



IBM Network Advisor Software Licensing Guide

Supporting IBM Network Advisor version 14.2.1

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IBM® Storage Networking



IBM Network Advisor Software Licensing Guide

Supporting IBM Network Advisor version 14.2.1

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What's new in this document

The following changes have been made since this document was last released:

- Information that was added:
 - None
- Information that was changed:
 - Updated release version wherever applicable
- Information that was deleted:
 - None.

For further information about new features and documentation updates for this release, refer to the IBM Network Advisor 14.x release notes.

Supported hardware and software

In those instances in which procedures or parts of procedures documented here apply to some devices but not to others, this guide identifies exactly which devices are supported and which are not.

Although many different software and hardware configurations are tested and supported by Brocade Communications Systems, Inc. for IBM Network Advisor 14.2.1, documenting all possible configurations and scenarios is beyond the scope of this document.

Fabric OS software support

The following firmware platforms are supported by this release of IBM Network Advisor 14.2.1:

- Fabric OS 7.0 or later
- Fabric OS 8.0 or later
- Fabric OS 8.1 or later

For platform specific Fabric OS requirements, refer to the Firmware level required column in the table.

NOTE

Discovery of a Secure Fabric OS fabric in strict mode is not supported.

Fabric OS hardware support

The hardware platforms in the following table are supported by this release of IBM Network Advisor 14.2.1 as well as any platform specific Fabric OS requirements.

TABLE 1 Supported Hardware

IBM Name	Terminology used in documentation	Firmware level required
SAN24B-4	24-port, 8 Gbps FC Switch	Fabric OS v7.0.0 or later
SAN40B-4	40-port, 8 Gbps FC Switch	Fabric OS v7.0.0 or later
SAN80B-4	80-port, 8 Gbps FC Switch	Fabric OS v7.0.0 or later
SAN24B-5	24-port, 16 Gbps Edge switch	Fabric OS v7.0.1 or later
SAN48B-5	48-port, 16 Gbps switch	Fabric OS v7.0.0 or later
SAN96B-5	96-port, 16 Gbps switch	Fabric OS v7.1.0 or later
IBM Flex System FC5022 16Gb SAN Scalable Switches (ScSM)	48-port, 16 Gbps embedded switch	Fabric OS v7.2.0 or later
SAN04B-R	4 Gbps Extension Switch	Fabric OS v7.0.0 or later
SAN06B-R	8 Gbps Extension Switch	Fabric OS v7.0.0 or later
SAN42B-R	16 Gbps 24-FC port, 18 GbE port Switch	Fabric OS v7.3.0 or later
IBM Converged Switch B32	8 Gbps 8-FC-port, 10 GbE 24-CEE port Switch	Fabric OS v6.1.2_CEE
SAN32B-E4 Encryption Switch	8 Gbps Encryption Switch	Fabric OS v6.1.1_enc or later
IBM Storage Networking SAN24B-6	24-port, 32 Gbps switch	Fabric OS v8.1.0 or later
IBM Storage Networking SAN64B-6	64-port, 32 Gbps switch	Fabric OS v8.0.0 or later

TABLE 1 Supported Hardware (Continued)

IBM Name	Terminology used in documentation	Firmware level required
SAN768B Professional and Professional Plus Trial and Licensed version can discover, but not manage, this device. This device cannot be used as a Seed switch.	384-port Backbone Chassis	Fabric OS v6.0.0 or later
SAN768B with FC8-16, FC8-32, and FC8-48 Blades	384-port Backbone Chassis with 8 Gbps 16-FC port, 8 Gbps 32-FC port, and 8 Gbps 48-FC port Blades	Fabric OS v7.0.0 or later
SAN768B with FC8-64 Blade	384-port Backbone Chassis with 8 Gbps 64-port Blade	Fabric OS v7.0.0 or later
SAN768B with FR4-18i Blade	384-port Backbone Chassis with 4 Gbps Router, Extension Blades	Fabric OS v7.0.0 or later
SAN768B with FC10-6 Blade	384-port Backbone Chassis with FC 10 - 6 ISL Blade	Fabric OS v7.0.0 or later
SAN768B with FX8-24 Extension Blades	384-port Backbone Chassis with 8 Gbps Extension Blades	Fabric OS v6.3.1_CEE
SAN768B with FCoE10-24 Blades	384-port Backbone Chassis with 8 Gbps 24-port FCoE Blades	Fabric OS v6.3.1_CEE
SAN384B Professional can discover, but not manage, this device. This device cannot be used as a Seed switch.	192-port Backbone Chassis	Fabric OS v7.0.0 or later
SAN384B with FC8-16, FC8-32, and FC8-48 Blades	192-port Backbone Chassis with 8 Gbps 16-FC port, 8 Gbps 32-FC port, and 8 Gbps 48-FC port Blades	Fabric OS v7.0.0 or later
SAN384B with FC8-64 Blade	192-port Backbone Chassis with 8 Gbps 64-port Blade	Fabric OS v7.0.0 or later
SAN384B with FR4-18i Blades	192-port Backbone Chassis with 4 Gbps Router, Extension Blades	Fabric OS v7.0.0 or later

TABLE 1 Supported Hardware (Continued)

