



CHAPTER 3

Managing ACE Software Licenses

This chapter describes how to manage the software licenses for your Cisco 4700 Series Application Control Engine (ACE) appliance. It contains the following major sections:

- [Information about ACE Licenses](#)
- [Guidelines and Limitations](#)
- [Prerequisites](#)
- [Default License Feature Capabilities](#)
- [Managing ACE Appliance Software Licenses](#)
- [Displaying ACE License Configurations and Statistics](#)

Information about ACE Licenses

[Table 3-1](#) summarizes the contents of the ACE license bundles that include the ACE appliance and a series of software licenses. You can increase the performance and operating capabilities of your ACE product by purchasing one of the licensing options. [Table 3-2](#) provides a list of the default and upgrade ACE appliance licensing options.

You can order your ACE product by either of these methods:

- Ordering a license bundle. Each license bundles includes the ACE appliance and a series of software licenses.
- Ordering separate license options.

Table 3-1 ACE Licensing Bundles

License PIDI	Description	Upgrade Path
ACE-4710-0.5F-K9	<p>This license bundle includes the following items:</p> <ul style="list-style-type: none"> • ACE 4710 appliance • 0.5-Gbps throughput license (ACE-AP-500M-LIC) • 100-Mbps compression license (ACE-AP-C-100-LIC) • 100 SSL transactions per second (TPS) license (ACE-AP-SSL-100-K9) • Application acceleration license (50 connections) (ACE-AP-OPT-50-K9) 	<p>You have the option to upgrade to the 1-Gbps, 2-Gbps, or 4-Gbps bundle.</p> <p>Start the upgrade with ACE-4710-BUN-UP1=.</p>
ACE-4710-1F-K9	<p>This license bundle includes the following items:</p> <ul style="list-style-type: none"> • ACE 4710 appliance • 1-Gbps throughput license (ACE-AP-01-LIC) • 500-Mbps compression license (ACE-AP-C-500-LIC) • 5000 SSL TPS license (ACE-AP-SSL-05K-K9) • Application acceleration license (50 connections) (ACE-AP-OPT-50-K9) 	<p>You have the option to upgrade to the 2-Gbps or 4-Gbps bundle.</p> <p>Start the upgrade with ACE-4710-BUN-UP2=.</p>
ACE-4710-BAS-2PAK	<p>This license bundle includes the following items:</p> <ul style="list-style-type: none"> • Two ACE 4710 appliances • 1-Gbps throughput license (ACE-AP-01-LIC) <p>ACE-4710-BAS-2PAK also includes the following default options:</p> <ul style="list-style-type: none"> • 1000 SSL TPS • 100-Mbps compression • 5 virtual contexts • Application acceleration (50 connections) 	<p>You have the option to upgrade to the 2-Gbps or 4-Gbps bundle.</p> <p>Start the upgrade with ACE-4710-BUN-UP2=.</p> <p>Two upgrade licenses are required for upgrading two units of the ACE-4710-BAS-2PAK bundle.</p>
ACE-4710-2F-K9	<p>This license bundle includes the following items:</p> <ul style="list-style-type: none"> • ACE 4710 appliance • 2-Gbps throughput license (ACE-AP-02-LIC) • 1-Gbps compression license (ACE-AP-C-1000-LIC) • 7500 SSL TPS license (ACE-AP-SSL-07K-K9) • Application acceleration license (50 connections) (ACE-AP-OPT-50-K9) 	<p>You have the option to upgrade to the 4-Gbps bundle.</p> <p>Start the upgrade with ACE-4710-BUN-UP3=.</p>

Table 3-1 ACE Licensing Bundles (continued)

License PIDI	Description	Upgrade Path
ACE-4710-4F-K9	This license bundle includes the following items: <ul style="list-style-type: none"> • ACE 4710 appliance • 4-Gbps throughput license (ACE-AP-04-LIC) • 2-Gbps compression license (ACE-AP-C-2000-LIC) • 7500 SSL TPS license (ACE-AP-SSL-07K-K9) • Application acceleration license (50 connections) (ACE-AP-OPT-50-K9) 	This is the highest value bundle.
ACE-4710-BUN-UP1	0.5 to 1-Gbps throughput bundle upgrade license	See the Upgrade Path outlined above.
ACE-4710-BUN-UP2	1 to 2-Gbps throughput bundle upgrade license	See the Upgrade Path outlined above.
ACE-4710-BUN-UP3	2 to 4-Gbps throughput bundle upgrade license	See the Upgrade Path outlined above.

