IBM SPSS Amos Concurrent License Administrator's Guide

IBM

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Administrator's guide

The following instructions are for administrators at sites with the license type concurrent license for IBM® SPSS® Amos 26. This license allows you to install IBM SPSS Amos on any number of computers. However, only the number of users for which you purchased the license can run the application concurrently.

Before you start

You will need your authorization code. The authorization code enables you to get a license for the concurrent license manager. The **concurrent license manager** controls your concurrent license and allows end users to run IBM SPSS Amos.

You should have received separate instructions for obtaining your authorization code. If you cannot find your authorization code, contact Customer Service by visiting http://www.ibm.com/software/analytics/spss/support/clientcare.html.

To ensure that you set up the concurrent license correctly, follow these steps:

1. **Install the concurrent license manager.** The concurrent license manager is the utility that will serve up the concurrent licenses to end users. You can install the license manager on any computer on your network. This is typically a server to which desktop computers can connect. See the topic "Installing the concurrent license manager" on page 2 for more information.
2. **License your product.** This action will give the license manager the required information for serving up the licenses. See the topic "Licensing your product" on page 4 for more information.
3. **Test the concurrent license manager.** You should test license manager to make sure it is serving up licenses. See the topic "Testing the license manager" on page 8 for more information.
4. **Install IBM SPSS Amos on the local desktop computers.** You or your end users will complete the full installation on the desktop computers. During an installation, an end user can specify the computer on which the license manager is running. When an end user tries to launch IBM SPSS Amos, the product communicates with this license manager to get a license. If a license is available, IBM SPSS Amos launches. See the topic "Installing the product on the local desktop computers" on page 8 for more information.

No administration steps are required for the installation, but if any problems arise, see "Administering the concurrent license" on page 12.

Ghosting

You can ghost the software by installing the license manager and then installing the product on a local desktop that will be used for creating the ghosting image. Ghost the additional computers as needed.

Citrix and Terminal Services

You can install and publish the IBM SPSS Amos application on your Citrix or Terminal Services Server the same way that you install and publish other Windows applications.

Installing the concurrent license manager

Before end users install IBM SPSS Amos on their desktop computers, you must install the concurrent license manager. This utility is a continuously executing service or daemon that you will typically install on one computer on your network. (You also have the option of installing on multiple computers, in which case you would set up redundant license managers. For more information, see the topic "Setting up redundant license servers" on page 13.) You do not install the concurrent license manager on the end users' desktop computers.

Whenever an end user starts a concurrent-licensed IBM SPSS application, the application will request a license from the license manager. This utility will deliver licenses up to a fixed number of simultaneous end users, determined by the license that you have purchased. After this number has been met, any further requests for licenses will be refused. If you find that end users are often being refused licenses, you can contact your sales representative to purchase a license that will allow more simultaneous users.

License managers are available on a separate DVD/CD. They can also be downloaded as an eImage.

Note: The license manager will record the number of active end-user sessions and information about each session in a log file, which you can use to troubleshoot connection problems. See the topic "Obtaining log information" on page 12 for more information.

Multiple operating systems

The platform on which the concurrent license manager is running does not have to match the platform on which the client is running. For example, a Linux license manager can serve up licenses for Windows clients.

Administering the license manager

You administer the license manager using the license manager administrator, which is available only for Windows. Therefore, you need at least one Windows machine on which to install the license manager administrator.

System requirements

The computer on which you install the concurrent license manager must meet the minimum operating system requirements. The license manager does not require a server class machine.

Important: If a firewall is running on the computer on which the license manager is installed, you must open port 5093 for UDP. Otherwise, client computers will not be able to retrieve a license from the license manager. Furthermore, if you are using redundant license manager machines, you must open port 5099 for UDP to enable the license manager machines to communicate with each other.

Upgrading the license manager

If you have a previous version of the license manager installed, you must perform the following steps:

1. Go to the directory in which you installed the old license manager.
2. Copy the *lservrc* file. On Windows, look in the *winnt* subdirectory.
3. Save the *lservrc* file to a safe location.
4. If any users have checked out commuter licenses, make sure those users check the licenses back in. See the topic "Configuring commuter licenses" on page 14 for information about obtaining a list of checked out licenses.
5. Shutdown the license manager. See the topic "Starting and stopping the license manager" on page 16 for more information.

6. Unininstall the old license manager. See the topic “Uninstalling the license manager” on page 17 for more information.
7. Install the new license manager. For information about installing on Windows, see the topic “Installing the license manager on Windows”. For information about installing on UNIX/Linux, see the topic “Installing the license manager on non-Windows systems”. For information about installing on Mac OS, see the topic “Installing the license manager on Mac OS”.
8. Copy the saved *lservrc* file to the directory in which you installed the new license manager or the *winnt* subdirectory of the installation directory on Windows. If you accepted the default location on Windows, check the `C:\Program Files (x86)\Common Files\SafeNet Sentinel\Sentinel RMS License Manager\WinNT` folder.

Installing the license manager on Windows

Note: You must launch the installer as administrator. When instructed to launch an installer file, right-click the file and choose **Run As Administrator**.