IBM Name	Terminology used in documentation	Firmware level required
SAN384B with FC10-6 Blades	192-port Backbone Chassis with FC 10 - 6 ISL Blades	Fabric OS v7.0.0 or later
SAN384B with FX8-24 Extension Blades	192-port Backbone Chassis with 8 Gbps 12-FC port, 10 GbE ports, 2-10 GbE ports Extension Blades	Fabric OS v6.3.1_CEE
SAN384B with FCoE10-24 Blades	192-port Backbone Chassis with 8 Gbps 24-port FCoE Blade	Fabric OS v7.0.0 or later
SAN384B-2 Professional and Professional Plus Trial and Licensed version can discover, but not manage, this device. This device cannot be used as a Seed switch.	16 Gbps 192-port Backbone Chassis	Fabric OS v7.0.0 or later
SAN768B-2 Professional and Professional Plus Trial and Licensed version can discover, but not manage, this device. This device cannot be used as a Seed switch.	16 Gbps 384-port Backbone Chassis	Fabric OS v7.0.0 or later
IBM Storage Networking SAN256B-6 Professional and Professional Plus Trial and Licensed version can discover, but not manage, this device. This device cannot be used as a Seed switch.	32 Gbps, 4-slot Backbone Chassis	Fabric OS v8.0.1 or later
IBM Storage Networking SAN512B-6 Professional and Professional Plus Trial and Licensed version can discover, but not manage, this device. This device cannot be used as a Seed switch.	32 Gbps, 8-slot Backbone Chassis	Fabric OS v8.0.1 or later
FC8-16 Blade	FC 8 GB 16-port Blade	Fabric OS v7.0.0 or later

TABLE 1 Supported Hardware (Continued)

IBM Name	Terminology used in documentation	Firmware level required
FC8-32 Blade	FC 8 GB 32-port Blade	Fabric OS v7.0.0 or later
FC8-32E Blade	FC 8 GB 32-port Blade	Fabric OS v7.0.1 or later
FC8-48 Blade	FC 8 GB 48-port Blade	Fabric OS v7.0.0 or later
FC8-48E Blade	FC 8 GB 48-port Blade	Fabric OS v7.0.1 or later
FC8-64 Blade	FC 8 GB 64-port Blade	Fabric OS v7.0.0 or later
FC10-6 Blade	FC 10 - 6 ISL Blade	Fabric OS v7.0.0 or later
FC16-32 Blade Only supported on the SAN384B-2 and SAN768B-2 chassis.	16 Gbps 32-port blade	Fabric OS v7.0.0 or later
FC16-48 Blade Only supported on the SAN384B-2 and SAN768B-2 chassis.	16 Gbps 48-port blade	Fabric OS v7.0.0 or later
FC16-64 Blade Only supported on the SAN384B-2 and SAN768B-2 chassis.	16 Gbps 64-port blade	Fabric OS v7.0.0 or later
FCoE10-24 Blade Only supported on the SAN384B-2 and SAN768B-2 chassis.	10 Gig FCoE Port Router Blade	Fabric OS v7.0.0 or later
FR4-18i Extension Blade	4 Gbps Router, Extension Blade	Fabric OS v7.0.0 or later
FX8-24 Extension Blade Professional and Professional Plus Trial and Licensed version can discover, but not manage, this device. This device cannot be used as a Seed switch.	8 Gbps Extension Blade	Fabric OS v6.3.1_CEE

TABLE 1 Supported Hardware (Continued)

IBM Name	Terminology used in documentation	Firmware level required
FC32-48 Port Blade Professional and Professional Plus Trial and Licensed version can discover, but not manage, this device. This device cannot be used as a Seed switch.	32 Gbps 48-port blade	Fabric OS v8.0.1 or later
SX6 Extension Blade Professional and Professional Plus Trial and Licensed version can discover, but not manage, this device. This device cannot be used as a Seed switch.	32 Gbps, Router Extension blade	Fabric OS v8.0.1 or later

Document conventions

The document conventions describe text formatting conventions, command syntax conventions, and important notice formats used in this document.

Text formatting conventions

Text formatting conventions such as boldface, italic, or Courier font may be used in the flow of the text to highlight specific words or phrases.

Format	Description
bold text	Identifies command names. Identifies keywords and operands. Identifies the names of user-manipulated GUI elements. Identifies text to enter at the GUI.
<i>italic text</i>	Identifies emphasis. Identifies variables. Identifies document titles.

Format	Description
<code>Courier font</code>	Identifies CLI output.
	Identifies command syntax examples.

Command syntax conventions

Bold and italic text identify command syntax components. Delimiters and operators define groupings of parameters and their logical relationships.

Convention	Description
bold text	Identifies command names, keywords, and command options.
<i>italic text</i>	Identifies a variable.
value	In Fibre Channel products, a fixed value provided as input to a command option is printed in plain text, for example, --show WWN.
[]	Syntax components displayed within square brackets are optional. Default responses to system prompts are enclosed in square brackets.
{ x y z }	A choice of required parameters is enclosed in curly brackets separated by vertical bars. You must select one of the options. In Fibre Channel products, square brackets may be used instead for this purpose.
x y	A vertical bar separates mutually exclusive elements.
< >	Nonprinting characters, for example, passwords, are enclosed in angle brackets.
...	Repeat the previous element, for example, <i>member</i> [<i>member</i> ...].
\	Indicates a "soft" line break in command examples. If a backslash separates two lines of a command input, enter the entire command at the prompt without the backslash.