Table 3-2 ACE Licensing Options

Feature	License PIDI	Description
Performance Throughput	Default	0.5-Gbps throughput.
	ACE-AP-01-LIC	1-Gbps throughput.
	ACE-AP-02-LIC	2-Gbps throughput.
	ACE-AP-04-LIC	4-Gbps throughput.
	ACE-AP-02-UP1	Upgrade from 1-Gbps to 2-Gbps throughput.
	ACE-AP-04-UP1	Upgrade from 1-Gbps to 4-Gbps throughput.
	ACE-AP-04-UP2	Upgrade from 2-Gbps to 4-Gbps throughput.
Virtualization	Default	1 admin/5 user contexts.
	ACE-AP-VIRT-020	1 admin/20 user contexts.
SSL	Default	1000 TPS.
	ACE-AP-SSL-05K-K9	5000 TPS.
	ACE-AP-SSL-07K-K9	7500 TPS.
	ACE-AP-SSL-UP1-K9	Upgrade from 5000 TPS to 7500 TPS.
HTTP Compression	Default	100-Mbps.
	ACE-AP-C-500-LIC	500-Mbps.
	ACE-AP-C-1000-LIC	1-Gbps.
	ACE-AP-C-2000-LIC	2-Gbps.
	ACE-AP-C-UP1	Upgrade from 500-Mbps to 1 Gbps.
	ACE-AP-C-UP2	Upgrade from 500-Mbps to 2 Gbps.
	ACE-AP-C-UP3	Upgrade from 1 Gbps to 2 Gbps.

Table 3-2 ACE Licensing Options (continued)

Feature	License PID	Description
Application Acceleration Feature Pack License	ACE-AP-OPT-LIC-K9	<p>Application acceleration and optimization. By default, the ACE performs up to 50 concurrent connections. With the application acceleration and optimization software feature pack installed, the ACE can provide greater than 50 concurrent connections.</p> <p>This license increases the operating capabilities of the following features:</p> <ul style="list-style-type: none"> • Delta optimization • Adaptive dynamic caching • FlashForward • Dynamic Etag

Guidelines and Limitations

The ACE license guidelines and limitations are as follows:

- A demo license is valid for only 60 days. At the end of this period, you must update the demo license with a permanent license to continue to use the ACE software. To view the expiration of a demo license, use the **show license usage** command in Exec mode (see the “[Displaying ACE License Configurations and Statistics](#)” section). ACE demo licenses are available through your Cisco account representative.
- If you turn the clock backward for any reason, you will not be able to install a demo license.
- If you need to replace the ACE, you can copy and install the license file for the license onto the replacement appliance.

Prerequisites

You must have the Admin role in the Admin context to install, remove, and update the license file.

Default License Feature Capabilities

[Table 3-3](#) lists the default feature capabilities of the ACE.

Table 3-3 Default Capabilities Parameters

Parameter	Default
Virtualization	One Admin context, five virtual contexts
Performance	0.5 gigabit per second (Gbps) appliance throughput
Secure Sockets Layer (SSL)	1000 transactions per second (TPS)

Table 3-3 Default Capabilities Parameters (continued)

Parameter	Default
Hypertext Transfer Protocol (HTTP) compression	1 Gbps
Application Acceleration	50 connections

Managing ACE Appliance Software Licenses

This section includes the following topics:

- [Tasks for Ordering an Upgrade License and Generating a Key](#)
- [Copying a License File to the ACE](#)
- [Installing a New or Upgrade License File](#)
- [Replacing a Demo License with a Permanent License](#)
- [Removing a License from the ACE](#)
- [Backing Up an ACE License File](#)
- [Retrieving an ACE License File](#)

Tasks for Ordering an Upgrade License and Generating a Key

This section describes the process that you use to order an upgrade license and to generate a license key for your ACE.

