbody>
<tr>
<td><code>If(bool condition, string trueResult, string falseResult)</code></td>
<td>string</td>
<td><code>If(Metric(1000) &gt; 0, &quot;Active&quot;, &quot;Inactive&quot;)</code></td>
<td>This example is equivalent to &quot;Active(Metric(1000) &gt; 0)&quot;</td>
</tr>
<tr>
<td><code>If(bool condition, object trueResult, object falseResult)</code></td>
<td>object</td>
<td><code>If(Metric(1000) &gt; 0, Metric(1000), &quot;Inactive&quot;)</code></td>
<td><code>If</code> executes a different formula depending on whether the specified condition is true.</td>
</tr>
<tr>
<td><code>TotalConsumption(object totalConsumed)</code></td>
<td>n/a</td>
<td><code>TotalConsumption(Metric(1000))</code>&lt;br&gt; <code>TotalConsumption(Active(Metric(1000) &gt; 0))</code></td>
<td>Runs the formula once for the entire organization, rather than once per system.</td>
</tr>
<tr>
<td><code>TotalConsumption(object totalConsumed, object systemConsumed)</code></td>
<td>n/a</td>
<td><code>TotalConsumption(Metric(1000), Metric(1000))</code></td>
<td>Runs the first formula once for the entire organization, and the second formula once per system.</td>
</tr>
</tbody>
</table>
This appendix describes the scheduled tasks associated with FlexNet Manager for SAP Applications, as well as the command-line ndcrproc.exe.

Throughout this section, the placeholder Prog-Drive: is used for the disk drive where your executables are installed (typically C.).

### Common Task Utility

The tool ndcrproc.exe is a command-line tool that is used in IT Asset Management to execute all scheduled tasks. It enables you to closely manage child tasks, including:

- Suppressing appearance of any window in the user interface
- Preventing simultaneous execution of multiple instances.

To schedule execution of

```
c:\path\sample.exe -d
```

without displaying an interactive user interface window, enter the following command line into the Windows Task Scheduler:

```
ndcrproc.exe -e c:\path\sample.exe -l c:\path\sample.exe -o CREATE_NO_WINDOW=True -- -d
```

There are further examples of the use of this tool in the default command lines for the scheduled tasks in the following sections.

### Parameters for ndcrproc.exe

You can use the following parameters for the command-line tool ndcrproc.exe.
### Table 17: Parameters for ndcrproc.exe

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>-c &quot;string&quot;</td>
<td>A string enclosed in double quotation marks, combining multiple command-line arguments that are passed to the child process. Example: <code>-c &quot;-d c:\temp -o &quot;c:\w\myoutfile.txt&quot;&quot;</code></td>
</tr>
<tr>
<td>-C filename</td>
<td>Pointer to a file containing multiple command-line arguments, separated by newline characters, that are passed to the child process. The semi-colon character (;) indicates a comment within the file, and the remainder of that line is ignored.</td>
</tr>
<tr>
<td>-e name</td>
<td>Specifies the name of the executable that should be run in this scheduled task.</td>
</tr>
<tr>
<td>-l filepath</td>
<td>Specifies a random name of a semaphore to hold, so that any other task with the same semaphore name cannot be run at the same time. While the semaphore can be any ASCII string value, the convention is to pass the file path and the name of the executable that is running. This makes it easy for a human operator to check that another instance of the same executable will not run at the same time.</td>
</tr>
<tr>
<td>-o option</td>
<td>An optional parameter passed to ndcrproc.exe in the form of a name/value pair (separated with an equal sign). Boolean values may be entered as TRUE or FALSE, T or F, or Y or N. To specify multiple options, precede each one with the -o flag. Unrecognized options are silently ignored. The most common option to specify is: <code>-o CREATE_NO_WINDOW=True</code> This option suppresses the appearance of any interactive window for the child process.</td>
</tr>
</tbody>
</table>

**Note:** When UI windows are suppressed, it is not possible to see any results that the child process may otherwise display. The child process returns success or failure to ndcrproc.exe, which passes that result upward to the task scheduler. If you need to examine detailed output even when the display window is suppressed, enable tracing on the child process.

## Import SAP Inventories

The information in this section is relevant only if your setup of IT Asset Management uses inventory beacons.

The **Import SAP inventories** scheduled task resolves the intermediate data packages that were uploaded from an inventory beacon into the IT Asset Management database. This information can then be used to calculate the optimized license position.

Customers who use an on-premises implementation of IT Asset Management can use the Windows Scheduled Tasks...
system tool to modify the timing of the scheduled task or to modify the command-line options used with the import tool (SAPReader.exe).

Run by: Microsoft Task Scheduler.

Default schedule: activated by default, and set to run daily at 22:00:00 (24-hour format).