Notes, cautions, and warnings

Notes, cautions, and warning statements may be used in this document. They are listed in the order of increasing severity of potential hazards.

NOTE

A Note provides a tip, guidance, or advice, emphasizes important information, or provides a reference to related information.

ATTENTION

An Attention statement indicates a stronger note, for example, to alert you when traffic might be interrupted or the device might reboot.



CAUTION

A Caution statement alerts you to situations that can be potentially hazardous to you or cause damage to hardware, firmware, software, or data.



DANGER

A Danger statement indicates conditions or situations that can be potentially lethal or extremely hazardous to you. Safety labels are also attached directly to products to warn of these conditions or situations.

Additional information

This section lists additional IBM-specific documentation that you might find helpful. For support information for this product and other SAN products, see the following Web site: www.ibm.com/supportportal/

Visit www.ibm.com/contact/ for the contact information for your country or region. You can also contact IBM within the United States at 1-800-IBMSESV (1-800-426-7378). For support outside the United States, you can find the service number at: www.ibm.com/planetwide/.

Key terms

For definitions of SAN-specific terms, visit the Storage Networking Industry Association online dictionary at: <http://www.snia.org/education/dictionary>

Getting technical help

Contact your switch support supplier for hardware, firmware, and software support, including product repairs and part ordering. To expedite your call, have the following information available:

1. Management Application Serial Number

To obtain the Management application serial number, select **Help > License**. The **License** dialog box displays.

2. General Information

- Switch model
- Switch operating system version
- Software name and software version, if applicable
- Error numbers and messages received
- **supportSave** command output
- Detailed description of the problem, including the switch or fabric behavior immediately following the problem, and specific questions
- Description of any troubleshooting steps already performed and the results
- Serial console and Telnet session logs
- syslog message logs

3. Switch Serial Number

The switch serial number and corresponding bar code are provided on the serial number label.

The serial number label is located as follows:

- SAN24B-4, SAN24B-5, SAN24B-6, SAN42B-R, SAN64B-6, SAN40B-4, SAN80B-4, SAN96B-5, SAN06B-R, and IBM Converged Switch B32—On the switch ID pull-out tab located inside the chassis on the port side on the left
- SAN48B-5—On the pull-out tab on the front of the switch
- SAN256B—Inside the chassis next to the power supply bays
- SAN768B and SAN768B-2—On the bottom right on the port side of the chassis
- SAN384B and SAN384B-2—On the bottom left on the port side of the chassis
- SAN256B-6 and SAN512B-6—On the upper portion of the chassis to the left of the fan assemblies

4. World Wide Name (WWN)

You can also obtain the WWN from the same place as the serial number. For the SAN768B, SAN384B, SAN768B-2, SAN256B-6, and SAN512B-6, access the numbers on the WWN cards by removing the WWN bezel at the top of the nonport side of the chassis.

If the switch is operable, you can also use the **wwn** command to display the switch WWN.

How to send your comments

Your feedback is important in helping us provide the most accurate and high-quality information. If you have comments or suggestions for improving this document, send us your comments by e-mail to starpubs@us.ibm.com.

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How to send your comments

Software Licensing Overview

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Licenses overview

License keys are encoded form of supported configuration or features. License keys verify ownership of the Management application software as well as determine the maximum port count allowed or any additional features that you receive as part of the license.

Software licensing terminology

The following terms are used in this document:

- Entitlement certificate—The proof-of-purchase certificate (*paperpack or e-license*) issued by Brocade when a license is purchased. The certificate contains a unique transaction key that is used in conjunction with the license ID (LID) of the Brocade device to generate and download a software license from the Brocade software portal.
- License file—The file produced by the Brocade software portal when the license is generated. The file is installed in Network Advisor and controls access to a licensed feature or feature set.
- License ID (LID)—The identification number that uniquely identifies the Brocade device. The LID is used in conjunction with a transaction key to generate and download a software license from the Brocade software portal. The software license is tied to the LID of the Brocade device for which the license was ordered and generated.
- Licensed feature—Any hardware or software feature or set of features that require a valid software license in order to operate on the device.
- Transaction key—A unique key, along with the LID, used to generate a software license from the Brocade software portal. The transaction key is issued by Brocade when a license is purchased. The transaction key is delivered according to the method specified when the order is placed:
 - Paperpack—The transaction key is recorded on an entitlement certificate, which is mailed to the customer.
 - Electronic—The transaction key is contained in an e-mail message, which is sent instantly to the customer after the order is placed. The customer receives the e-mail message within a few minutes after the order is placed, though the timing will vary depending on the network, Internet connection, and so on.

If a delivery method is not specified at the time of the order, the key will be delivered by the way of paperpack.

How software licensing works

When a license is ordered, an entitlement certificate or e-mail message, along with a transaction key, are issued to the customer by Brocade as proof of purchase. The transaction key and license ID (LID) of the Brocade device are used to generate a license key from the Brocade software portal. The license key is contained within a license file, which is downloaded to your PC and is installed on Brocade Network Advisor.

When a trial license expires, the new clients can no longer log in.

