

Preface

Last Update: October 1, 2013 This guide describes how to use Cisco Secure Access Control System (ACS) 5.1.

Audience

This guide is for security administrators who use ACS, and who set up and maintain network and application security.

Document Organization

This guide contains the following chapters:

- Chapter 1, "Introducing ACS 5.1"
- Chapter 2, "Migrating from ACS 4.x to ACS 5.1"
- Chapter 3, "ACS 5.x Policy Model"
- Chapter 4, "Common Scenarios Using ACS"
- Chapter 5, "Understanding My Workspace"
- Chapter 6, "Post-Installation Configuration Tasks"
- Chapter 7, "Managing Network Resources"
- Chapter 8, "Managing Users and Identity Stores"
- Chapter 9, "Managing Policy Elements"
- Chapter 10, "Managing Access Policies"
- Chapter 11, "Monitoring and Reporting in ACS"
- Chapter 12, "Managing Alarms"
- Chapter 13, "Managing Reports"
- Chapter 14, "Troubleshooting ACS with the Monitoring & Report Viewer"
- Chapter 15, "Managing System Operations and Configuration in the Monitoring & Report Viewer"
- Chapter 16, "Managing System Administrators"
- Chapter 17, "Configuring System Operations"

- Chapter 18, "Managing System Administration Configurations"
- Chapter 19, "Understanding Logging"
- Appendix A, "AAA Protocols"
- Appendix B, "Authentication in ACS 5.1"



We sometimes update the printed and electronic documentation after original publication. Therefore, you should also review the documentation on Cisco.com for any updates.

Document Conventions

This guide uses the convention whereby the symbol $^$ represents the key labeled *Control*. For example, the key combination z means hold down the **Control** key while you press the z key.

Command descriptions use these conventions:

- Examples that contain system prompts denote interactive sessions, indicating the commands that you should enter at the prompt. The system prompt indicates the current level of the EXEC command interpreter. For example, the prompt Router> indicates that you should be at the *user* level, and the prompt Router# indicates that you should be at the *privileged* level. Access to the privileged level usually requires a password.
- Commands and keywords are in **boldface** font.
- Arguments for which you supply values are in *italic* font.
- Elements in square brackets ([]) are optional.
- Alternative keywords of which you must choose one are grouped in braces ({}) and separated by vertical bars (|).

Examples use these conventions:

- Terminal sessions and sample console screen displays are in screen font.
- Information you enter is in **boldface screen** font.
- Nonprinting characters, such as passwords, are in angle brackets (<>).
- Default responses to system prompts are in square brackets ([]).
- An exclamation point (!) at the beginning of a line indicates a comment line.



Means *reader be careful*. You are capable of doing something that might result in equipment damage or loss of data.



Means *the described action saves time*. You can save time by performing the action described in the paragraph.



Means *reader take note*. Notes identify important information that you should reflect upon before continuing, contain helpful suggestions, or provide references to materials not contained in the document.

Documentation Updates

Table 1 lists the updates to the User Guide for the Cisco Secure Access Control System 5.1.

Date	Description	
10/01/2013	Fixed the following bugs:	
	• CSCuh90646	
	• CSCuj24445	
09/17/2012	Updated theViewing and Editing Alarms in Your Inbox, page 3 with list of all alarm messages.	
02/02/2012	Fixed the bug CSCtw41634 by adding a note at the end of the section Configuring an AD Identity Store.	
6/2/2011	Updated the "RSA SecurID Server" section on page 8-47.	
1/19/2011	Added "TACACS+ Command Sets" section on page 9-35.	
11/25/2010	Updated "Configuring an AD Identity Store" section on page 8-43 for the bug CSCtj62342.	
11/24/2010	Updated "Manual PAC Provisioning" section on page B-23 for the bug CSCtj42714.	
09/08/2010	Added "Machine Access Restrictions" section on page 8-41.	
08/24/2010	Updated Chapter 11, "Monitoring and Reporting in ACS" with supported syslog messages.	
08/20/2010	Updated the following sections:	
	• Leveraging Cisco NAC Profiler as an External MAB Database, page 8-31.	
	• Understanding Distributed Deployment, page 17-1.	
08/16/2010	Updated the description of Username in Table 8-10.	
07/01/2010	Updated the following sections:	
	• Create an Agent Record (sdconf.rec), page 8-48	
	• Creating and Editing RSA SecurID Token Servers, page 8-49	
06/14/2010	Added a note in the "Microsoft AD" section on page 8-38.	
06/07/2010	Updated the document for the following bugs:	
	• CSCth12870	
	• CSCth12958	
06/03/2010	Updated the transport used for port numbers in "Understanding Distributed Deployment" section on page 17-1.	
04/12/2010	Updated the description of Username in Table 8-10.	
03/10/2010	Added a note on joining the AD domain in "Configuring an AD Identity Store" section on page 8-43.	
02/22/2010	Added a note stating that no TAC support is available for modified python scrits in the "Downloading Sample Python Scripts" section on page 18-43.	