Default command line:
"Installation-directory\DotNet\bin\SAPReader.exe" -b

Import SAP Package License

The information in this section is relevant only if you are using IT Asset Management in an on-premises installation.

The **Import SAP package license** scheduled task downloads SAP-related updates to the product use rights library (PURL) in IT Asset Management from the Flexera website.

You can use the Windows Scheduled Tasks system tool to modify the timing of the scheduled task or to modify the command-line options used with the import tool (ImportPurl.exe).

---

**Note:** If you want to manage SAP licenses only in SAP mode of IT Asset Management, it is recommended to activate the **Import SAP package license** task. If you want to use SAP mode and the IT Asset Management console to manage your SAP licenses or a wide range of licenses, it is recommended that you activate the **Recognition data import** task instead.

Run by: Microsoft Task Scheduler.

Default schedule: disabled by default, but set to run weekly at 6:00:00 (24-hour format) each Sunday if enabled. If you are happy for updates to occur weekly, enable this task. If you prefer to control when updates occur, leave it disabled and execute it manually at times convenient to you.

Default command line:
"Prog-Drive:\Program Files\ManageSoft\Common\ndcrproc.exe"
-e "Prog-Drive:\Program Files\ManageSoft\DotNet\bin\ImportPurl.exe"
-l "Prog-Drive:\Program Files\ManageSoft\DotNet\bin\ImportPurl.exe" -o CREATE_NO_WINDOW=True -- -l SAPPackages

Recognition Data Import

The **Recognition data import** scheduled task runs the application recognition and SKU library update tool. This tool downloads updates to the Application Recognition Library (ARL), Stock Keeping Unit library, and Product Use Rights Library (PURL) from the Flexera website into IT Asset Management.

You can use the Windows Scheduled Tasks system tool to modify the timing of the scheduled task or to modify the command-line options used with the update tool (MgsImportRecognition.exe). For more information, see the *Downloading the FlexNet Manager Suite Content libraries manually* article, located in the Flexera Community Knowledge Base.
Run by: Microsoft Task Scheduler.

Default schedule: Disabled by default, but set to run weekly at 1:00:00 (24-hour format) each Sunday if enabled. If you are happy for updates to occur weekly, enable this task. If you prefer to control when updates occur, leave it disabled and execute it manually at times convenient to you.

Default command line:

"Prog-Drive: \Program Files\ManageSoft\Common\ndcrproc.exe"
-e "Prog-Drive: \Program Files\ManageSoft\DotNet\bin\MgsImportRecognition.exe"
-l "Prog-Drive: \Program Files\ManageSoft\DotNet\bin\MgsImportRecognition.exe" -o
CREATE_NO_WINDOW=True

**Upload Third-Party Inventory Data**

The **Upload third-party inventory data** scheduled task executes the ComplianceUpload.exe tool to upload any intermediate data packages that are currently sitting in the IntermediateData folder on the inventory beacon.

When each adapter (inventory or business information) is run, the system attempts an immediate upload to the application server. Therefore this scheduled task should most often check and find an empty folder: it is designed as a catch-up to automatically retry any uploads that previously failed.

You can use the Windows Scheduled Tasks system tool to modify the timing of the scheduled task or to modify the command-line options used with the upload tool (ComplianceUpload.exe).

Run by: Microsoft Task Scheduler.

Default schedule: activated by default, and set to run daily at 12:00:00 (24-hour format), repeated every 10 minutes.

Default command line:

"Prog-Drive: \Program Files\ManageSoft\Common\ndcrproc.exe"
-e "Prog-Drive: \Program Files\ManageSoft\DotNet\bin\ComplianceUpload.exe"
-l "Prog-Drive: \Program Files\ManageSoft\DotNet\bin\ComplianceUpload.exe" -o
CREATE_NO_WINDOW=True
Special Characters
/LICMAN/BS_READ_TABLE 137
/LICMAN/START, transaction 117