Follow these steps to order an upgrade license:

-
- Step 1** Order one of the licenses from the list in the [“Information about ACE Licenses”](#) section using any of the available Cisco ordering tools on cisco.com.
- Step 2** When you receive the Software License Claim Certificate from Cisco, follow the instructions that direct you to the Cisco.com website. As a registered user of Cisco.com, go to this URL:
<http://www.cisco.com/go/license>
- Step 3** Enter the Product Authorization Key (PAK) number found on the Software License Claim Certificate as your proof of purchase.
- Step 4** Provide all the requested information to generate a license key.
After the system generates the license key, you will receive a license key e-mail with an attached license file and installation instructions.
- Step 5** Save the attached license file to a remote server that you can access from the ACE. Save the license key e-mail in a safe place in case you need it in the future (for example, to transfer the license to another ACE).
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What to Do Next

Copy the license file to the ACE (see the [“Copying a License File to the ACE”](#) section).

Copying a License File to the ACE

This section describes how to copy an ACE license file from a remote server to the ACE. For detailed information on copying files from a remote server, see [Chapter 4, Managing the ACE Software](#).

Prerequisites

The license file must reside on a remote server that you can access from the ACE.

You must be in the Admin context to copy the file to disk0: on the ACE.

Detailed Steps

Command	Purpose
<pre>copy tftp://server[/path/][/filename] disk0:[path/]filename Example: host1/Admin# copy tftp://track/license/ACE-AP-VIRT-020.lic disk0:</pre>	<p>Copies the file to disk0: on the ACE.</p> <p>The arguments and keywords are as follows:</p> <ul style="list-style-type: none"> <code>[/server[/path/][/filename]]</code>—The path to the network server. This path is optional because the ACE prompts you for this information if you omit it. <code>disk0:[path/]filename</code>—Specifies that the file destination is the disk0: directory of the current context and the filename. If you do not provide the optional path, the ACE copies the file to the root directory on the disk0: file system.

What to Do Next

If the license is a demo or permanent license for a new or upgrade installation, see the [“Installing a New or Upgrade License File”](#) section.

If the license is a permanent license replacing a demo license, see the [“Replacing a Demo License with a Permanent License”](#) section.

Installing a New or Upgrade License File

This section describes how to install a license after you copy a demo or permanent license file to the ACE for a new or upgrade installation (see the [“Copying a License File to the ACE”](#) section). All license installations except one have no adverse impact to an operating ACE. No reboot is required and existing connections are not interrupted. In a redundant configuration, mismatched context licenses between the active and the standby ACEs cause the active ACE to generate a syslog message (if logging is enabled) and to disable configuration synchronization. After you install the correct matching license on the standby ACE, the software automatically detects the new license and restores normal operation.

For information about replacing a demo license with a permanent one, see the [“Replacing a Demo License with a Permanent License”](#) section.

Restrictions

This topic includes the following restrictions:

- You must have the Admin role in the Admin context to install or upgrade the license file.
- If you install a context demo license, make sure that you save the Admin running configuration and all user context running configurations to a remote server. If you allow a context license to expire, the ACE automatically removes all user contexts from the Admin running configuration and all configurations for the user contexts.

Detailed Steps

Command	Purpose
<p>license install disk0: <i>[path/]filename</i> <i>[target_filename]</i></p> <p>Example: host1/Admin# license install disk0: ACE-AP-02-LIC.lic</p>	<p>Installs or upgrades a license on your ACE.</p> <p>The arguments are as follows:</p> <ul style="list-style-type: none"> • <i>[path/]filename</i>—License stored on the disk0: file system. If you do not specify the optional path, the ACE looks for the file in the root directory. • <i>target_filename</i>—(Optional) Target filename for the license file.
<p>show license brief</p> <p>Example: host1/Admin# show license brief</p>	<p>(Optional) Displays the installed licenses.</p>

Examples

To install a license file for an SSL 5000 TPS license, enter:

```
host1/Admin# license install disk0:ACE-AP-SSL-05K-K9.lic
```

To install a license file for a 20 context license, enter:

```
host1/Admin# license install disk0:ACE-VIRT-020.lic
```

Replacing a Demo License with a Permanent License

This section describes how replace an ACE demo license with a permanent license. If you installed a demo license, four weeks before the license expires, the ACE generates warning syslog messages once a day. During the final week, a warning syslog message occurs once an hour. Before this period ends, you must update the demo license with a permanent license. Otherwise, the ACE will revert to its previous bandwidth, SSL TPS, or number of contexts.

After you copy the permanent license file to the ACE (see the [“Copying a License File to the ACE”](#) section), you can install it.