Note: Ensure that the machine on which you are installing has Java installed.

1. Insert the concurrent licensing tools DVD/CD into the DVD/CD drive of the network computer on which you want to run the license manager. Copy the archive that contains the license manager and tools for your Windows operating system from the DVD/CD.

   -or-

   If you downloaded an eImage file, use an archive utility such as WinZip to extract all the files in the appropriate eImage.
2. Extract the contents of the archive that contains the license manager and tools.
3. Run `setup.exe` from the extracted `manager` directory and follow the instructions that appear on the screen.
4. To install the license manager administrator on the same machine as the license manager, run `setup.exe` from the extracted `tools` directory and follow the instructions that appear on the screen. You also have the option of installing the license manager administrator on another Windows machine if you want to administer the license manager remotely.

Installing the license manager on non-Windows systems

1. Insert the concurrent licensing tools DVD/CD into the DVD/CD drive of the network computer on which you want to run the license manager. Look for the archive that contains the license manager and tools for your operating system.

   -or-

   If you downloaded an eImage file, go to the location where you downloaded the file.
2. Extract the contents of the archive that contains the license manager and tools to the location where you want to install the license manager.
3. Install the license manager administrator on a Windows machine. See the topic “Installing the license manager administrator” on page 4 for more information.
4. Refer to “Starting and stopping the license manager” on page 16 for information about starting the license manager.

Installing the license manager on Mac OS

1. Insert the concurrent licensing tools DVD/CD into the DVD/CD drive of the network computer on which you want to run the license manager. Look for the archive that contains the license manager and tools for your operating system.

   -or-

   If you downloaded an eImage file, go to the location where you downloaded the file.

2. Extract the contents of the archive that contains the license manager and tools to the location where you want to install the license manager.
3. Install the license manager administrator on a Windows machine. See the topic "Installing the license manager administrator" for more information.
4. Refer to "Starting and stopping the license manager" on page 16 for information about starting the license manager.

Installing the license manager administrator

The Windows-only license manager administrator is used to administer the license manager. If you installed the license manager on a non-Windows machine, you must install the license manager administrator on a Windows machine.

1. Insert the concurrent licensing tools DVD/CD into the DVD/CD drive of the Windows network computer on which you want to run the license manager administrator. Copy the archive that contains the license manager and tools from the DVD/CD.

   -or-

   If you downloaded an eImage file, use an archive utility such as WinZip to extract all the files in the appropriate eImage.
2. Extract the contents of the archive that contains the license manager and tools.
3. Run `setup.exe` from the extracted `tools` directory and follow the instructions that appear on the screen.

Licensing your product

After the main part of the installation is complete on Windows, click **Finish** to launch the License Authorization Wizard. The License Authorization Wizard allows you to obtain a license for IBM SPSS Amos. On other operating systems, you must install the license from the command prompt after installing the license manager.

If you do not get a license now, you can enable IBM SPSS Amos to be used for a temporary usage period by a limited number of users. After the temporary usage period has completed—and which begins when the product is first used—IBM SPSS Amos will no longer run. Therefore, it is recommended that you obtain a license as soon as possible. You must either obtain a license or enable for temporary usage to use IBM SPSS Amos.

Note: Licenses are tied to the network computer's physical or virtual hardware with a **lock code**. If you replace the network computer or its hardware, you will have a new lock code and will need to contact your sales representative to obtain a new authorization code. If you are installing on a virtual machine, you need to ensure that you select a lock code that does not change on restart. For more information, see "Installing a license in a virtual environment."

Important: The license is sensitive to time changes. If you must change the system time and then cannot run the product, contact the Client Care team for assistance by visiting http://www.ibm.com/software/analytics/spss/support/clientcare.html .

Installing a license in a virtual environment

If you installed the concurrent license manager in a virtual environment, there are special instructions for licensing. On a virtual machine the hardware is virtual, and the locking code that ties the license manager to the license might change when the virtual machine is restarted. To ensure the license manager works correctly, you need to find a locking code that does not change when the virtual machine is restarted. When you find a stable locking code, you will use it to license the license manager.

Important:

If you choose a locking code that does change on reboot, the license manager will stop working. The IBM SPSS application will not be able to retrieve a license and will fail to start.

Checking the locking code

1. Open a command prompt.
2. Change to the following directory.
   - **Windows.** The license manager administrator installation directory. If you accepted the default location during installation, the license manager administrator installation directory is `C:\Program Files (x86)\Common Files\SafeNet Sentinel\Sentinel RMS License Manager\WinNT`.
   - **Other platforms.** The license manager installation directory.
3. At the command prompt, type `echoid` (Windows) or `./echoid` (other platforms).

You will see something like the following in the output:

```
Locking Code 1 :   4-12A1B
```

The number that appears immediately before the hyphen (-) is the locking code criteria. The locking code criteria is a number that represents the virtual hardware that is used for the locking code (in this example, it is 4, which represents the OS volume serial ID). The number after the hyphen is the locking code itself (in this example, it is 12A1B).