A
Accepted
  processing status of duplicate-user recommendation 109
  processing status of license-type recommendation 107
  recommendation status for independent systems 292
  status in Process License Recommendations report 256
  status in Recommendations History report 262
  status of license-type recommendation 253
accepting
  license-type recommendations 257
  license-type recommendations in Check for License Type 11 report 158
  recommendations on independent systems 295
  released recommendation sets 113
access see
  indirect access
access levels
  for license rule sets 53
  for system landscapes 49
  for systems 51
access rights
  account-specific 48
  in SAP mode 48
  managing for license assignment rule sets 52
  managing for system landscapes 49
  managing for systems 50
accessing
  History page 114
  license position history 114
  SAP Overview page 99
  System Landscape Editor 29
  system task information 98
  Transaction Profile Editor 205
accounts
  access rights in SAP mode 48
  account-specific access rights in SAP mode 48
activating, license ratio 68
activity checks 163
  defining 164
  executing 164
  list of 164
  user accounts evidence 185
  viewing results 165
Activity Checks menu 117
Administration menu 117
Advanced Role Utilization 174
alerts
  for package usage, parameters 273
  for package usage, setting 272
ALV Count column 135
ALV grids, sorting 134
analyzing
  package consumption in SAP Admin module 269
  roles 173, 174
Application Recognition Library 242
 Archived, recommendation set status 114
 archiving the license position 114
ARL see
  Application Recognition Library
assigning
  license rule set to system 216, 217
  packages to systems 247
  rules to system 216, 217
B
basic authentication communication 75
beacon see
  inventory beacon
C
calculating, baseline 212
Central User Administration 125
  clearing CUA settings 127
  introduction 125
  specifying CUA central system 127
Change License Data button 130
Change User Data button 130
changing
  license data in FlexNet Manager for SAP Applications 132
  license data using transaction SU01 133
  user data using transaction SU01 131
Check for License Type 11 report
  accepting license-type recommendations 158
  creating 156
  introduction 156
  troubleshooting 158
collecting
  data from dependent SAP systems 138
  data from independent SAP systems 287
  data from independent systems using beacon 287
  evidence for indirect access 181
  user details and consumption data from SAP systems 47
columns
  changing in IT Asset Management grids 26
  layout of import files 209
committing
license-type changes 261
recommendations on independent systems 298
user data changes 267
communication
between beacon and SAP Admin module 74
using basic authentication 75
using SSL authentication 79
communication, between inventory beacon and SAP Admin module 73
comparison types in User Consolidation 201
Compliance Position graph 99
components of FlexNet Manager for SAP Applications 15
configuring
access rights in SAP mode 48
data collection from SAP systems 137
default license rules 220
inventory beacon 69
User Consolidation 202
Connection Monitor 85
connections 86
deleting on inventory beacon 91
executing on inventory beacon 92, 288
for inventory beacons 86
modifying on inventory beacon 90
to SAP systems on inventory beacon 87
consolidating 200
system measurement results 278
see also
User Consolidation
consolidation 200
see also
User Consolidation
consumption
examples for using spare licenses 62
handling of specific licenses 64
importing into non-SAP system 193
landscape-wide handling of spare licenses 63
of Named User licenses 105
of packages, previewing 249
of spare superior licenses 61
overview of SAP and non-SAP systems 198
reviewing in SAP Consumption Analysis Details dialog 169, 175, 179
viewing in Consumption Analysis report 170
viewing in License Position section 104
viewing in Module Usage report 180
viewing in Role Utilization report 176
Consumption Analysis report 166
creating 167
reading results 168
viewing consumption details 170
consumption data
collecting 47
identifying users with 155
contact 12
Contract Utilization Analysis report
Contract Utilization, evaluation type 285
creating 283
Licence Analysis (Variance), evaluation type 284
License Usage Contract Total, evaluation type 284
statistics 283
Contract Utilization, evaluation type 285
Cost Center tab, in License Distribution by Cost Center report 160
counting rows in reports in SAP Admin module 135
covering over-consumed licenses 61
CPU time 174
Create RFC Destination button 122
criteria
custom, in User Consolidation 201
general, in User Consolidation 201
CUA see
Central User Administration
CUA central system
definition 125
specifying 127
Current vs. Optimal graph 100
custom
license rule properties 303
Custom
license rule 232
custom package formulas, properties and methods 308
custom rule methods 305
customer reports
adding 163
deleting 163
introduction 162
modifying 163
cycle in license-type hierarchy 53
D
dashboard see
SAP Overview page
defining
activity checks 164
custom package formula 248
duplicate user rule 238
HR system for individual SAP systems 128
HR system for SAP system groups 128
HR system globally 127
HR system in SAP Admin module 127
Deleted Users, activity check 164
deleting
data in users list 195
Dialog RFC destinations in SAP Admin module 130
license contract information in SAP Admin module 137
license rule set 215
license rule set simulation 235
license types 59, 60
packages 248
primary data of packages 270
recommendation sets 116
SAP connections on inventory beacon 91
SAP system from IT Asset Management 44
SAP system group from IT Asset Management 47
system landscape in IT Asset Management 35
dependent SAP systems
adding 37
editing in IT Asset Management 43
Developer, license rule 221
Dialog RFC destinations
in SAP Admin module 129
removing in SAP Admin module 130
setting, manually 130
setting, using Wizard option 129
displaying
details of rule set 215
duplicate user recommendations 109
license assignment recommendations 106
license contract information in SAP Admin module 137
license-type hierarchy 55
package details 245
package measurement results 272
packages 270
packages in IT Asset Management 243
SAP Overview page 99
SAP system users in IT Asset Management 45
system landscape details 29
system task information 94
users of non-SAP system 191
documentation 11
downloading, templates 242
drilldown into license-type hierarchy 56
duplicate user recommendations
details 109
viewing 109
Duplicate User Recommendations report 264
changing recommendation status 266
committing user data changes 267
creating 264
introduction 264
modifying user data 266
reviewing 265
status values 265
Duplicate User Recommendations tab 109
Duplicate User rule 236
custom criteria 238
defining 238
duplicate rules, properties 303
editing
dependent SAP system in IT Asset Management 43
independent SAP system in IT Asset Management 42
license types 60
package information 247
SAP system group in IT Asset Management 47
system landscape in IT Asset Management 34
transaction profiles 212
Email Addresses, license rule 222
Engines see
packages
evidence
for indirect access 181, 182, 184
hiding and showing remote systems 183
hiding and showing user accounts 186
linking to non-SAP system 196
managing 188
multiple logons 187
remote system details 184
unlinking 198
user accounts details 186
viewing for remote systems 182
viewing for user accounts 185
work time 187
excluding users from license position 221
executing
activity checks 164
package measurement 271
SAP connections on inventory beacon 92, 288
system measurement 277
Expired Users, activity check 164
exporting
license-type recommendations for independent SAP systems 290
exporting, grids in IT Asset Management 26
Extras menu 117