Restrictions

This topic includes the following restrictions:

- You must have the Admin role in the Admin context to update the demo license file with a permanent file.
- If you replace the context demo license with a permanent license, you can continue to use the configured user contexts on the ACE. However, if you allow a context license to expire, the ACE automatically removes all user contexts from the Admin running configuration and all configurations for the user contexts. Before a context license expires, save the Admin running configuration and the user context running configurations to a remote server. To view the expiration of the demo license, use the **show license usage** command in Exec mode from the Admin context.
- You must replace a demo license with a permanent license that has the same feature capability. For example, if you want to replace a 4 Gbps demo license, you can replace it only with a permanent 4 Gbps license.

Detailed Steps

Command	Purpose
<pre>license update disk0:[path/]permanent_filename demo_filename</pre> <p>Example:</p> <pre>host1/Admin# license update disk0:ACE-AP-VIRT-020.lic ACE-AP-VIRT-020-DEMO.lic</pre>	<p>Replaces a demo license with a permanent license.</p> <p>The arguments are as follows:</p> <ul style="list-style-type: none"> • <i>[path/]permanent_filename</i>—Filename for the permanent license file that you copied onto the ACE. • <i>demo_filename</i>—Filename for the demo license file that the permanent license file is replacing.

Removing a License from the ACE

This section describes how to remove an installed license from the ACE and includes the following topics:

- [Removing a Performance Throughput, HTTP Compression, Application Acceleration License, or SSL License](#)
- [Removing a Virtual Context License](#)

Removing a Performance Throughput, HTTP Compression, Application Acceleration License, or SSL License

This section describes how to remove a performance throughput, HTTP compression, application acceleration, or SSL License.



Note

When you use the **clear startup-config** or the **write erase** command, the ACE does not remove license files from the startup-configuration file.

Restrictions

This topic includes the following restrictions:

- You must have the Admin role in the Admin context to remove the license file.
- Performance throughput license removal—[Table 3-4](#) lists the currently installed performance throughput, the type of license on the ACE, and the remaining performance throughput after the license is removed.

Table 3-4 Performance Throughput License Removal

Current performance throughput	Applicable licenses	Results of license removal
0.5-Gbps throughput	Not applicable	—
1-Gbps throughput	ACE-AP-01-LIC	0.5-Gbps throughput
2-Gbps throughput	ACE-AP-02-LIC	0.5-Gbps throughput
4-Gbps throughput	ACE-AP-04-LIC	0.5-Gbps throughput
	ACE-AP-02-UP1	1-Gbps throughput
	ACE-AP-04-UP1	1-Gbps throughput
	ACE-AP-04-UP2	2-Gbps throughput

- SSL license removal—When you uninstall an SSL license, it reduces SSL TPS performance to 1000 TPS on the ACE.
- HTTP compression performance license removal—The current compression capability and type of compression licenses currently installed on the ACE determines which license you can remove. [Table 3-5](#) lists the currently installed compression license on the ACE and the remaining compression capability after the license is removed.

Table 3-5 Compression License Removal

Current compression capability	Applicable licenses	Results of license removal
100 Mbps (default)	Not applicable	—
500 Mbps	ACE-AP-C-500-LIC	100 Mbps
1 Gbps	ACE-AP-C-1000-LIC	100 Mbps
	ACE-AP-C-UP1	500 Mbps
2 Gbps	ACE-AP-C-2000-LIC	100 Mbps
	ACE-AP-C-UP2	500 Mbps
	ACE-AP-C-UP3	1 Gbps

- Application acceleration software feature pack removal—By default, the ACE performs up to 50 concurrent connections. With the application acceleration and optimization software feature pack installed, the ACE can provide greater than 50 concurrent connections. For more information on the application acceleration and optimization capabilities of the ACE and configuring these capabilities, see the *Cisco 4700 Series Application Control Engine Appliance Application Acceleration and Optimization Configuration Guide*.

**Caution**

Before removing any virtual context license, save the Admin running configuration and the user context running configurations to a remote server. When you remove a demo or permanent virtual context license, the ACE removes all user contexts from the Admin running configuration. By removing the user contexts, their running and startup configurations are also removed from the ACE.