Following are the possible locking code criteria.

Locking code criteria	Virtual hardware
2	IP address
4	OS volume serial ID
8	Hostname
10	Ethernet card

Confirming that the locking code is stable

1. After checking the locking code, restart the virtual machine.
2. Check the locking code again (see "Checking the locking code").
   - If the locking code **doesn't change**, reboot and check a few more times. If the locking code is stable, you are ready to license (see "Licensing the license manager with the new locking code" on page 6).
   - If the locking code **does change**, you need to update the locking code (see "Updating the locking code").

Updating the locking code

1. In a text editor, open `echoid.dat`, which you can find in the following directory.
   - **Windows.** The license manager administrator installation directory. If you accepted the default location during installation, the license manager administrator installation directory is `C:\Program Files (x86)\Common Files\SafeNet Sentinel\Sentinel RMS License Manager\WinNT`.
   - **Other platforms.** The license manager installation directory.
2. You will see a single hexadecimal number that represents the current locking code criteria. Change this number to one of the acceptable locking code criteria in hexadecimal format.

Locking code criteria in hexadecimal format	Virtual hardware
0x002	IP address

Locking code criteria in hexadecimal format	Virtual hardware
0x004	OS volume serial ID
0x008	Hostname
0x010	Ethernet card

Licensing the license manager with the new locking code

After you find and update to a stable locking code, there are no further licensing steps that are particular to virtual environments. Use the command prompt to complete installation of the license.

Using the license authorization wizard (Windows only)

Note: You might be prompted for administrator credentials. Without the correct credentials, you will not be able to run the License Authorization Wizard.

1. If you don't launch the License Authorization Wizard during installation or cancel the License Authorization Wizard before obtaining a license, you can launch it by running *law.exe*, which can be found the license manager installation directory. You must run as administrator. Right-click *law.exe* and choose **Run As Administrator**.
2. When prompted, choose **License my product now**. If you want to enable for temporary usage instead, refer to Enabling for temporary usage .
3. When prompted, enter one or more authorization codes.

   You should have received separate instructions for obtaining your authorization code. If you cannot find your authorization code, contact Customer Service by visiting http://www.ibm.com/software/analytics/spss/support/clientcare.html.

The License Authorization Wizard sends your authorization code over the Internet to IBM Corp. and automatically retrieves your license. If your computer is behind a proxy, click **Configure proxy settings** and enter the appropriate settings.

If the authorization process fails, you will be prompted to send an e-mail message. Choose whether you want to send the e-mail message through your desktop e-mail program or through a Web-based e-mail application.

- If you choose the desktop option, a new message with the appropriate information will be created automatically.
- If you choose the Web-based option, you must first create a new message in your Web-based e-mail program. Then copy the message text from the License Authorization Wizard and paste it into your e-mail application.

Send the e-mail message and respond to the prompt in the License Authorization Wizard. The e-mail message will be processed almost instantaneously. You can click **Enter License Code(s)** to enter any license code(s) that you receive. If you already closed the License Authorization Wizard, restart it and select **License my product now**. On the Enter Codes panel, add the license code that you received and click **Next** to complete the process.

Installing a license from the command prompt

You have two options for installing from the command prompt. You can use *licenseactivator* to get a license from the Internet automatically, or you can use *echoid* to get a license manually.

Using licenseactivator to install a license automatically

The computer on which you are installing the license must be connected to the Internet. If it isn't, install the license manually. See the topic “Installing a license manually” on page 8 for more information.

1. Log in as the user who installed the license manager.
2. Open a command prompt and change directories to the license manager administrator installation directory. This is the directory in which you installed the *license manager administrator*, not the directory in which you installed IBM SPSS Amos. If you accepted the default location on Windows, check the `C:\Program Files (x86)\Common Files\SafeNet Sentinel\Sentinel RMS License Manager\WinNT` folder.
3. You typically have an authorization code. In the simplest case, you enter the following at the command prompt/terminal window. See below for more details about the command prompt usage.

   Windows: `licenseactivator <auth-code>`

   UNIX/Linux/MacOS: `./licenseactivator <auth-code>`

   where `<auth-code>` is your authorization code.

You should see a message that the license was added successfully. If it wasn't, note the error code and try installing the license manually. See the topic "Installing a license manually" on page 8 for more information.

When you use *licenseactivator*, it licenses the product and writes a log file to its directory. The name of the log file is *licenseactivator_<month>_<day>_<year>.log*. If any errors occur, you can check the log file for more information. This information is also useful if you contact IBM Corp. for support.

Using licenseactivator with Authorization Codes

licenseactivator is typically used with one or more authorization codes that you received when you purchased the product. Enter all of the text on one line.