F
features by release 11
Field Chooser 26
Filter Builder
options 24
using 23
filtering
advanced options 23
basic options 23
compared to search function 25
Filter Builder options 24
grids in IT Asset Management 23
system tasks 97
turning on and off 25
using the Filter Builder 23
FlexNet Beacon 69
formulas
custom, for packages 248
packages 242
function modules
LICMAN/MS_ENGINE_CUSTTEMPLATE 302
LICMAN/MS_LDAP 301
Future Users, activity check 164

G
graphs
changing period 101
Compliance Position 99
Current vs. Optimal 100
License Ratios 100
License Utilization 100
Named User Licenses 99

grids
advanced filtering 23
changing columns in IT Asset Management 26
exporting in IT Asset Management 26
introduction 22
restoring after search 26
searching 25
searching in IT Asset Management 25
simple filtering in IT Asset Management 23

H
Handling over-consumption of license types, option 29,63
Handling over-consumption of this license type, option 64
help 11
hiding
remote system evidence 183
user accounts evidence 186
hierarchy see
license-type hierarchy
history
license rule set simulation 236
license rule set simulation details 235
of license-type recommendations 261
History page see
license position history
HR system
defining for individual SAP systems 128
defining for SAP system groups 128
defining globally 127
defining in SAP Admin module 127
removing 128

