

Cisco Secure Access Control Server Solution Engine

The Cisco[®] Secure Access Control Server (ACS) provides a comprehensive identity networking solution and secure user experience for Cisco intelligent information networks. It is the integration and control layer among all enterprise users, administrators, and the resources of the network infrastructure. The Cisco Secure ACS Solution Engine adds new security improvements, simplified management, and reduced total cost of ownership (TCO) for the operation of the underlying ACS service.

Introduction

The Cisco Secure ACS Solution Engine is a high-performance and highly scalable user and administrative access control solution that operates as a centralized RADIUS or TACACS+ server system for the Cisco 1111 platform. Packaged in a dedicated and secure 1-rack-unit (1-RU) hardened appliance, the Cisco Secure ACS Solution Engine provides a reduced-configuration, plug and play solution, and highly reliable platform with the unique ability to protect existing networking infrastructure through fully Web-based remote-access and configuration capabilities.

The need for security appliances is rapidly increasing in today's IT space. Security, convenience, and ease of installation and troubleshooting are the important advantages of security appliances compared to the many software-based security applications that exist in the marketplace today. The innovative, new, 1-RU, security-hardened Cisco Secure ACS Solution Engine was designed to specifically alleviate the security issue with a closed-device design that makes it substantially more difficult for intruders to penetrate than an open-platform system.

Security appliances provide an all-in-one approach that simplifies product selection, product integration, and ongoing support. By combining all necessary operating system installation and patching with the ACS software service, customers can avoid maintaining software versioning and proliferation of servers, patches, and operating system (OS) maintenance issues. This is particularly important in large networking environments where security solutions are required in remote sites with no IT professionals present to regularly manage and upgrade these solutions. In addition, a security appliance greatly simplifies support and troubleshooting in failure modes, hence enabling quick service restoration (through a one-stop support contact)—an important consideration, especially when the security application is mission-critical, a situation that is true with security authentication, authorization, and accounting (AAA) applications.

Changing network dynamics and increased security threats have influenced new opportunities in access control management solutions. As AAA becomes more relevant and the requirement to



control user access expands beyond just dialup, new trends (including expanded authentication, tracking, and audit management) are emerging that require identity-networking solutions to be pervasive, scalable, and available throughout the network.

Cisco Secure ACS extends access security by combining authentication, user or administrator access, and policy control from a centralized location, allowing for greater flexibility and mobility, increased security, and user productivity gains. As an accounting service, the Cisco Secure ACS Solution Engine reduces IT operations costs by providing detailed reporting and monitoring capabilities of network users' behavior and by keeping a record of every access connection and device configuration change across the entire network.

Cisco Secure ACS provides a centralized identity networking solution and simplified user-management experience across all Cisco devices and security-management applications. Cisco Secure ACS ensures enforcement of assigned policies by allowing network administrators to control:

- Who can log in to the network
- What privileges each user has in the network
- What accounting information is recorded in terms of security audits or account billing
- What access and command controls are enabled for each configuration administrator

Like the Cisco Secure ACS for Windows, the Cisco Secure ACS Solution Engine supports a wide array of access connection types, including wired or wireless LAN, dialup, broadband, content, storage, voice over-IP (VoIP), firewall, and virtual private networks (VPNs).

Cisco Secure ACS Solution Engine Highlights

The Cisco Secure ACS Solution Engine is a highly secure, OS-independent, and dedicated platform that offers a highly manageable access control solution with an increasingly reduced setup and troubleshooting time. The Cisco Secure ACS Solution Engine provides Plug and Play deployment, a highly reliable AAA solution, and increased TCO protection through the high availability and simplified day-to-day operation and management of the Cisco Secure ACS service. It provides the same features and functions as the Cisco Secure ACS for Windows, in a dedicated, security-hardened, application-specific appliance package. Customers with existing Windows-based Cisco Secure ACS deployments can add or upgrade to Cisco Secure ACS Solution Engines without any effect on existing AAA configurations, including remote logging and replication configurations. More information about the latest Cisco Secure ACS features is available from the Cisco Secure ACS for Windows data sheet.

To ensure the high-security posture of the Cisco Secure ACS Solution Engine, additional functions specific to operating and managing the Cisco Secure ACS Solution Engine are provided. Additionally, a Cisco Secure ACS remote agent is available with each Cisco Secure ACS Solution Engine to enable remote logging and Windows authentication. Forwarding all accounting data from the solution engine to a remote agent preserves disk space on the solution engine. It also improves AAA performance by eliminating the frequent and time-consuming disk writes required for local logging on the solution engine. Also, because a Cisco Secure ACS Solution Engine is never a member of a Microsoft Windows domain, the Cisco Secure ACS remote agent establishes the necessary Windows domain trust relationships for Windows-based authentication.

Table 1 lists additional functions provided by the Cisco Secure ACS Solution Engine. These functions are not available from the Cisco Secure ACS for Windows software product.