 Table 1
 Updates to the User Guide for the Cisco Secure Access Control System 5.1

Date	ate Description	
01/04/2010	Added information on ports that need to be opened in order to allow ACS to communicate with AD in Chapter 8, "Managing Users and Identity Stores."	
11/30/2009	Added information on how to configure NADs to send syslog messages to the Monitoring & Report Viewer in Chapter 11, "Monitoring and Reporting in ACS"	
11/11/2009	Cisco Secure Access Control System, Release 5.1.	

 Table 1
 Updates to the User Guide for the Cisco Secure Access Control System 5.1

Related Documentation

 Table 1 lists a set of related technical documentation available on Cisco.com. To find end-user documentation for all products on Cisco.com, go to:

http://www.cisco.com/go/techdocs

Note

We sometimes update the printed and electronic documentation after original publication. Therefore, you should also review the documentation on Cisco.com for any updates.

Table 2 Related Documentation

Document	Location on Cisco.com
Supported and Interoperable Devices and Software Tables for the Cisco Secure Access Control System 5.1.	http://www.cisco.com/en/US/docs/net_mgmt/cisco_secure_access _control_system/5.1/device_support/sdt51.html
Regulatory Compliance and Safety Information for Cisco 1121 Secure Access Control System 5.1 and Cisco NAC Appliance 4.7	http://www.cisco.com/en/US/docs/net_mgmt/cisco_secure_access_contro l_system/5.1/regulatory/compliance/csacsrcsi.html
Release Notes for the Cisco Secure Access	http://www.cisco.com/en/US/docs/net_mgmt/cisco_secure_access
Control System 5.1	_control_system/5.1/release/notes/acs_51_rn.html
Installation and Upgrade Guide for the Cisco	http://www.cisco.com/en/US/docs/net_mgmt/cisco_secure_access
Secure Access Control System 5.1	_control_system/5.1/installation/guide/acs5_1_install_guide.html
Open Source Licensing Document for the Cisco	http://www.cisco.com/en/US/docs/net_mgmt/cisco_secure_access
Secure Access Control System 5.1	_control_system/5.1/open_source_license/opn_src_lic_doc.html
CLI Reference Guide for the Cisco Secure	http://www.cisco.com/en/US/docs/net_mgmt/cisco_secure_access
Access Control System 5.1	_control_system/5.1/command/reference/acs5_1_cli.html
Software Developer's Guide for the Cisco	http://www.cisco.com/en/US/docs/net_mgmt/cisco_secure_access
Secure Access Control System 5.1	_control_system/5.1/sdk/sdkguide.html
Migration Guide for the Cisco Secure Access	http://www.cisco.com/en/US/docs/net_mgmt/cisco_secure
Control System 5.1	_access_control_system/5.1/migration/guide/Migration_Book.html
License and Documentation Guide for the Cisco	http://www.cisco.com/en/US/docs/net_mgmt/cisco_secure_access
Secure Access Control System 5.1	_control_system/5.1/license_doc/guide/acs_51_lic_doc_gd.html

Notices

The following notices pertain to this software license.