I
identifying
duplicate users in IT Asset Management 236
inactive users 155
objects in transaction profiles 210
users with consumption data 155
users with multiple logons 155
users without logon 155
IdM
User Maintenance button functionality 131
Ignored
recommendation status for independent systems 292
status in Process License Recommendations report 256
status in Recommendations History report 262
status of license-type recommendation 253
ignoring license-type recommendations 260
Import SAP inventories, scheduled task 314
Import SAP package license, scheduled task 242,315
importing
column layout for files 209
data into non-SAP system 191
data into users list 192
objects into transaction profile 208
recommendations for independent SAP systems 290
recommendations into SAP Admin module 252
source data of packages 269
system landscape from IT Asset Management 121
inactive users, identifying 155
independent SAP systems
adding 39
data collection from 287
data collection using beacon 287
editing in IT Asset Management 42
exporting license-type recommendations for 290
importing license-type recommendations 290
<table>
<thead>
<tr>
<th>Keyword</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>measuring packages</td>
<td>288</td>
</tr>
<tr>
<td>independent systems</td>
<td></td>
</tr>
<tr>
<td>optimization</td>
<td>286</td>
</tr>
<tr>
<td>indirect access</td>
<td>180</td>
</tr>
<tr>
<td>collecting evidence</td>
<td>181</td>
</tr>
<tr>
<td>creating a non-SAP system</td>
<td>191</td>
</tr>
<tr>
<td>hiding and showing remote system evidence</td>
<td>183</td>
</tr>
<tr>
<td>hiding and showing user accounts evidence</td>
<td>186</td>
</tr>
<tr>
<td>license consumption overview</td>
<td>198</td>
</tr>
<tr>
<td>linking evidence</td>
<td>196</td>
</tr>
<tr>
<td>linking evidence to existing system via Indirect Access page</td>
<td>196</td>
</tr>
<tr>
<td>linking evidence to new system via Indirect Access page</td>
<td>196</td>
</tr>
<tr>
<td>linking remote-system evidence using Details page</td>
<td>197</td>
</tr>
<tr>
<td>linking user-account evidence using Details page</td>
<td>197</td>
</tr>
<tr>
<td>managing evidence</td>
<td>188</td>
</tr>
<tr>
<td>remote system evidence</td>
<td>182</td>
</tr>
<tr>
<td>report 198</td>
<td></td>
</tr>
<tr>
<td>types 180</td>
<td></td>
</tr>
<tr>
<td>unlinking evidence</td>
<td>198</td>
</tr>
<tr>
<td>user accounts evidence</td>
<td>184</td>
</tr>
<tr>
<td>using pre-defined non-SAP system</td>
<td>188</td>
</tr>
<tr>
<td>viewing evidence for remote systems</td>
<td>182</td>
</tr>
<tr>
<td>viewing evidence for user accounts</td>
<td>185</td>
</tr>
<tr>
<td>viewing non-SAP system details</td>
<td>189</td>
</tr>
<tr>
<td>viewing remote system evidence</td>
<td>184</td>
</tr>
<tr>
<td>viewing user accounts evidence</td>
<td>186</td>
</tr>
<tr>
<td>workflow 181</td>
<td></td>
</tr>
<tr>
<td>Indirect Access Evidence report</td>
<td>199</td>
</tr>
<tr>
<td>creating</td>
<td></td>
</tr>
<tr>
<td>introduction 198</td>
<td></td>
</tr>
<tr>
<td>reading 199</td>
<td></td>
</tr>
<tr>
<td>Indirect Access page, accessing</td>
<td>184</td>
</tr>
<tr>
<td>initializing</td>
<td></td>
</tr>
<tr>
<td>license data fields</td>
<td>134</td>
</tr>
<tr>
<td>user data fields</td>
<td>132</td>
</tr>
<tr>
<td>installing, inventory beacon</td>
<td>69</td>
</tr>
<tr>
<td>inventory beacon</td>
<td>69</td>
</tr>
<tr>
<td>collecting data from independent system</td>
<td>287</td>
</tr>
<tr>
<td>communication with SAP Admin module</td>
<td>73</td>
</tr>
<tr>
<td>configuring</td>
<td>69</td>
</tr>
<tr>
<td>creating SAP connections</td>
<td>87</td>
</tr>
<tr>
<td>deleting SAP connections</td>
<td>91</td>
</tr>
<tr>
<td>executing SAP connections</td>
<td>92, 288</td>
</tr>
<tr>
<td>installing 69</td>
<td></td>
</tr>
<tr>
<td>introduction 69</td>
<td></td>
</tr>
<tr>
<td>managing connections</td>
<td>86</td>
</tr>
<tr>
<td>modifying SAP connections</td>
<td>90</td>
</tr>
<tr>
<td>workflow 69</td>
<td></td>
</tr>
<tr>
<td>IT Asset Management</td>
<td></td>
</tr>
<tr>
<td>initial setup</td>
<td>28</td>
</tr>
<tr>
<td>introduction 16</td>
<td></td>
</tr>
<tr>
<td>landscape</td>
<td></td>
</tr>
<tr>
<td>system landscape</td>
<td></td>
</tr>
<tr>
<td>Last Logon, license rule</td>
<td>222</td>
</tr>
<tr>
<td>LAW</td>
<td></td>
</tr>
<tr>
<td>invoking</td>
<td>278</td>
</tr>
<tr>
<td>loading results into FlexNet Manager for SAP Applications</td>
<td>279</td>
</tr>
<tr>
<td>LAW result lists</td>
<td>279</td>
</tr>
<tr>
<td>layout of import files</td>
<td>209</td>
</tr>
<tr>
<td>LDAP connections, user exit</td>
<td>301</td>
</tr>
<tr>
<td>Licence Analysis (Variance), evaluation type</td>
<td>284</td>
</tr>
<tr>
<td>License Analysis report</td>
<td></td>
</tr>
<tr>
<td>creating</td>
<td>282</td>
</tr>
<tr>