Windows:

```
licenseactivator authcode1[:authcode2:...:authcodeN] [PROXYHOST=proxy-hostname][PROXYPORT=proxy-port-number]
 [PROXYUSER=proxy-userid] [PROXYPASS=proxy-password]
```

UNIX/Linux/MacOS:

```
./licenseactivator authcode1[:authcode2:...:authcodeN] [PROXYHOST=proxy-hostname][PROXYPORT=proxy-port-number]
 [PROXYUSER=proxy-userid] [PROXYPASS=proxy-password]
```

- Multiple authorization codes are separated by colons (:).
- The proxy settings are optional, but you may need them if your computer is behind a proxy. Which proxy settings are needed depend on your specific proxy configuration. You might need all of them.

  PROXYHOST
  The server name or IP address of the proxy host

  PROXYPORT
  The port number for connecting to the Internet through the proxy

  PROXYUSER
  If required, the user ID for the proxy

  PROXYPASS
  If required, the password associated with the user ID

Using licenseactivator with License Codes

In less common scenarios, IBM Corp. may have sent you a *license*.

Windows:

```
licenseactivator licensecode[:licensecode2:...:licensecodeN]
```

UNIX/Linux/MacOS:

```
./licenseactivator licensecode[:licensecode2:...:licensecodeN]
```

- Multiple license codes are separated by colons (:).
- When using license codes, *licenseactivator* does not connect to the Internet, so you do not need to specify proxy information.

Installing a license manually

1. Log in as the user who installed the license manager.
2. Open a command prompt and change directories to the license manager administrator installation directory. Note that this is the directory in which you installed the *license manager administrator*, not the directory in which you installed IBM SPSS Amos. If you accepted the default location on Windows, check the `C:\Program Files (x86)\Common Files\SafeNet Sentinel\Sentinel RMS License Manager\WinNT` folder.
3. Get the lock code for the server machine. At the command prompt, type `echoid` (Windows) or `./echoid` (other platforms).
4. Send the lock code and your authorization code to IBM Corp. by calling your local office or sending an e-mail message to *spsscs@us.ibm.com*. IBM Corp. will then provide a license code or a file containing a license code.
5. Use *licenseactivator* to enter the license code or codes.

Adding a license

You may want to add a license at a later time. The process for adding a license is the same as installing the original license.

Viewing your license

You can view your concurrent license (including the number of users) in the WlmAdmin application. For information about the WlmAdmin application and specifics about viewing the license, see "Administering the concurrent license" on page 12 .

Testing the license manager

To make sure the license manager is serving up licenses correctly, you should test it.

1. If you haven't installed the license manager administrator on another machine, install it on a Windows machine that is *not* running the license manager you want to test. See the topic "Installing the license manager administrator" on page 4 for more information.
2. Install another license manager on a Windows machine that is *not* running the license manager you want to test. See the topic "Installing the license manager on Windows" on page 3 for more information.
3. Start the WlmAdmin application. See the topic "Starting the WlmAdmin Application" on page 12 for more information.
4. Add the remote license manager server that you want to test. See the topic "Adding a server" on page 12 for more information.
5. View the licenses on the remote server. See the topic "Viewing details about a license" on page 12 for more information.

If you are able to view the license, the license manager is ready for local desktop computers to connect to it. You can proceed with installing the product on local desktop computers. If you are not able to view the license, review the previous steps to ensure the license manager was installed correctly.

Installing the product on the local desktop computers

Note: We do not officially support connecting to the concurrent license manager through VPN.

You have two options for installing the full product locally on an end user's computer. You can manually install on each computer, or you can use an application like Systems Management Server (SMS) to push the installation to the computers running Windows.

To manually install on a local desktop

1. **Make the installation media available.** Download the eImage for the product and extract the files to a shared network drive. If you have physical installation media, make as many copies of the DVD/CD as you need or place it on a shared network drive.
2. **Copy the installation instructions and prepare licensing information.** Make as many copies of the product installation instructions as you need. The installation instructions are available from the download site or, if you received physical installation media, in the directory on the DVD/CD. Look for the instructions that correspond to your license type. After installation, the end user must enter the IP address or the name of the network computer on which the concurrent license manager is running. Fill out this information in the space provided at the beginning of the instructions before copying them.
3. **Distribute the installation materials to end users.** Distribute the downloaded file (or network location, or installation DVD/CD), the installation instructions, and the licensing information to end users who can manually install on each computer as needed.

To push to the local desktops running Windows

Because IBM SPSS Amos installations are compatible with Microsoft Windows Installer (MSI), you can push an installation to the end-user desktop computers.

Pushing an installation to Windows computers

Pushing an installation is a method for remotely distributing software to any number of end users without any user intervention. You can push the full installation of IBM SPSS Amos to the end-user desktop computers running Windows. The technology that you are using for pushing the installation must support the MSI 3.0 engine or higher.

Uninstalling a Previous Version

If you are going to push to the same directory in which a previous version of IBM SPSS Amos was installed, you need to uninstall the old version. You can push the uninstallation as you push an installation. See the topic “Pushing an uninstallation” on page 11 for more information.

Properties for push installations

Following are the properties that you can use for push installations. All properties are case sensitive. Values must be quoted if they contain spaces.

Table 1. Properties for push installations.

