



Preface

This guide describes how to configure the Secure Sockets Layer (SSL) features on the following products:

- Cisco ACE Application Control Engine Module (ACE module) in the Catalyst 6500 series switch or Cisco 7600 series router
- Cisco ACE 4700 Series Application Control Engine Appliance (ACE appliance)

The information in this guide applies to both the ACE module and the ACE appliance unless otherwise noted.

You configure the ACE by using the following interfaces:

- The command-line interface (CLI), a line-oriented user interface that provides commands for configuring, managing, and monitoring the ACE.
- (ACE appliance only) Device Manager graphic user interface (GUI), a Web browser-based GUI interface that provides a graphical user interface for configuring, managing, and monitoring the ACE appliance.
- Cisco Application Networking Manager (ANM), a networking management application for monitoring and configuring network devices, including the ACE.

This preface contains the following major sections:

- [Audience](#)
- [How to Use This Guide](#)
- [Related Documentation](#)
- [Symbols and Conventions](#)

- [Obtaining Documentation, Obtaining Support, and Security Guidelines](#)

Audience

This guide is intended for the following trained and qualified service personnel who are responsible for configuring the ACE:

- System administrator
- System operator

How to Use This Guide

This guide is organized into the following chapters:

Chapter	Description
Chapter 1, Overview	Provides an overview of Secure Sockets Layer (SSL) cryptography and the ACE SSL features.
Chapter 2, Managing Certificates and Keys	Describes how to manage SSL certificate and key pair files on the ACE, including how to import and export certificate and key pair files.
Chapter 3, Configuring SSL Termination	Describes how to configure the ACE as an SSL proxy server to perform SSL termination between itself and a client. It includes client authentication with CRLs and OCSP.
Chapter 4, Configuring SSL Initiation	Describes how to configure the ACE as an SSL proxy client to perform SSL initiation between itself and a web server.

Chapter	Description
Chapter 5, Configuring End-to-End SSL	Describes how to configure the ACE as an SSL proxy client and an SSL proxy server to perform both SSL termination and SSL initiation, providing an end-to-end SSL solution between the client and the web server.
Chapter 6, Displaying SSL Information and Statistics	Describes how to display data and statistics related to your ACE SSL configuration.

Related Documentation

In addition to this guide, the ACE documentation set includes the following documents:

Document Title	Description
<i>Administration Guide, Cisco ACE Application Control Engine</i>	Describes how to perform the following administration tasks on the ACE: <ul style="list-style-type: none"> • Setting up the ACE • Establishing remote access • Managing software licenses • Configuring class maps and policy maps • Managing the ACE software • Configuring SNMP • Configuring redundancy • Configuring the XML interface • Upgrading the ACE software
<i>Application Acceleration and Optimization Guide, Cisco ACE 4700 Series Application Control Engine Appliance</i>	(ACE appliance only) Describes how to configure the web optimization features of the ACE appliance. This guide also provides an overview and description of those features.

Document Title	Description
<i>Cisco Application Control Engine (ACE) Configuration Examples Wiki</i>	Provides examples of common configurations for load balancing, security, SSL, routing and bridging, virtualization, and so on.
<i>Cisco Application Control Engine (ACE) Troubleshooting Wiki</i>	Describes the procedures and methodology in wiki format to troubleshoot the most common problems that you may encounter during the operation of your ACE.
<i>Command Reference, Cisco ACE Application Control Engine</i>	Provides an alphabetical list and descriptions of all CLI commands by mode, including syntax, options, and related commands.
<i>CSM-to-ACE Conversion Tool Guide, Cisco ACE Application Control Engine Module</i>	(ACE module only) Describes how to use the CSM-to-ACE module conversion tool to migrate Cisco Content Switching Module (CSM) running- or startup-configuration files to the ACE module.
<i>CSS-to-ACE Conversion Tool Guide, Cisco ACE Application Control Engine</i>	Describes how to use the CSS-to-ACE conversion tool to migrate Cisco Content Services Switches (CSS) running-configuration or startup-configuration files to the ACE.
<i>Device Manager Guide, Cisco ACE 4700 Series Application Control Engine Appliance</i>	(ACE appliance only) Describes how to use the Device Manager GUI, which resides in flash memory on the ACE appliance, to provide a browser-based interface for configuring and managing the appliance.
<i>Getting Started Guide, Cisco ACE Application Control Engine Module</i>	(ACE module only) Describes how to perform the initial setup and configuration tasks for the ACE module.
<i>Getting Started Guide, Cisco ACE 4700 Series Application Control Engine Appliance</i>	(ACE appliance only) Describes how to use the ACE appliance Device Manager GUI and CLI to perform the initial setup and configuration tasks.
<i>Hardware Installation Guide, Cisco ACE 4710 Application Control Engine Appliance</i>	(ACE appliance only) Provides information for installing the ACE appliance.