Detailed Steps

Command	Purpose
<pre>license uninstall license_filename</pre> <p>Example: host1/Admin# license uninstall disk0:ACE-AP-02-LIC.lic</p>	<p>Removes a performance throughput license, HTTP compression performance license, application acceleration software feature pack, or SSL TPS license from the ACE. The argument is as follows:</p> <ul style="list-style-type: none"> <i>license_filename</i>—Specifies the filename of the license file that you want to remove. Enter the license filename as an unquoted text string with no spaces.

Removing a Virtual Context License

This section describes how to remove a virtual context license.

Prerequisite**Caution**

Before you remove any virtual context license from the ACE, save the Admin running configuration and the user context running configurations to a remote server. When you remove a demo or permanent virtual context license, the ACE removes all user contexts from the Admin running configuration. By removing the user contexts, their running and startup configurations are also removed from the ACE.

Restrictions

This topic includes the following restrictions:

- You must have the Admin role in the Admin context to remove the license file.
- The number of virtual contexts and type of licenses currently installed on the ACE determines which license you can remove. [Table 3-6](#) lists the currently installed virtual contexts, the type of license on the ACE, and the remaining number of virtual contexts after the license is removed.

Table 3-6 Virtual Context License Removal

Current number of contexts	Applicable licenses	Results of license removal
5 (default)	Not applicable	—
20	ACE-AP-VIRT-020	5 contexts

Detailed Steps

Command	Purpose
<pre>license uninstall license_filename</pre> <p>Example:</p> <pre>host1/Admin# license uninstall disk0:ACE-AP-02-LIC.lic</pre>	<p>Removes a performance throughput license, HTTP compression performance license, application acceleration software feature pack, or SSL TPS license from the ACE. The argument is as follows:</p> <ul style="list-style-type: none"> • <i>license_filename</i>—Specifies the filename of the license file that you want to remove. Enter the license filename as an unquoted text string with no spaces. •

Follow these steps to remove a license:

- Step 1** Save the Admin and user context running configurations to a remote server by entering the **copy running-config** command in Exec mode in each context. For more information on this command, see [Chapter 4, Managing the ACE Software](#).

For example, to copy the Admin running configuration to an TFTP server as R-CONFIG-ADM, enter:

```
host1/Admin# copy running-config tftp://192.168.1.2/R-CONFIG-ADM
```

To copy the C1 user context running configuration to an TFTP server, access the C1 context and enter:

```
host1/C1# copy running-config tftp://192.168.1.2/R-CONFIG-C1
```

- Step 2** Remove the license with the **license uninstall** command. For example, to remove the ACE-VIRT-250.LIC license, enter:

```
host1/Admin# license uninstall ACE-AP-VIRT-020.lic
```

The ACE displays the following messages and prompt:

```
Clearing license ACE-AP-VIRT-020.lic:
SERVER this_host ANY
VENDOR cisco
INCREMENT ACE-AP-VIRT-020 cisco 1.0 permanent 1 \
  VENDOR_STRING=<count>1</count> HOSTID=ANY \
  NOTICE="<LicFileID>20051103151315824</LicFileID><LicLineID>1</LicLineID> \
  <PAK></PAK>" SIGN=86A13B1EA2F2

INCREMENT ACE-AP-VIRT-020 cisco 1.0 permanent 1 \
!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!
!!! WARNING: Uninstalling virtual context license will automatically!!
!!! cleanup all the user context configurations, please backup the !!
!!! configurations before proceeding further with uninstallation  !!
!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!
Do you want to continue? (y/n)
```

- Step 3** If you have not saved the running configurations for the Admin and user contexts to a remote server, enter **n**. Go to Step 1.

If you saved the running configurations for the Admin and user contexts to a remote server, enter **y**.

During the license removal, the ACE removes the user context configurations from the Admin running configuration, causing the deletion of all user contexts including their running and startup configurations.

- Step 4** Display the current number of supported contexts on the ACE by entering the **show license status** command in Exec mode of the Admin context.
- Step 5** Determine which contexts you want to keep in the Admin running configuration. Using a text editor, manually remove the extra context configurations from the Admin running configuration on the remote server.

If the Admin running configuration contains more contexts than what the ACE supports and you copy this configuration to the ACE, the ACE rejects contexts that exceed the supported limit. For example, if the running configuration contains 20 contexts, when you remove the license, the ACE supports five contexts. If you attempt to copy the configuration with all 20 contexts, the ACE allows the first five contexts, fails the remaining contexts, and displays error messages on the console.



Note You can also manually recreate the user contexts in the running configuration that is currently on the ACE. If you do, go to Step 7.