Property	Description	Valid values	Default (If Applicable)
INSTALLDIR	The directory where IBM SPSS Amos should be installed on the end user's desktop computer. This property is optional. If it is excluded, the default is *C:\Program Files\IBM\SPSS\AMOS\26*.	A valid path such as C:\Amos.	C:\Program Files\IBM\SPSS\AMOS\26
LICENSETYPE	The license type. The value is case sensitive.	`Network`	

Table 1. Properties for push installations (continued).

Property	Description	Valid values	Default (If Applicable)
LSHOST	The IP addresses or the names of the network computer or computers on which the concurrent license manager is running.	One or more valid IP addresses or network computer names. Multiple addresses or names are separated by tildes (for example, *server1~server2~server3*).	

MSI files

The *IBM SPSS Amos 26.msi* file is located under the *Windows\Amos* directory on the DVD/CD . If you downloaded the software, you must extract the contents of the eImage to access the MSI file.

Command line example

Following is a command line that you could use to push a product installation. Enter all of the text on one line.

```
MsiExec.exe /i "IBM SPSS Amos 26.msi" /qn /L*v logfile.txt
INSTALLDIR="C:\Amos" LICENSETYPE="Network" LSHOST="mylicserver"
```

Using SMS to push the installation

The basic steps for using Systems Management Servers (SMS) to push IBM SPSS Amos are:

1. Copy the appropriate subdirectory under the *Windows\Amos* directory on the DVD/CD to a directory on a network computer. If you downloaded the software, you must first extract the contents of the eImage.
2. Edit the *IBM SPSS Amos 26.sms* file located in the copied directory. Using a text editor, modify the value of CommandLine by adding the appropriate properties. For a list of the available properties, refer to "Properties for push installations" on page 9. Make sure to specify the correct MSI file in the command line.
3. Create a package from the *IBM SPSS Amos 26.sms* file and distribute the package to the end-user desktop machines.

Using Group Policy or related technology to push the installation

1. Copy the appropriate subdirectory under the*Windows\Amos* directory on the DVD/CD to a directory on a network computer. If you downloaded the software, you must first extract the contents of the eImage.
2. Using an application like ORCA, edit the Properties table in the appropriate *IBM SPSS Amos 26.msi* file under the copied folder. ORCA is part of the Windows 2003 Server SDK, which you can find at http://www.microsoft.com/downloads by searching for the SDK. For a list of the properties that you can add to the Properties table, refer to "Properties for push installations" on page 9. Make sure to use the correct MSI file.
3. Create a package using the edited *IBM SPSS Amos 26.msi* file and distribute the package to the end-user desktop computers.

Pushing the installation to a non-English system

You can push to a non-English system without additional specification. However, the installer language (if pushing an interactive installation) will appear in English, the user interface will appear in English, and the help will appear in English. Users can change the user interface language after installation, but localized help will not be available.

You can use the `TRANSFORMS` property to specify one of the MST files available on the DVD/CD or in the downloaded eImage. The MST file will ensure the installer, user interface, and help appear in the

specified language. MST files are not available if you downloaded IBM SPSS Amos. Users will need to manually install the language packs for the localized help and manually change the user interface language in the product.

The `TRANSFORMS` property is a parameter for *MsiExec.exe*. The following example uses the `TRANSFORMS` property to push a French installation. The installer will appear in French, the user interface will appear in French, and French help will be installed. (You can also override the help language with the `HELPCHOICE` property. See the topic "Properties for push installations" on page 9 for more information.) Enter all of the text on one line.

```
MsiExec.exe /i "IBM SPSS Amos 26.msi" /qn /L*v logfile.txt
INSTALLDIR="C:\Amos" LICENSETYPE="Network" LSHOST="mylicserver" TRANSFORMS=1036.mst
```

The following language MST files are located in the *Windows\Amos* directory on the DVD/CD . If you downloaded an eImage, these files are located at the root of the extracted eImage files.

Table 2. Language MST Files.

Language	MST File
English	1033.mst
Japanese	1041.mst

Pushing an uninstallation

Note: When you push the uninstall command, the end user loses customizations. If specific users require customizations, you can exclude those users from the distribution and ask them to install the product manually.

If you push an installation of a later version of IBM SPSS Amos, you may want to uninstall first. You can do this silently by pushing the following command. Enter all of the text on one line.

```
MsiExec.exe /X{A24026D3-0E0B-49F1-8FC8-65E254EB421F} /qn /L*v logfile.txt
ALLUSERS=1 REMOVE="ALL"
```

This command will uninstall IBM SPSS Amos 26. The following table lists the uninstall IDs for this and previous releases.

Table 3. Uninstall IDs for IBM SPSS Amos.