OpenSSL/Open SSL Project

This product includes software developed by the OpenSSL Project for use in the OpenSSL Toolkit (http://www.openssl.org/).

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

This product includes software written by Tim Hudson (tjh@cryptsoft.com).

License Issues

The OpenSSL toolkit stays under a dual license, i.e. both the conditions of the OpenSSL License and the original SSLeay license apply to the toolkit. See below for the actual license texts. Actually both licenses are BSD-style Open Source licenses. In case of any license issues related to OpenSSL please contact openssl-core@openssl.org.

OpenSSL License:

Copyright © 1998-2007 The OpenSSL Project. All rights reserved.

Redistribution and use in source and binary forms, with or without modification, are permitted provided that the following conditions are met:

- **1.** Redistributions of source code must retain the copyright notice, this list of conditions and the following disclaimer.
- 2. Redistributions in binary form must reproduce the above copyright notice, this list of conditions, and the following disclaimer in the documentation and/or other materials provided with the distribution.
- **3.** All advertising materials mentioning features or use of this software must display the following acknowledgment: "This product includes software developed by the OpenSSL Project for use in the OpenSSL Toolkit (http://www.openssl.org/)".
- 4. The names "OpenSSL Toolkit" and "OpenSSL Project" must not be used to endorse or promote products derived from this software without prior written permission. For written permission, please contact openssl-core@openssl.org.
- **5.** Products derived from this software may not be called "OpenSSL" nor may "OpenSSL" appear in their names without prior written permission of the OpenSSL Project.
- 6. Redistributions of any form whatsoever must retain the following acknowledgment:

"This product includes software developed by the OpenSSL Project for use in the OpenSSL Toolkit (http://www.openssl.org/)".

THIS SOFTWARE IS PROVIDED BY THE OpenSSL PROJECT "AS IS" AND ANY EXPRESSED OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE DISCLAIMED. IN NO EVENT SHALL THE OpenSSL PROJECT OR ITS CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.

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

Original SSLeay License:

Copyright © 1995-1998 Eric Young (eay@cryptsoft.com). All rights reserved.

This package is an SSL implementation written by Eric Young (eay@cryptsoft.com).

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

This library is free for commercial and non-commercial use as long as the following conditions are adhered to. The following conditions apply to all code found in this distribution, be it the RC4, RSA, lhash, DES, etc., code; not just the SSL code. The SSL documentation included with this distribution is covered by the same copyright terms except that the holder is Tim Hudson (tjh@cryptsoft.com).

Copyright remains Eric Young's, and as such any Copyright notices in the code are not to be removed. If this package is used in a product, Eric Young should be given attribution as the author of the parts of the library used. This can be in the form of a textual message at program startup or in documentation (online or textual) provided with the package.

Redistribution and use in source and binary forms, with or without modification, are permitted provided that the following conditions are met:

- 1. Redistributions of source code must retain the copyright notice, this list of conditions and the following disclaimer.
- 2. Redistributions in binary form must reproduce the above copyright notice, this list of conditions and the following disclaimer in the documentation and/or other materials provided with the distribution.
- **3.** All advertising materials mentioning features or use of this software must display the following acknowledgement:

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

The word 'cryptographic' can be left out if the routines from the library being used are not cryptography-related.

4. If you include any Windows specific code (or a derivative thereof) from the apps directory (application code) you must include an acknowledgement: "This product includes software written by Tim Hudson (tjh@cryptsoft.com)".

THIS SOFTWARE IS PROVIDED BY ERIC YOUNG "AS IS" AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE DISCLAIMED. IN NO EVENT SHALL THE AUTHOR OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.

The license and distribution terms for any publicly available version or derivative of this code cannot be changed. i.e. this code cannot simply be copied and put under another distribution license [including the GNU Public License].

Obtaining Documentation and Submitting a Service Request

For information on obtaining documentation, submitting a service request, and gathering additional information, 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

Subscribe to the *What's New in Cisco Product Documentation* as a Really Simple Syndication (RSS) feed and set content to be delivered directly to your desktop using a reader application. The RSS feeds are a free service and Cisco currently supports RSS version 2.0.