- Step 6** Retrieve the modified Admin running configuration from the remote server. For example, to copy the R-CONFIG-ADM Admin running configuration from the TFTP server, enter:

```
host1/Admin# copy tftp://192.168.1.2/R-CONFIG-ADM running-config
```

- Step 7** Copy the Admin running configuration to the startup-configuration file. For example, enter:

```
host1/Admin# copy running-config startup-config
```



Note If you do not update the startup configuration with the latest running configuration, when the ACE restarts, it uses the startup configuration with the extra contexts. The ACE allows the number of contexts that the license supports, but fails the remaining contexts.

- Step 8** Access the user context, and copy its running configurations from the remote server. For example, to copy the C1 user context running configuration from the TFTP server, access the C1 context and enter:

```
host1/C1# tftp://192.168.1.2/R-CONFIG-C1 copy running-config
```

- Step 9** Copy the user context running configuration to the startup-configuration file. For example, enter:

```
host1/Admin# copy running-config startup-config
```

- Step 10** Repeat Steps 8 and 9 until you retrieve the running configurations for all user contexts configured in the Admin configuration.
-

Backing Up an ACE License File

This section describes how to back up an ACE license file. To protect your license files, we recommend that you back up your license files (in .tar format) to the ACE Flash disk.

Restrictions

You must be in the Admin context to back up an ACE license file.

Detailed Steps

Command	Purpose
<pre>copy licenses disk0: [path/]filename.tar</pre> <p>Example: <pre>host1/Admin# copy licenses disk0:mylicenses.tar</pre></p>	<p>Backs up your license files to the ACE Flash disk as tar files.</p> <p>The keyword and argument are as follows:</p> <ul style="list-style-type: none"> disk0:—Specifies that the backup license file is copied to the disk0: file system. [path/]filename.tar—Destination filename for the backup licenses. The destination filename must have a .tar file extension.

Retrieving an ACE License File

This section describes how retrieve an ACE license file. If you accidentally remove or lose the license on the ACE, you can untar your backup license file and then reinstall it.

Restrictions

You must be in the Admin context to retrieve an ACE license file.

Detailed Steps

Command	Purpose
<pre>untar disk0: [path/] filename.tar</pre> <p>Example: <pre>host1/Admin# untar disk0:mylicenses.tar</pre></p>	<p>Untars the backup file should you need to reinstall it because you accidentally removed or lost the license.</p> <p>The [path/]filename.tar argument is the filename of the .tar backup license file.</p> <p>For information on installing the license, see the “Installing a New or Upgrade License File” section.</p>

Displaying ACE License Configurations and Statistics

To display license information about your ACE, perform one of the following tasks in the Admin context only:

Command	Purpose
show license [brief file <i>filename</i> internal event-history status usage]	<p>Displays all or some of the license information.</p> <p>Entering this Exec mode command without any options and arguments displays all installed ACE license files and their contents.</p> <p>The options and arguments for this command are as follows:</p> <ul style="list-style-type: none"> • brief—Displays a list of the currently installed licenses. • file <i>filename</i>—Displays the file contents of the specified license. • internal event-history—Displays a history of licensing-related events. • status—Displays the status of licensed features (see Table 3-7). • usage—Displays the usage table for all licenses (see Table 3-8).
show version	Displays license information.

[Table 3-7](#) describes the fields in the **show license status** command output.

Table 3-7 *Field Descriptions for the show license status Command Output*

Field	Description
Licensed Feature	List including the ACE SSL transactions per second (TPS), virtual contexts, bandwidth, compression, and application acceleration and optimization concurrent connections.
Count	Number of ACE-supported SSL TPS, virtual contexts, bandwidth (Gbps), compression (Gbps), and application acceleration and optimization concurrent connections. This information also provides the default number of contexts, SSL TPS, and appliance bandwidth that the ACE supports when a license is not installed.

[Table 3-8](#) describes the fields in the **show license usage** command output.

Table 3-8 *Field Descriptions for the show license usage Command Output*

Field	Description
License	Name of the license.
Ins	Whether the license is installed (Yes or No).
Lic Count	Number of licenses for this feature.
Status	Current state of the feature (In use or Unused).
Expiry Date	Date when the demo license expires, as defined in the license file. If the license is permanent, this field displays Never.
Comments	Licensing errors, if any.