Version	Uninstall ID
25.*	{28C51A52-9B61-4589-91DE-8C5FAEA00B10}
24.*	{A24026D3-0E0B-49F1-8FC8-65E254EB421F}
23.*	{2B603859-DCA2-45DD-92DF-98542E78BAA8}
22.*	{DEB57287-C937-4DE9-939A-5ED3AB8F052D}
21.*	{304B71E3-1017-4717-86BC-F1D18519FEF2}
20.*	{58C50F5A-B7E2-4149-8911-B14CEC825F57}
19.*	{B132EFD2-BF03-48AA-8EC8-404E4C5199C5}
18.*	{65D9DA69-4C22-46CA-B762-A338CAC94599}
17.*	{9DB2E18E-2A1F-4D65-A258-9CB446903C3E}
16.*	{4DA782CB-C9A0-462F-9D18-17D301BC507C}

Administering the concurrent license

The license manager maintains your concurrent license. To administer the license manager itself and to view information about the concurrent licenses that it is maintaining, you can use the WlmAdmin application, which is the main user interface for the license manager administrator. If you are administering a license manager on a non-Windows machine or a remote Windows machine, install the license manager administrator on a separate Windows machine. See the topic "Installing the license manager administrator" on page 4 for more information.

Note: If you need additional administration information, refer to the SafeNet documentation, which is installed with the license manager administrator. This documentation is in the *help\Content* directory in the license manager administration installation directory (for example, `C:\Program Files (x86)\Common Files\SafeNet Sentinel\Sentinel RMS License Manager\help\Content`).

Starting the WlmAdmin Application

From the Windows Start menu, choose:

[All] Programs > **IBM** > **SPSS License Tools** > **<version>** > **Sentinel RMS Server Administration**

Adding a server

Before you can administer a license manager, you need to add its server to the WlmAdmin application. You have two options for adding the server.

To manually add a server

1. From the WlmAdmin application menus, choose:

   Edit > **Defined Server List**
2. In the Defined Server List dialog, enter the name or IP address of the server on which the license manager is running.
3. Click **Add**.
4. Click **OK**.

The server now appears in the Defined Servers lists in the left pane of the WlmAdmin application.

To view a list of servers on the subnet

1. In the left pane of the WlmAdmin application, click the **+** sign next to **Subnet Servers**.

A list of license manager servers on your subnet appears. If you can't find a specific server with this method, manually add it as described above.

Obtaining log information

If end users have difficulty checking out licenses, the log files may contain useful information. You can use the `LSERVOPTS` environment variable and the `-f <trace-log-file>` and `-l <usage-log-file>` options to specify that log files should be created. For more information about this environment variable and its options, refer to the SafeNet documentation in the *Content* directory in the license manager administrator installation directory.

Viewing details about a license

You can view details about licenses that you added either manually or through the License Authorization Wizard.

1. In the left pane of the WlmAdmin application, click the **+** sign next to the license manager server to see the license(s).

2. Click the name of the license. The right pane displays details about the license. Codes are used to identify the licenses. The first part of the code indicates the feature. The second part indicates the version.

To see the names associated with the feature codes

1. Using a command prompt, change to the directory in which the license manager administrator is installed.
2. Type `lmshowlic <server>` (Windows) or `./lmshowlic <server>` (other operating systems), where `<server>` is the name or IP address of the server on which the license manager is running.

The output lists all the features available on the server, grouped by product and version.

Setting up redundant license servers

You can set up multiple, redundant license servers that support the same users. Redundant servers can help prevent any interruption that may occur when a server crashes. Another redundant server can take over the management of the license when the first server crashes.

You will need a special license code to enable the redundancy feature, as described in the following steps. For assistance with creating a redundant license key or any other licensing issue, contact IBM Support by phone or e-mail. You can find contact information at http://www.ibm.com/planetwide.

There must be an odd number of servers (at least three of them), and a majority must be running at the same time. For example, if there are three redundant license servers, two of them must be running.

To prepare each redundant license server

1. Install the license manager. See the topic "Installing the concurrent license manager" on page 2 for more information.
2. Using a command prompt, change to the directory in which you installed the license manager.
3. Get the lock code for each server machine. At the command prompt, type `echoid` (Windows) or `./echoid` (other operating systems).
4. Write down the lock code. You will need the lock code for the next steps.
5. Repeat these steps for each redundant license server.

To activate the redundant licenses

1. Go to the IBM SPSS License Key Center (https://spss.subscribenet.com/control/ibmp/login).
2. Create a concurrent authorization code.
3. After the concurrent authorization code is created, click the code and then scroll down until you see the fields for **Lock Code**. You will now have the ability to add multiple lock codes to the license key.
4. Using the lock codes from the previous steps, enter the lock codes into the appropriate fields.
5. Click **Submit**.

To set up the redundant license server pool

1. If a license manager is running on any of the redundant license servers, stop the license manager on each computer.
2. From the WlmAdmin application menus, choose:

   Edit > **Redundant License File**

   This action opens the WrlfTool application.
3. From the WrlfTool application menus, choose:

   File > **New**
4. For each redundant license server, click **Add** to specify the hostname and IP address of each server.

5. Change the order of the servers to indicate the order in which the redundant license servers are used. The first one in the list is the primary server.
6. Click **Add License** to add the license(s) that you received from Customer Service or your local office. If you received multiple licenses, be sure to add every one.
7. Click **OK**.
8. Click **Done** when you are finished.