License types

The following license types are supported by the Management application:

- Trial extension license - Enables 45 days of extension after the evaluation of 120 days free Enterprise Trial edition.
- Permanent license - Enables a license-controlled feature to run on the Network Advisor indefinitely.

Managed count

The Management application audits and verifies the managed count against the maximum limit for your license under the following conditions:

- Every three hours from server start time. Note that you may be able to manage more products or ports than the maximum licensed limit briefly (maximum of three hours) between these periodic checks.
- When a new client logs in to the server.
- When you access the **License** dialog box (**Help** > **License**).

NOTE

SAN Professional Plus Licensed versions can manage up to 2,560 ports.

NOTE

SAN Enterprise Trial and Licensed versions can manage up to 15,000 ports and 100 fabrics.

NOTE

For full performance management and dashboard functionality, the **Large** option of the SAN Enterprise edition only supports 5,000 switch ports on a 32-bit system.

NOTE

Virtual Fabrics are counted as fabrics when calculating the managed count limits.

General notes about licensing

This section lists the software licensing rules related to the Management application:

- Only one permanent or trial license at a time can be installed in Network Advisor.
- A trial license cannot replace or supersede a normal license.
- If a new feature is added, a new license will be issued.
- Two trial licenses of 45 days each are available after the default trial period (120 days) expires.

Viewing software license information from the Brocade software portal

This section describes other software licensing tasks supported from the Brocade software portal. You can use the Unit License Query option to view software license information for Network Advisor. You can export the report to Excel for sharing or archiving purposes.

Depending on the status of the license (for example, whether or not the license was generated), the report will include the following Information:

- Software part number, serial number, and description
- Date the license was installed
- Transaction key
- LID
- Product line

To view license information, complete the following steps:

1. From the **License Management** menu, select **Brocade Network Advisor > Unit License Query**. The **Network Advisor Unit License Query** window displays.
1. Enter the unique serial number in the **Serial Number** field.
2. Enter the unique number in the **Transaction Key** field. The license details will be displayed only after the transaction key is activated.
3. Click **Search**. The **License Query Results** window displays.

The following table describes the fields displayed in the **License Query Results** window.

TABLE 2 Description of License Query Results fields

Field or Component	Description
Customer Serial #	The unique serial number given to the customer.
Transaction Key	The unique key number along with the License ID.

TABLE 2 Description of License Query Results fields (Continued)

Field or Component	Description
Sales Order	The order number of the sale.
Purchase Order	The order number of the purchase.
Description	The license type ordered.
License	The type of license.
Key Activation Date	The date the license key is activated.
Size of SAN at the time of installation	Used for SAN devices.
Software Version Number	The software version.
M&S Expiration Date	The expiration date of M&S.
IP Switch Count	The switch count of IP.
IP Switch Port Count	The switch port count of IP.
MPLS Count	The MPLS count.

Fabric Insight Portal Advanced Analytics Management (AAM) License

You must install the Fabric Insight Portal AAM license in Brocade Analytics Monitoring Platform running AMP OS 2.0.0 or later versions to manage devices through Brocade Network Advisor 14.1.0 or later. This release has been restricted to advanced AMP-capabilities such as flow metrics monitoring, collection, and aggregation to a single Network Advisor instance at a logical switch level.

Software portal tasks

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Generating a license

Before you can use a software license, you must generate it from the Brocade software portal.
The following procedure demonstrates how to generate and obtain a software license.

1. Order a license.
You will receive the license transaction key in the form of a paperpack or electronic transaction key. When you receive the paperpack or electronic transaction key, retrieve the LID of your Brocade device by entering the **show license id** command on the device. If you have received a paperpack transaction key, write the LID in the space provided on the entitlement certificate and on the unit ID label.

NOTE
To order and obtain a trial license, contact your Brocade representative.

-
- NOTE**
Do not discard the entitlement certificate or e-mail with the electronic key. Keep it in a safe place in case it is needed for technical support or product replacement (RMAs).
-
2. Log in to the Brocade software portal at <http://swportal.brocade.com> and complete the software license request. If you do not have a login ID and password, request access by following the instructions on the screen.
The following figure shows the Software Licensing portal login window.
 3. Enter your user name and password and click **LOGIN**.
The **License Generation** window appears.
 4. Enter the licensing transaction key, token, or certificate and click **Next**.
The **License Information** window is displayed.
 5. Enter the requested information in the **Product Information** field.
 6. Read the Brocade End User License Agreement and select the **I have read and accept** check box.
 7. Click **Generate**.
The **Results** window displays an order summary and the results of the license request.
 - If the license request is successful, the Status field shows "Success" and the **License** field contains a hyperlink to the generated license file. The license file is automatically sent by e-mail to the specified customer e-mail address.
 - If the license request fails, the reason it failed and the action to be taken is displayed on the page.
 8. Click the hyperlink in the **License** field to download the license file to your PC.

9. Upload the license file to the Brocade device. You can also refer to the e-mail sent with the license files for instruction on installing a license.
10. Click **Export to Excel** to export the results to a Microsoft Excel file or click **Generate Another License** to generate a new license.

Querying a license

To view software license information for a particular product, you can use the License Query option with an Activation key or License ID (LID).

1. To display the License Query window, you must select the **Unit License Query** option, from the **License Management Welcome** window, select **License Management > Brocade NOS > Unit License Query**.