Document Title	Description
<i>Installation Note, Cisco ACE Application Control Engine ACE30 Module</i>	(ACE module only) Provides information for installing the ACE module into the Catalyst 6500 series switch or a Cisco 7600 series router.
<i>Regulatory Compliance and Safety Information, Cisco ACE 4710 Application Control Engine Appliance</i>	(ACE appliance only) Regulatory compliance and safety information for the ACE appliance.
<i>Release Note, Cisco ACE 4700 Series Application Control Engine Appliance</i>	(ACE appliance only) Provides information about operating considerations, caveats, and command-line interface (CLI) commands for the ACE appliance.
<i>Release Note, Cisco ACE Application Control Engine Module</i>	(ACE module only) Provides information about operating considerations, caveats, and command-line interface (CLI) commands for the ACE module.
<i>Routing and Bridging Guide, Cisco ACE Application Control Engine</i>	Describes how to perform the following routing and bridging tasks on the ACE: <ul style="list-style-type: none"> • (ACE appliance only) Ethernet ports • VLAN interfaces • IPv6, including transitioning IPv4 networks to IPv6, IPv6 header format, IPv6 addressing, and supported protocols. • Routing • Bridging • Dynamic Host Configuration Protocol (DHCP)

Document Title	Description
<i>Security Guide, Cisco ACE Application Control Engine</i>	<p>Describes how to perform the following ACE security configuration tasks:</p> <ul style="list-style-type: none"> • Security access control lists (ACLs) • User authentication and accounting using a Terminal Access Controller Access Control System Plus (TACACS+), Remote Authentication Dial-In User Service (RADIUS), or Lightweight Directory Access Protocol (LDAP) server • Application protocol and HTTP deep packet inspection • TCP/IP normalization and termination parameters • Network Address Translation (NAT)
<i>Server Load-Balancing Guide, Cisco ACE Application Control Engine</i>	<p>Describes how to configure the following server load-balancing features on the ACE:</p> <ul style="list-style-type: none"> • Real servers and server farms • Class maps and policy maps to load balance traffic to real servers in server farms • Server health monitoring (probes) • Stickiness • Dynamic workload scaling (DWS) • Firewall load balancing • TCL scripts
<i>System Message Guide, Cisco ACE Application Control Engine</i>	<p>Describes how to configure system message logging on the ACE. This guide also lists and describes the system log (syslog) messages generated by the ACE.</p>
<i>Upgrade/Downgrade Guide, Cisco ACE 4700 Series Application Control Engine Appliance</i>	<p>(ACE appliance only) Describes how to perform an ACE appliance software upgrade or downgrade.</p>

Document Title	Description
<i>User Guide, Cisco Application Networking Manager</i>	Describes how to use Cisco Application Networking Manager (ANM), a networking management application for monitoring and configuring network devices, including the ACE.
<i>Virtualization Guide, Cisco ACE Application Control Engine</i>	Describes how to operate your ACE in a single context or in multiple contexts.

Symbols and Conventions

This publication uses the following conventions:

Convention	Description
boldface font	Commands, command options, and keywords are in boldface . Bold text also indicates a command in a paragraph.
<i>italic font</i>	Arguments for which you supply values are in <i>italics</i> . Italic text also indicates the first occurrence of a new term, book title, emphasized text.
{ }	Encloses required arguments and keywords.
[]	Encloses optional arguments and keywords.
{ x y z }	Required alternative keywords are grouped in braces and separated by vertical bars.
[x y z]	Optional alternative keywords are grouped in brackets and separated by vertical bars.
string	A nonquoted set of characters. Do not use quotation marks around the string or the string will include the quotation marks.
screen font	Terminal sessions and information the system displays are in <code>screen font</code> .
boldface screen font	Information you must enter in a command line is in <code>boldface screen font</code> .

Convention	Description
<i>italic screen font</i>	Arguments for which you supply values are in <i>italic screen font</i> .
^	The symbol ^ represents the key labeled Control—for example, the key combination ^D in a screen display means hold down the Control key while you press the D key.
< >	Nonprinting characters, such as passwords are in angle brackets.

The documentations use the following conventions:



Note

Means *reader take note*. Notes contain helpful suggestions or references to material not covered in the publication.



Caution

Means *reader be careful*. In this situation, you might do something that could result in equipment damage or loss of data.

For additional information about syntax formatting and navigating the ACE CLI, see the *Command Reference, Cisco ACE Application Control Engine*.

Obtaining Documentation, Obtaining Support, and Security Guidelines

For information on obtaining documentation, obtaining support, providing documentation feedback, security guidelines, and also recommended aliases and general Cisco documents, see the monthly *What's New in Cisco Product Documentation*, which also lists all new and revised Cisco technical documentation, at:

<http://www.cisco.com/en/US/docs/general/whatsnew/whatsnew.html>