To save the redundant license file

1. From the WrlfTool application menus, choose:

   File > **Save As**
2. Save the redundant license file (*lservrlf*) to an easily accessible location. You will need to copy the file in the next steps.

To configure the redundant license servers

1. Copy the redundant license file (*lservrlf*) to the *winnt* subfolder of the license manager installation directory on Windows. If you accepted the default location, check the `C:\Program Files (x86)\Common Files\SafeNet Sentinel\Sentinel RMS License Manager` folder. On other operating systems, copy the file directly to the license manager installation directory. There must be at least three redundant license servers.
2. Start the license manager on each redundant license server.

To configure end-user computers

When the end user installs the product, the user specifies all redundant servers, with the server names or IP addresses separated by a tilde (for example, *server1~server2~server3*). The setup program then adds the necessary configuration information to the end user's computer. If the product is already installed on the desktop computers, you can perform the following manual steps to add the configuration information. You can also push an uninstall followed by a new install that defines all the servers. Refer to "Pushing an installation to Windows computers" on page 9 for information about pushing installations.

1. Using a text editor, open *spssprod.inf*. On Windows, this file is located in the product installation directory on the desktop computer.
2. Change the value of `DAEMONHOST` to the server names or IP addresses separated by a tilde (~). For example:

   ```
   DAEMONHOST=server1~server2~server3
   ```
3. Save *spssprod.inf*.

Configuring commuter licenses

Commuter licenses allow your end users to check out licenses from the license manager, so that they can use the license when not connected to the network. On Windows, commuter licenses are *not* enabled by default. They are enabled by default on other operating systems. Instructions for actually checking out the commuter license appear in the end user installation instructions.

You can restrict the percentage of licenses that are enabled for commuting on the license manager server. It's a good idea to restrict commuter licenses to prevent all the licenses (tokens) from being used up by commuters. After the specified percentage of licenses have been used by commuters, no more will be available until the commuter licenses expire or are checked back in. You can also configure the maximum duration for which an end user can check out a license. The default maximum duration is seven days.

Important: If you are using redundant license servers with commuter licenses, only the primary license server allows users to check out and check in commuter licenses. If the primary license server is down, end users will not be able to check out and check in licenses.

To set the percentage of available commuter licenses

1. Create an `LSERVOPTS` environment variable on the license manager server. This variable is created during the license manager installation on Windows, so you need to complete this step only for the other operating systems.
2. Edit the value of the `LSERVOPTS` environment variable to include `-com <percentage>`, where `<percentage>` is a numeric value between 0 and 100 indicating the percentage of licenses that are available for commuting. Specifying `0` disables commuter licenses. This switch is included by default on Windows and is set to `0`.
3. Restart the computer on which the license manager is running.

To set the maximum duration for commuter licenses

The maximum length of time a user can check out a commuter license is specified by the `CommuterMaxLife` setting in the *spssprod.inf* file on the *desktop* computer. On Windows, this file is located in the product installation directory on the desktop computer. Open *spssprod.inf* and look for `CommuterMaxLife` . Set the value of this option to the maximum number of days for which an end user can check out a commuter license. This should be a number between 1 and 30. You can also set this value when you push the installation. See the topic "Pushing an installation to Windows computers" on page 9 for more information.

Note: This functionality works off the date, not the time. For example, if you set the `CommuterMaxLife` option to one day, then check a license out at 9 a.m., this license does not get checked back in until midnight on the following day. So although `CommuterMaxLife` is set to one day, the license is actually held for 39 hours.

To obtain a list of checked out licenses from the command line

You can find out which users have checked out licenses.

1. Using a command prompt, change to the directory in which the license manager administrator is installed.
2. Type `lsmon <server>` (Windows) or `./lsmon <server>` (other operating systems), where `<server>` is the name or IP address of the server on which the license manager is running. You can omit the license server name if you want to view checked out licenses for only the localhost server.

To obtain a list of checked out licenses from the WlmAdmin application

You can also view checked out licenses in the WlmAdmin application:

1. In the left pane of the WlmAdmin application, click the **+** sign next to the license manager server.
2. Click the **+** sign next to **Clients**. Clients using the concurrent license are listed. If no clients are listed, no users are using the concurrent license.
3. Select a particular Client to view whether the client has a checked out license. Review the Detailed Information area in the right pane after selection.

Configuring license reservations

You can create a reservation file, which specifies how many licenses are reserved for specific users or groups of users. Users are identified by network IDs or computer names (*not* IP addresses). For example, you can set up a reservation file that reserves the license for a group of power users. Licenses will always be available for these users. You can also use the reservations to prevent certain users from accessing the license.

To create a new reservation file

1. From the WlmAdmin application menus, choose:

   Edit > **Reservation File**

This action opens the Wlsgrmgr application.