Click **input guidelines** for more information on the input value.

2. You must enter the **License ID**, **Serial #** or **Activation Key** to query a particular product.
3. Click **Search**. Depending on the status of the license (for example, whether or not the license was generated), the report includes the following product information:
 - Product name SKU
 - ID value
 - Activation key
 - License
 - Created date
 - Capacity
 - Customer name
 - Description

In the figure, the first row under PRODUCT INFORMATION displays hardware-related information and the second row displays software-related information. If the query is performed before the transaction key is generated, the hardware-related information will not appear as part of the search results. Similarly, if the query is performed before the license is generated, some of the information in the software-related information will not be displayed.

4. Click **more** or **less** in **ID value** to view the License ID.
5. Click the **License** hyperlink to download the license information.
6. Click **Export to Excel** to download the report for sharing or archiving purposes, or Click **Search Another Unit** to query another product.

Software Licensing Tasks

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Viewing the license key

A license key is required to run the Management application. The license key specifies the expiration date of a trial license, as well as the number of ports allowed.

If you are installing the Management application for the first time or you are migrating to a new version, refer to the *IBM Network Advisor Installation and Migration Guide*.

NOTE

If your installation does not require a license key, the **License** dialog box does not display.

To view the license key, complete the following steps.

1. Select **Help > License**.

The **License** dialog box displays.

2. Review the new information in the **License** dialog box fields:
 - **License Key**—License keys consist of an asterisk (*) followed by a unique string of alphanumeric characters. License keys verify ownership of the Management application software as well as determine the maximum port count allowed or any additional features that you receive as part of the license.
 - **Serial #** —The serial number of the server associated with the license key. This field is not editable; it is populated after you set the license key on the server.
 - **Remaining Trial Period**—The number of days remaining in the trial period.
 - **License Details**—The managed and licensed count for products and ports. The items to be counted:
 - Fabrics (SAN)
 - Ports (SAN)
 - **Package**—Whether the count is part of the SAN package.
 - **Managed Count** —The number of managed ports, products, and fabrics.

NOTE

Virtual Fabrics are counted as fabrics when calculating the managed count limits.

- **Maximum Limit** — The number of licensed ports or products allowed.

- SAN Enterprise edition supports a maximum of 15,000 ports and 100 fabrics.
 - SAN Professional Plus edition supports a maximum of 2,560 ports and 100 fabrics.
 - Only fabrics and devices discovered from the **SAN** tab are counted.
3. Click **OK** to close the **License** dialog box.

Obtaining a license key

Before upgrading the management application, you must generate a software license key.

Use the following procedure to generate and obtain a software license key.

1. Order a Network Advisor license.

You will receive the license transaction key in the form of an electronic transaction key. Do not discard the entitlement certificate or e-mail with the electronic key. Keep it in a safe place in case it is needed for technical support or product replacement.

NOTE

A new license is issued, if a new feature is added.

NOTE

Two trial licenses of 45 days each are available after the default trial period (120 days) expires.

NOTE

Do not discard the entitlement certificate or e-mail with the electronic key. Keep it in a safe place in case it is needed for technical support or product replacement.

2. Log in to the Brocade software portal at <http://swportal.brocade.com> and complete the software license request. If you do not have a login ID and password, request access by following the instructions on the screen.

The following figure shows the software licensing portal login window.

3. From the **License Management** menu, select **Brocade Network Advisor > License Generation with Transaction key**. The **Brocade Network License Generation** window displays.
4. Enter the requested information in the required fields. An asterisk (*) next to a field indicates that the information is required.

NOTE

You can generate more than one license at a time. For each license request, enter the **Unit's Unique ID** and **Transaction Key**, and click **Add**.

NOTE

The validity of the 45-day extension file starts from the day you receive the license key.

5. When you have finished entering the required information, read the Brocade End User License Agreement, and select the **I have read and accept** check box.
6. Click the **Generate** button to generate the license. The results window displays an order summary and the results of the license request.

- If the license request is successful, the **Status** field displays "Success" and the **License File** field contains a hyperlink to the generated license file. The license file is automatically sent by e-mail to the specified customer e-mail address.
 - If the license request fails, the **Status** field indicates the reason it failed and the action to be taken.
7. Download the license file to your PC by either clicking the hyperlink in the **License File** field or saving the license file from the e-mail attachment.

Upgrading the Management application

The quickest and simplest method of moving from lower configuration to higher configuration is to enter the new license information on the **License** dialog box.

The following tables list the available upgrade paths.

TABLE 3 SAN upgrade paths

Current software release	To software release
SAN Professional	SAN Professional Plus Licensed SAN Enterprise Trial or Licensed
SAN Professional Plus Licensed	SAN Enterprise Licensed
SAN Enterprise Trial	SAN Enterprise Licensed SAN + IP Enterprise Trial
SAN Enterprise Licensed	SAN + IP Enterprise Licensed

TABLE 4 IP upgrade paths

Current software release	To software release
IP Professional	IP Base Trial or Licensed SAN Professional Plus + IP Enterprise Licensed SAN + IP Enterprise Trial or Licensed
IP Base Trial	IP Base Licensed SAN + IP Enterprise Licensed SAN Professional Plus + IP Enterprise Licensed
IP Base Licensed (lower count)	IP Base Licensed (higher count) SAN + IP Enterprise Licensed

TABLE 5 SAN + IP upgrade paths

Current software release	To software release
SAN + IP Professional	SAN Professional Plus + IP Base Licensed SAN + IP Enterprise Trial or Licensed version
SAN Professional Plus + IP Base Licensed	SAN + IP Enterprise Licensed version
SAN + IP Enterprise Trial	SAN + IP Enterprise Licensed version

1. Select **Help > License**.

The **License** dialog box displays.