<td>data 283</td>
<td></td>
</tr>
<tr>
<td>statistics 282</td>
<td></td>
</tr>
<tr>
<td>license assignment recommendations</td>
<td></td>
</tr>
<tr>
<td>license-type recommendations</td>
<td></td>
</tr>
<tr>
<td>License Assignment Recommendations tab 106</td>
<td></td>
</tr>
<tr>
<td>license assignment rule sets</td>
<td></td>
</tr>
<tr>
<td>license rule sets</td>
<td></td>
</tr>
<tr>
<td>License Chargeback report</td>
<td></td>
</tr>
<tr>
<td>see</td>
<td></td>
</tr>
<tr>
<td>License Distribution by Cost Center report</td>
<td></td>
</tr>
<tr>
<td>license contract information</td>
<td>135</td>
</tr>
<tr>
<td>deleting in SAP Admin module</td>
<td>137</td>
</tr>
<tr>
<td>displaying in SAP Admin module</td>
<td>137</td>
</tr>
<tr>
<td>maintaining in SAP Admin module</td>
<td>135</td>
</tr>
<tr>
<td>modifying in SAP Admin module</td>
<td>137</td>
</tr>
<tr>
<td>specifying in SAP Admin module</td>
<td>136</td>
</tr>
<tr>
<td>license data</td>
<td></td>
</tr>
<tr>
<td>changing in FlexNet Manager for SAP Applications</td>
<td>132</td>
</tr>
<tr>
<td>changing using transaction SU01</td>
<td>133</td>
</tr>
<tr>
<td>initializing fields</td>
<td>134</td>
</tr>
<tr>
<td>modifying 134</td>
<td></td>
</tr>
<tr>
<td>License Distribution by Cost Center report</td>
<td>159</td>
</tr>
<tr>
<td>Cost Center tab 160</td>
<td></td>
</tr>
<tr>
<td>creating 159</td>
<td></td>
</tr>
<tr>
<td>introduction 159</td>
<td></td>
</tr>
<tr>
<td>License Type tab 162</td>
<td></td>
</tr>
<tr>
<td>reading 160</td>
<td></td>
</tr>
<tr>
<td>User tab 161</td>
<td></td>
</tr>
<tr>
<td>license hierarchy</td>
<td></td>
</tr>
<tr>
<td>see</td>
<td></td>
</tr>
<tr>
<td>license-type hierarchy</td>
<td></td>
</tr>
<tr>
<td>license position</td>
<td>114</td>
</tr>
</tbody>
</table>
additional license types 59
deleting license types 59, 60
details 55
drilling into 56
editing license types 60
introduction 53
loading information 54
unit price 60
viewing 55
license-type recommendations 107, 256
accepting in Check for License Type 11 report 158
accepting in SAP Admin module 257
committing changes in SAP Admin module 261
details 107
exporting for independent SAP systems 290
history in SAP Admin module 261
ignoring in SAP Admin module 260
importing for independent systems 290
overwriting in SAP Admin module 259
processing for independent systems 291
rejecting in SAP Admin module 258
resetting in SAP Admin module 260
reviewing in SAP Admin module 256
status 107
status in SAP Admin module 256
viewing 106
licenses, handling when in breach 61
licensing packages 241
LICMAN/MS_ENGINE_CUSTTEMPLATE, function module 302
LICMAN/MS_LDAP, function module 301
linking evidence
for remote systems via Details page 197
for user-accounts via Details page 197
to non-SAP system 196
via Indirect Access page to existing system 196
via Indirect Access page to new system 196
list view of system landscape 119
loading, license-type hierarchy 54
Locked User, license rule 224
log files
for SAP Inventory Agent 19
for staging database 146
for task type "SAP import" 94
for user primary data modifications 153
Logon after Expiration, activity check 164
Logon Evaluation report 152
creating 153
reading 155
logon, users without 155
Low Consumption, license rule 224
M
Main menu of the SAP Admin module 117
main navigation bar of IT Asset Management 21
Maintain RFC Assignments grid
adding RFC destination 122
modifying RFC destination 123
reference 124
specifying CUA central system 127
testing RFC destination 123
maintaining
license contract information in SAP Admin module 135
RFC destinations 120
Management Summary report
creating 280
data 281
statistics 280
managing
access rights for license assignment rule sets 52
access rights for system landscapes 49
access rights for systems 50
access rights in SAP mode 48
account-specific access rights in SAP mode 48
data in non-SAP system 191
evidence using non-SAP systems 188
inventory beacon connections 86
system landscape in IT Asset Management 33
measurement 271, 277
see also
package measurement
system measurement
Measurement/LAW menu 117
Measurement/LAW, menu 277, 278, 279
methods
for custom package formulas 308
for defining custom rules 305
metrics, for packages 242
Microsoft Internet Information Services (IIS) 73
modal navigation bar of IT Asset Management 21
modification logs for user data 134
Modify RFC Destination button 123
modifying
license contract information in SAP Admin module 137
license data in FlexNet Manager for SAP Applications 132
license data using transaction SU01 133
user data using transaction SU01 131
module hierarchy 176
Module Usage report 176
creating 176
reading results 177
viewing consumption details 180
monitoring system tasks 93
Multiple Logons
activity check 164
tab 187
multiple logons, identifying users with 155