2. From the Wlsgrmgr application menus, choose **File** > **New**.

To add licenses and users to the reservation file

1. From the Wlsgrmgr application menus, choose:

   Feature > **Add**

2. Click **Next** on the first screen of the wizard.
3. Specify the feature code associated with the license that you want to reserve. Refer to "Viewing details about a license" on page 12 for information about getting the feature codes associated with licenses. Also define a specific version, which is entered as it appears in the WlmAdmin application (for example, `160`). The version is not optional. Ignore the Capacity controls, because capacity licenses are not supported.
4. Click **Next**.
5. Specify a name for a group of users. The name is arbitrary, but you should make it descriptive (for example, `Sales`).
6. Specify the number of licenses that are reserved for the group. Group members can still access all licenses, but the number of licenses you specify will no longer be available for users who are not included in the group. That is, if you have 10 licenses and you reserve five, members of the group have 10 licenses available to them, while other users have only five.
7. On the Members window, click **Add** to specify a user or computer name associated with the group (do not use IP addresses). If the user or machine is included in the group, that user or machine can use the reserved license. If the user or machine is excluded from the group, that user or machine cannot access the license at all. Specify as many users or machines as needed. Note that groups must be mutually exclusive. Therefore, different groups for the same license cannot contain common users or computers.
8. Click **Finish** when all users have been added to the group.
9. Add other groups or licenses as needed. You can also modify or delete licenses and groups by right-clicking one and choosing **Properties**.

To save the reservation file

1. When finished defining the reservation file, from the menus choose:

   File > **Save As**

2. Save the file to an easily accessible location. You will need to copy the file in the next step.
3. To enable the license server to automatically find the *lsreserv* file at start up, copy the file to the *winnt* subfolder of the license manager installation directory on Windows. If you accepted the default location, check the `C:\Program Files (x86)\Common Files\SafeNet Sentinel\Sentinel RMS License Manager` folder. On other operating systems, copy the file directly to the license manager installation directory.
4. If you want the same reservations to apply for all redundant servers, copy the reservation file (*lsreserv*) to each server.
5. Restart each license manager when finished.

Starting and stopping the license manager

The method for starting the license manager depends on your operating system.

Windows

On Windows machines, the license manager is a System Service. The service is automatically started by default. However, if you need to start it manually:

1. In the Windows Control Panel, double-click **Administrative Tools**.
2. Double-click **Services**.

3. Locate **Sentinel RMS License Manager** in the Services list.
4. Right-click the service and choose **Start** or **Stop**.

Other operating systems

On other operating systems, the license manager is a daemon service. Complete the following steps to start it manually. You can also configure the license manager to start automatically (instructions follow).

1. Using the command prompt, browse to the directory in which you installed the license manager.
2. **Starting.** As root, type `./lserv &` at the command prompt and press Enter.
3. **Stopping.** As root, type `./lsrvdown <hostname>` at the command prompt, where *<hostname>* is the network name of the computer on which the license manager is running. Then press Enter.

Configuring the license manager to start automatically

Windows

1. In the Windows Control Panel, double-click **Administrative Tools**.
2. Double-click **Services**.
3. Locate **Sentinel RMS License Manager** in the Services list.
4. Right-click the service and choose **Properties**.
5. Set the Startup type to **Automatic**.
6. Click **OK**.

Other operating systems

1. Add `./lserv &` to one of the operating system startup files.

Uninstalling the license manager

Windows

1. From the Windows Start menu, choose:

   Settings > **Control Panel**
2. Double-click **Add/Remove Programs**.
3. Select **Sentinel RMS License Manager** and then click **Remove**.
4. Click **Yes** when prompted to remove the license manager.

Other operating systems

1. Using the command prompt, browse to the directory to which you installed the license manager.
2. As root, stop the license manager by typing `./lsrvdown <hostname>` at the command prompt, where *<hostname>* is the network name of the computer on which the license manager is running. Then press Enter.
3. Remove the directory where the license manager is installed.

Uninstalling the license manager administrator

1. From the Windows Start menu, choose:

   Settings > **Control Panel**
2. Double-click **Add/Remove Programs**.
3. Select **License Tools** and then click **Remove**.
4. Click **Yes** when prompted to remove the concurrent licensing tools.

Troubleshooting Desktop Computers

If the end users' desktop computers are having trouble finding the license manager:

1. Run `lswhere` to verify that the desktop computer can find the network computer on which the license manager is running. See the topic "Running lswhere" for more information.
2. Make sure the license manager service is running on the network computer.
3. Check the appropriate *spssprod.inf* file. On Windows, this file is located in the product installation directory on the desktop computer. Open *spssprod.inf* and make sure `DAEMONHOST` is set to the correct name or IP address of the computer on which the license manager is running. If you are using redundant servers, this should define all of them. Each name is separated by a tilde (~) character. For example, if the license manager computers are *SERVER1*, *SERVER2*, and *SERVER3*, `DAEMONHOST` is set to `SERVER1~SERVER2~SERVER3`.

Running lswhere

You can run *lswhere* from an end user's desktop computer to check which computer is running the concurrent license manager.

1. Using a command prompt, change the current directory to the IBM SPSS Amos installation directory.
2. Type `lswhere`.

Service and Support

To contact IBM Corp. Technical Support, visit http://www.ibm.com/support and submit a case. You will need to register with IBM Corp. Technical Support if you haven't done so previously.

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