2. Browse to the license key file (.xml) or cut and paste the license string in the **License Key** field and click **Update**.
3. Click **OK** on the message.

The client closes after updating the license successfully. Restart the server through the Server Management Console for the changes to take effect.

4. Open the Management application (double-click the desktop icon or open from the **Start** menu).

The **Log In** dialog box displays.

5. Choose one of the following options:

- If you configured authentication to CAC, enter your PIN in the **CAC PIN** field.
- If you configured authentication to the local database, an external server (RADIUS, LDAP, or TACACS+), or a switch, complete the following steps.

- a) Enter your user name and password. The defaults are Administrator and password, respectively.

NOTE

Do not enter Domain\User_Name in the **User ID** field for LDAP server authentication.

- b) Select or clear the **Save password** check box to choose whether you want the application to remember your password the next time you log in.

6. Click **Login**.

7. Click **OK** on the **Login Banner**.
-

NOTE

When you launch the Management application or navigate to a new view, the **SAN** tab displays with a gray screen over the Product List and Topology Map while data is loading.

License downgrade

You can downgrade from a higher configuration to a licensed version with a lower configuration. You can perform the following types of downgrade:

- Edition

NOTE

You cannot downgrade to Professional edition.

NOTE

Downgrading to a Trial version is not supported.

NOTE

You cannot downgrade during migration (Configuration Wizard).

Downgrading the edition

The table lists the available downgrade paths.

TABLE 6 Edition downgrade paths

Current software release	To software release
SAN + IP Enterprise Licensed or Trial	SAN + IP Professional Plus Licensed SAN Professional Plus Licensed
SAN Enterprise Licensed or Trial	SAN + IP Professional Plus Licensed

Before you downgrade the edition, make sure your application meets the following requirements:

- Your application configuration is within the limit of the licensed version.
- The application is not using a DCX device as a seed switch.

NOTE

If you combine more than one downgrade option, you must meet the requirements for all downgrade options.

To downgrade the edition, complete the following steps.

1. Select **Help > License**.

The **License** dialog box displays.

2. Browse to the license key file (.xml) in the **License Key** field and click **Update**.

A message displays that details the support that will no longer be available after the license update.

3. Click **Yes** on the message to continue.

The client closes after updating the license successfully. Restart the server through the Server Management Console for the changes to take effect, then log back into the application. After you downgrade from Enterprise to Professional Plus, the network size changes to small and all network size-related parameters (such as asset collection thread pool size and client and server heap size) are updated.

Downgrading the package

NOTE

You cannot downgrade if the IP discovery profile is running and server backup is in process.

[Table 7](#) lists the available downgrade paths.

TABLE 7 Package downgrade paths

Current software release	To software release
SAN + IP Enterprise	SAN Enterprise
	IP Base
	SAN Professional Plus
SAN + IP Professional Plus	SAN Enterprise
	IP Base
	SAN Professional Plus
SAN + IP Professional	SAN Enterprise
	IP Base
	SAN Professional Plus

Before you downgrade the package, make sure your application meets the following requirements:

- If you are downgrading to the SAN-only license, delete all IP products and DCB devices discovered from the **IP** tab.
- If you are downgrading to the IP-only license, delete all SAN fabrics (both monitored and unmonitored).

NOTE

If you combine more than one downgrade option, you must meet the requirements for all downgrade options.

To downgrade the edition, complete the following steps.

1. Select **Help > License**.

The **License** dialog box displays.

2. Browse to the license key file (.xml) in the **License Key** field and click **Update**.

A message displays that details the support that will no longer be available after the license update.

3. Click **Yes** on the message to continue.

The client closes after updating the license successfully. Restart the server through the Server Management Console for the changes to take effect, then log back into the application.

After you downgrade, the following application changes occur:

- When you downgrade from SAN + IP to SAN only, the IP network size changes to none, and all network size-related parameters (such as asset collection thread pool size and client and server heap size) are updated.
- When you downgrade from SAN + IP to SAN only, the SAN network size changes to none, and all network size-related parameters (such as asset collection thread pool size and client and server heap size) are updated.

NOTE

When you downgrade from SAN + IP to IP only, the IP discovery profile, if scheduled, is disabled during the downgrade.

References

- [Network Advisor packages.....](#)29
- [Scalability limits.....](#)29
- [Edition feature support.....](#)31

Network Advisor packages

The following table summarizes the packages and available editions for each package.

TABLE 8 Network Advisor packages and versions (Continued)

Package	Versions
SAN with SMI Agent	• Enterprise (trial and licensed) • Professional Plus (licensed) • Professional
SMI Agent	NOTE Network Advisor clients are not available in the SMI Agent only package. Clients are not required when other management tools are used in the SMI Agent.

For a list of the supported scalability limits for Network Advisor by edition, refer to [Scalability limits](#) on page 29.