N
Named User Licenses graph 99
Named User licenses, overview 105
navigation bars of IT Asset Management 21
ndcrproc.exe
command-line tool 313
parameters 313
new features 11
Non-Production SAP System, license rule 225
non-SAP systems
changing users list 195
creating 191
deleting data in users list 195
importing data 191, 192
linking evidence 196
linking evidence to 182, 184
managing data 191
managing evidence 188
predefined 188
preparing data for import 193
unlinking evidence 198
users list 191
viewing details 189

O
objects
adding to transaction profile 207
identifying in transaction profiles 210
importing into transaction profile 208
in transaction profiles 205
viewing in transaction profiles 211
optimization
identifying duplicate users 236
initial, in SAP Admin module 148
introduction 166
package licensing 241
using transaction profiles 204
optimization rules see
license rules
order
of license rule sets 218
of license rules 218
outline view of system landscape 29
over-consumption
tables 62
examples 62
handling for specific licenses 64
handling on landscape-wide basis 63
introduction 61
overwriting
recommendations on independent systems 296
overwriting, license-type recommendations 259
Overwritten recommendation status for independent systems 292
status in Process License Recommendations report 256
status in Recommendations History report 262
status of license-type recommendation 253

P
package analysis
deleting primary data 270
displaying packages 270
importing source data 269
workflow in SAP Admin module 269
Package Analysis Overview report 273
Package Consumption Summary tab 110, 111
package measurement 271
displaying results 272
executing 271
introduction 271
package usage alerts 272
parameters 273
setting 272
packages 241
adding manually 243
assigning to systems 247
consumption per system 111
correlation summary 110
defining custom formula 248
deleting 248
deleting primary data 270
details 245
displaying 243, 270
displaying all in landscape 273
displaying previous measurements 289
editing 247
formulas 242
importing source data 269
in SAP Admin module 269
license templates 242
licensing 241
measuring 271, 272
measuring on independent systems 288
metrics 242
previewing consumption 249
usage alerts 272
usage alerts parameters 273
user exit 302
viewing details 245
workflow 241
Packages menu 117
page elements of IT Asset Management 21
parameters for package usage alerts 273
Pending
  processing status of duplicate-user recommendation 109
  processing status of license-type recommendation 107
  recommendation status for independent systems 292
  status in Process License Recommendations report 256
  status in Recommendations History report 262
  status of license-type recommendation 253
Portal menu 117
predefined non-SAP system 188
preparing data for import 193
previewing
  duplicate user rule 240
  license rule results 219
  package consumption 249
  User Consolidation results 203
primary data
  for packages, deleting 270
Process License Recommendations report
  accepting recommendation 257
  committing license-type changes 261
  creating 253
  ignoring recommendation 260
  introduction 253
  overwriting recommendation 259
  rejecting recommendation 258
  resetting recommendation 260
  reviewing 256
  status of recommendations 256
  status values 253
Process Recommendations Offline report
  creating 291
  information in 293
  introduction 291
  status values 292
processing
  released recommendation sets 113
  product training 12
  product use rights 242
Product Use Rights Library 242
Prof./Limited Prof. Users, activity check 164
properties
  Custom rules 303
  Duplicate User rules 303
  for custom package formulas 308
  User Consolidation 303
PUR see
  product use rights
PURL see
  Product Use Rights Library
R
  ratio see
    license ratio
recalculating, license position 112
Recognition data import, scheduled task 242,315
Recommend promoting users to spare superior licenses, option 29,63,64
Recommendation History report
  creating 261
  information in 262
  introduction 261
recommendation sets
  accepting 113
  deleting from history 116
  history 114
  processing 113
  rejecting 113
  reviewing 113
  status 114
  viewing last sent to SAP Admin module 113
  viewing pending 113
recommendations 256,264
  accepting on independent systems 295
  changing status in Duplicate User Recommendations report 266
  committing on independent systems 298
  importing into SAP Admin module 252
  overwriting on independent systems 296
  rejecting on independent systems 296
  releasing to SAP Admin module 112
  resetting on independent systems 297
  see also
    Duplicate User Recommendations report,
    license-type recommendations
Rejected
  processing status of duplicate-user recommendation 109
  processing status of license-type recommendation 107

