



Preface

This guide describes how to configure the Secure Sockets Layer (SSL) features on a Cisco Application Control Engine (ACE) module installed in a Catalyst 6500 series switch or a Cisco 7600 series router, hereinafter referred to as the switch or router, respectively.

It describes how to configure certificates and keys, SSL termination, SSL initiation, and end-to-end SSL.

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](#)
- [Open Source License Acknowledgements](#)

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.
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 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 connection between the client and the web server.
Chapter 6, Displaying SSL Certificate and Key Pair Information	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>Release Note for the Cisco Application Control Engine Module</i>	Provides information about operating considerations, caveats, and command-line interface (CLI) commands for the ACE.
<i>Cisco Application Control Engine Module Hardware Installation Note</i>	Provides information for installing the ACE into the Catalyst 6500 series switch or a Cisco 7600 series router.
<i>Cisco Application Control Engine Module Getting Started Guide</i>	Describes how to perform the initial setup and configuration tasks for the ACE.
<i>Cisco Application Control Engine Module Administration Guide</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>Cisco Application Control Engine Module Virtualization Configuration Guide</i>	Describes how to operate your ACE in a single context or in multiple contexts.

Document Title	Description
<i>Cisco Application Control Engine Module Routing and Bridging Configuration Guide</i>	<p>Describes how to configure the following routing and bridging features on the ACE:</p> <ul style="list-style-type: none"> • VLAN interfaces • Routing • Bridging • Dynamic Host Configuration Protocol (DHCP)
<i>Cisco Application Control Engine Module Server Load-Balancing Configuration Guide</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 • Firewall load balancing • TCL scripts
<i>Cisco Application Control Engine Module Security Configuration Guide</i>	<p>Describes how to configure the following ACE security features:</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)

Document Title	Description
<i>Cisco Application Control Engine Module System Message Guide</i>	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.
<i>Cisco Application Control Engine Module Command Reference</i>	Provides an alphabetical list and descriptions of all CLI commands by mode, including syntax, options, and related commands.
<i>Cisco CSM-to-ACE Conversion Tool User Guide</i>	Describes how to use the CSM-to-ACE conversion tool to migrate Cisco Content Switching Module (CSM) running- or startup-configuration files to the ACE.
<i>Cisco CSS-to-ACE Conversion Tool User Guide</i>	Describes how to use the CSS-to-ACE conversion tool to migrate Cisco Content Services Switches (CSS) running- or startup-configuration files to the ACE.

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.

Convention	Description
[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 boldface screen font .
<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.

Notes use the following conventions:



Note

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

Cautions use the following conventions:



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 *Cisco Application Control Engine Module Command Reference*.

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>

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This product includes cryptographic software written by Eric Young (eay@cryptsoft.com).

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The implementation was written so as to conform with Netscapes SSL.

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