Scalability limits

The following table summarizes the scalability limits supported for Network Advisor by edition.

TABLE 9 Supported scalability limits by Network Advisor edition

	Enterprise edition			SAN Professional Plus+ IP Base edition	Professional edition
	Small	Medium	Large		
SAN Switch Ports	2000	5000	15000	2560	300
SAN Switches and Access Gateways	40	100	400	40	15
SAN Devices	5000	15000	40000	5000	1000
SAN Fabrics	25	50	100	36	2
IP Switches ¹	50	200	1550 (supported) 1200 (recommended) (with performance monitoring on up to 20000 ports)	50	50
MPLS Switches	1	10	100	1	Not supported.
VDX Switches	50	100	400	50	50
Managed Hosts	20	100	400	100	20
vCenters	1	5	10	5	1
VMs (includes powered-down VMs)	1000	5000	10000	5000	10000
ESX Hosts	200	1000	2000	1000	200

NOTE

Virtual Fabrics are counted as fabrics when calculating the managed count limits.

¹ The IP switch count includes MPLS and VDX switches.

NOTE

SMI Agent is not supported on the Professional edition.

NOTE

Professional Plus is not supported for the IP package.

NOTE

Supported network latency between the Network Advisor server and client or server and devices is 100 milliseconds.

Edition feature support

The following table details whether the features are supported in the Professional, Professional Plus, or Enterprise versions, or only through the Element Manager of the device.

TABLE 10 SAN features supported

Feature	Professional	Professional Plus	Enterprise
AAA (Authentication, Authorization, and Accounting)	No	Yes	Yes
Authentication and authorization configuration			
Access Gateway (AG) management			
AG display	Yes	Yes	Yes
Support for firmware download, supportSave, performance statistics, and configuration file management	Yes	Yes	Yes
Active session management	Yes	Yes	Yes
Bottleneck detection			
Configuration	No	Yes	Yes
Statistics	No	Yes	Yes

TABLE 10 SAN features supported (Continued)

Feature	Professional	Professional Plus	Enterprise
Badge on topology and product tree	Yes	Yes	Yes
Show affected host	No	Yes	Yes
Call Home support			
Support for all call home centers	No	Yes	Yes
SupportSave for Fabric OS switches	No	Yes	Yes
Support for appending the last 30 events in a call home event for e-mail-based call home centers	No	Yes	Yes
Certificate management	No	Yes	Yes
COMPASS	No	Yes	Yes
Configuration management			
Configuration repository management	No	Yes	Yes
Firmware download	Yes	Yes	Yes
Manual backup	Yes	Yes	Yes
NOTE Professional only supports one switch at a time.			
Save configuration	Yes	Yes	Yes
NOTE Professional only supports one switch at a time.			
Periodic configuration backup and persistence	No	Yes	Yes
Replicate switch configuration	No	Yes	Yes
Dashboard	Yes	Yes	Yes
DCB configuration management	Yes	Yes	Yes

TABLE 10 SAN features supported (Continued)

Feature	Professional	Professional Plus	Enterprise
DCX backbone chassis discovery and management	No	No	Yes
Diagnostic port test	No	Yes	Yes
Digital diagnostic	Yes	Yes	Yes
Encryption			
Layer 2 FC support	Yes	Yes	Yes
Encryption configuration and monitoring	Yes	Yes	Yes
Access Gateway - Cisco interop support	Yes	Yes	Yes
Device decommissioning	Yes	Yes	Yes
End device connectivity	Yes	Yes	Yes
Collection			
Views			
Fabric binding	No	Yes	Yes
Fabric Watch			
Hardware	Element Manager	Element Manager	Element Manager
Ports	Element Manager	Element Manager	Element Manager
Admin	Element Manager	Element Manager	Element Manager
Router Admin	Element Manager	Element Manager	Element Manager
Name Server	Element Manager	Element Manager	Element Manager
Fault management	Element Manager	Element Manager	Element Manager
Show switch events	Yes	Yes	Yes
Show fabric events	Yes	Yes	Yes
Syslog registration and forwarding	Yes	Yes	Yes

TABLE 10 SAN features supported (Continued)

Feature	Professional	Professional Plus	Enterprise
SNMP trap registration and forwarding	Yes	Yes	Yes
Trap configuration, credentials, and customization	Yes	Yes	Yes
Event forwarding	No	Yes	Yes
Event custom report	No	Yes	Yes
Event processing (event policies and pseudo events)	No	Yes	Yes
Common SNMP/Trap registration	Yes	Yes	Yes
FCIP management			
FCIP configuration wizard	Yes	Yes	Yes
Iperf and IP trace route	Yes	Yes	Yes
FCoE management			
FCoE configuration	Yes	Yes	Yes
Migration from DCFM	Yes	Yes	Yes
FICON/CUP			
Cascaded FICON configuration wizard	No	No	Yes
Cascaded FICON Fabric merge wizard	No	No	Yes
PDCM Matrix	Element Manager	Element Manager	Yes
Firmware management and supportSave			
Firmware download	Yes	Yes	Yes
Capture SupportSave	Yes	Yes	Yes
Flow Vision	No	Yes	Yes
Frame monitor	No	Yes	Yes

TABLE 10 SAN features supported (Continued)