IT Asset Management 2023 R1.2 FlexNet Manager for SAP Applications User Guide 325
recommendation status for independent systems 292
status in Process License Recommendations report 256
status in Recommendations History report 262
status of license-type recommendation 253
rejecting
license-type recommendations 258
recommendations on independent systems 296
released recommendation sets 113
release notes 11
released recommendations
accepting 113
processing 113
rejecting 113
reviewing 113
Released, recommendation set status 113
releasing recommendations to SAP Admin module 112
remediation
introduction 251
remote systems
evidence for 182
hiding and showing evidence 183
managing evidence 188
viewing evidence 182
viewing evidence details 184
remote-system evidence 197
removing
Dialog RFC destinations in SAP Admin module 130
HR system setting 128
reports
ALV Count column 135
Check for License Type 11 156
Consumption Analysis 166
Contract Utilization Analysis 283
counting rows 135
Duplicate User Recommendations 264
Indirect Access Evidence 198
License Analysis 282
License Distribution by Cost Center 159
Logon Evaluation 152
Management Summary 280
Module Usage 176
Package Analysis Overview 273
Process License Recommendations 253
Process Recommendations Offline report 291
Recommendation History 261
Role Utilization 170, 174
RSUVM001 277
User Activity 174
User Data Validation 148
XI Adapter Data Volume 275
resetting
license-type recommendations 260
recommendations on independent systems 297
system landscape 122
resources 11
retiring users 221
Review pending recommendations, link 113
reviewing
duplicate user recommendations 265
license-type recommendations 256
pending recommendation sets 113
released recommendation sets 113
RFC Connection Details page 184, 186
RFC Connections tab
showing and hiding remote system details 183
showing and hiding user accounts details 186
viewing evidence for remote systems 182
viewing evidence for user accounts 185
RFC destinations
adding 122
creating 122
maintaining 124
modifying 123
setup and maintenance 120
shortcut to SM59 122
testing 123
RFC_READ_TABLE 137
Role Utilization report 170
advanced role analysis 173
Advanced Role Utilization analysis 174
creating 171
reading results 171
User Activity analysis 174
viewing consumption details 176
roles
advanced analysis 173
Advanced Role Utilization analysis 174
importing into non-SAP system 193
User Activity analysis 174
Roles, license rule 225
RSUVM001, report 277
rules see
license rules
S
S/4HANA 57, 60
SAP Admin module
accessing 117
adding in IT Asset Management 35
communication with inventory beacon 73
configuring web service 74
initial optimization 148
introduction 17
SAP connections see
connections
SAP Consumption Analysis Details dialog 169,175,179
SAP Import, system task 93
SAP Inventory Agent
collecting evidence 181
introduction 18
logging 19
options 18
SAP license contract information see
license contract information
SAP mode 20
accessing 20
License Position section 102
SAP Overview page 99
SAP Overview page 20,99
accessing 99
changing period 101
Compliance Position graph 99
Current vs. Optimal 100
displaying 99
License Ratios 100
License Utilization 100
Named User Licenses graph 99
SAP package measurement see
package measurement
SAP packages 269
SAP system groups 46
adding in IT Asset Management 46
deleting from IT Asset Management 47
editing in IT Asset Management 47
SAP systems 44
access levels 51
adding dependent in IT Asset Management 37
adding independent in IT Asset Management 39
changing independent into dependent 37
collecting data from 47
deleting from IT Asset Management 44
managing access rights 50
types in SAP Admin module 119
users list in IT Asset Management 45
SAP Systems section 29
SAP User Account Details page 187
SAPService, web service 73
Satellite transport 18
scheduled tasks
Import SAP inventories 314
Import SAP package license 242,315
Recognition data import 242,315
Upload third-party inventory data 316
using ndcrproc.exe 313
searching
compared to filtering 25
girds 25
girds in IT Asset Management 25
security in SAP mode 48
settings bar of IT Asset Management 21
setup
HR system in SAP Admin module 127
IT Asset Management 28
of RFC destinations 120
of system landscape in IT Asset Management 28
Show deficits against assigned license (license appears at risk), option 63
Show deficits against assigned license (license is at risk), option 29
Show deficits against this license (license is at risk), option 64
Show outline view of landscape, check box 29
Show user license summary, link 106,109
showing
remote system evidence 183
user accounts evidence 186
simulations
deleting 235
history 236
history details 235
license rule sets 233
list of, for license rule sets 236
running, of license rule sets 234
viewing, of license rule sets 234
SLG1, transaction 134
SM37, transaction 252
SM59, shortcut to transaction 122,123
SOAP actions 85
source data
for packages, importing 269
spare licenses
consuming 61
depending examples for consuming 62
handling over-consumption for specific licenses 64
handling over-consumption, landscape-wide 63
SSL authentication communication 79
Staging Database Monitor
user-account evidence 197
users
    excluding from license position 221
    retiring 221
Users grid 45
users list
    changing data 195
    deleting data 195
    import template 193
    importing data 192
    of non-SAP system 191
    of SAP system 45
USMM, transaction 277

V
View recommendations sent to SAP, link 113
viewing
    details of remote system evidence 184
    details of user accounts evidence 186
    license position history 116
    non-SAP system details 189
    objects in transaction profiles 211
    pending recommendation sets 113
    recommendation set last sent to SAP Admin module 113
    remote system evidence 182
    user accounts evidence 185
    user data modification logs 134

W
web service
    configuring on SAP Admin module 74
    SAPService 73
    SOAP actions 85
well-formed license-type hierarchy 53
Wizard, for Dialog RFC destinations 129
Work Time tab 187
Work Time, activity check 164
Workbench Users, activity check 164
workflow
    FlexNet Manager for SAP Applications 15
    for using inventory beacons 69
    indirect access 181
    package consumption analysis 241

X
XI Adapter Data Volume report 275
XI system 275