Feature	Professional	Professional Plus	Enterprise
HBA management			
HBA management	Yes	Yes	Yes
VM management	Yes	Yes	Yes
Driver/DIOS management	No	Yes	Yes
Fabric assigned WWN	No	Yes	Yes
HBA Server and Storage port mapping	No	Yes	Yes
High Integrity Fabric	No	Yes	Yes
IPv6 -- Server - Switch support	Yes	Yes	Yes
iSCSI discovery	Yes	Yes	Yes
Layer 2 trace route	No	Yes	Yes
License	No	Yes	Yes
MAPS management	No	Yes	Yes
Meta-SAN	No	Yes	Yes
Routing configuration			
Domain ID configuration			
Name Server	Yes	Yes	Yes
Open Trunking Support			
Display trunks on the topology	Yes	Yes	Yes
Display trunks properties	Yes	Yes	Yes
Display marching ants	Yes	Yes	Yes
Display connections properties	Yes	Yes	Yes
Performance management - SNMP monitoring			

TABLE 10 SAN features supported (Continued)

Feature	Professional	Professional Plus	Enterprise
Real Time Performance collection, display, and reports	Yes	Yes	Yes
Historical Performance collection, display, and reports	No	Yes	Yes
Thresholds	No	Yes	Yes
Top talkers - Supported on SAN switches and Access Gateway	No	Yes	Yes
Marching ants	No	Yes	Yes
Data aging	No	Yes	Yes
End-to-End monitors	No	Yes	Yes
Policy Monitor	Yes	Yes	Yes
Port Administration	Element Manager	Element Manager	Element Manager
Port Fencing	No	Yes	Yes
Port group configuration	No	No	Yes
Reports	Yes	Yes	Yes
Generate reports	Yes	Yes	Yes
View reports	Yes	Yes	Yes
Performance reports	Yes	Yes	Yes
FCR reports	Yes	Yes	Yes
SCOM plug-in support	No	Yes	Yes
Security management			
Replicate switch policy configuration	No	Yes	Yes
SNMP configuration	Yes	Yes	Yes

TABLE 10 SAN features supported (Continued)

Feature	Professional	Professional Plus	Enterprise
L2 ACL configuration	Yes	Yes	Yes
NOTE Only supported on DCB devices.			

TABLE 10 SAN features supported (Continued)

Feature	Professional	Professional Plus	Enterprise
SMI Agent	No	Yes	Yes
Server Profile			
Fabric Profile			
Indication Sub Profile			
Zone Control Sub Profile			
Enhanced Zoning and Enhanced Zoning Control Sub Profile			
FDMI (Fabric Device Management Interface) Sub Profile			
Fabrics Virtual Fabrics Sub Profile			
Topology View Sub Profile			
FC HBA (Fibre Channel Host Bus Adapter) Profile Fan, Power Supply, and Sensor Profiles Inter Fabric Routing (FCR) Profile			
Trunking			
CP Blade Sub Profile			
CEE (Converged Enhanced Ethernet)			
Launch In Context Profile			
Switch Profile			
Role Based Authorization (CEE ACL) Profile			
N port Virtualizer (AG NPIV) Profile			
Profile Registration Sub Profile			
Object Manager Adapter Sub Profile			
Fabric Views Sub Profile			
Physical Package Sub Profile			
Software Sub Profile			
Access Points Sub Profile			
Location Sub Profile			
Fabric Switch Partitioning Sub Profile			
FC Initiator Ports Sub Profile			
Fabric and Host discovery			
SAN Zoning			

TABLE 10 SAN features supported (Continued)

Feature	Professional	Professional Plus	Enterprise
Switch configuration management Basic configurations through the Element Manager	Yes	Yes	Yes
Switch port enable/disable through right-click menu	Yes	Yes	Yes
Technical SupportSave	Yes	Yes	Yes
Telnet	Yes	Yes	Yes
NOTE Telnet through the server is only supported on Windows systems.			
Tools launcher (Setup Tools)	No	Yes	Yes
Troubleshooting and Diagnostics			
Device connectivity troubleshooting wizard	Yes	Yes	Yes
Trace route and Ping	Yes	Yes	Yes
Fabric device sharing	No	Yes	Yes
User management	No	Yes	Yes
View management	No	Yes	Yes
Virtual fabric support			
Discovery	Yes	Yes	Yes
Configuration	No	Yes	Yes
VLAN management	Yes	Yes	Yes
VM Plugin Support	No	Yes	Yes
Web Element Manager	Yes	Yes	Yes
Zoning			

TABLE 10 SAN features supported (Continued)

Feature	Professional	Professional Plus	Enterprise
Member selection	Yes	Yes	Yes
Zone editing	Yes	Yes	Yes
Live fabric library scope	Yes	Yes	Yes
QoS support	Yes	Yes	Yes
Zone alias support	Yes	Yes	Yes
Delete Zone database	No	Yes	Yes
Impact analysis	Yes	Yes	Yes
Remove offline devices	No	Yes	Yes
TI Zones	Yes	Yes	Yes
Device to Zone / zoneset participation analysis	Yes	Yes	Yes
LSAN Zones	No	Yes	Yes
Rolling back to an activated zone database	No	Yes	Yes
Import or export a zone database	No	Yes	Yes



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