Table 1 Functions Provided by the Cisco Secure ACS Solution Engine

Hardened underlying operating system	<ul style="list-style-type: none">• The Cisco Secure ACS Solution Engine is dedicated to run only the Cisco Secure ACS service, thereby preventing any appliance-based OS changes, additions, or configuration modifications.
Serial console interface	<ul style="list-style-type: none">• A serial console interface is provided on the Cisco Secure ACS Solution Engine for initial configuration, subsequent management of IP connections, access to the Cisco Secure ACS HTML interface, and application of upgrade and recovery procedures.• The serial console interface supports both serial line and Telnet connections through which the Cisco Secure ACS service can be reimaged, reloaded, and rebooted, both locally and remotely.
Solution Engine-specific management tools	<ul style="list-style-type: none">• Integrated into the existing Cisco Secure ACS HTML interface, Solution Engine-specific management tools provide generic appliance-management capabilities, including backup, recovery, software upgrades, monitoring, maintenance, and troubleshooting functions.• The Cisco Secure ACS HTML interface is accessed through a secured Secure Sockets Layer (SSL)-based connection.
Cisco Secure ACS remote agent	<ul style="list-style-type: none">• The Cisco Secure ACS remote agent provides two functions: authentication against Windows domains and remote logging capabilities of user accounting records.• Administrators can provision primary and backup Cisco Secure ACS remote agents in distributed Cisco Secure ACS configurations.
Port-based packet filtering	<ul style="list-style-type: none">• The Cisco Secure ACS Solution Engine implements a packet-filtering service to block traffic on all but the necessary Cisco Secure ACS-specific TCP and UDP ports.
Network Timing Protocol (NTP) support	<ul style="list-style-type: none">• The Cisco Secure ACS Solution Engine has built-in NTP functions to maintain network timing synchronization and consistency with other Cisco Secure ACS appliances or network devices.

Cisco Secure ACS Solution Engine-Specific Benefits

In addition to the many benefits the Cisco Secure ACS solution brings in controlling user and administrative AAA inside your network, the Cisco Secure ACS Solution Engine, with its 1-RU hardened form factor, adds specific security and operational advantages in the following areas:

- **Security**—With a security-hardened service focused on running exclusively the Cisco Secure ACS service, the solution engine significantly increases the security posture of the Cisco Secure ACS system. All solution engine services and ports not used by the Cisco Secure ACS service are disabled to secure access to the Cisco Secure ACS Solution Engine.
- **Plug and Play solution**—The Cisco Secure ACS Solution Engine provides a record service uptime before starting to configure the Cisco Secure ACS service.
- **Manageability**—With a dedicated, exclusive, and complete Cisco Secure ACS solution, the appliance greatly simplifies manageability and support of the Cisco Secure ACS service while removing the necessity to manage any UNIX or Windows network operating systems.
- **Supportability**—With no external services or applications (other than the Cisco Secure ACS service) allowed to be installed on the solution engine, the support and the day-to-day management of the Cisco Secure ACS Solution Engine are greatly simplified.



- *Reliability*—Enabling only the services that are required by Cisco Secure ACS allows an increase in overall reliability and security of the Cisco Secure ACS service.
- *TCO*—With a turnkey security-hardened solution engine that is easily deployed, Cisco is able to guarantee full support, maintenance, and serviceability of the overall Cisco Secure ACS system—not just the Cisco Secure ACS software running on various hardware configurations, supported by third-party vendors.
- *Migration from Cisco Secure ACS UNIX*—The Cisco Secure ACS Solution Engine provides a suitable alternative for Cisco Secure ACS UNIX customers not willing to install or manage Cisco Secure ACS on the Windows OS.

System Requirements

Hardware Requirements

The Cisco Secure ACS Solution Engine is available on Cisco 1111 platforms with the following specifications:

- Pentium IV processor, 2.66 GHz
- 1 GB RAM
- 40 GB free disk space
- Two built-in 10/100 Ethernet controllers
- 1 floppy disk drive
- 1 CD-ROM drive

The Cisco Secure ACS remote agent is available in a Windows version that can be installed on a Windows 2000 Server (Windows Domain Controller or Member Server supported).

The computer running Cisco Secure ACS remote agent for Windows must meet the following minimum hardware requirements:

- Pentium III processor, 550 MHz or faster
- 256 MB RAM
- 250 MB free disk space

Ordering Information

The Cisco Secure ACS Solution Engine is available for purchase through normal Cisco sales and distribution channels worldwide. The Cisco Secure ACS Solution Engine is shipped with a preinstalled Cisco Secure ACS Software license.

For More Information

For more information about Cisco Secure ACS, visit: <http://www.cisco.com/go/acs>.

For specific product functions or technical questions, send e-mail to the Cisco Secure ACS product marketing group at ACS-MKT@cisco.com.

For questions about product ordering, availability, and support contract information, send e-mail to the product marketing group at cisoworks@cisco.com.



Corporate Headquarters
Cisco Systems, Inc.
170 West Tasman Drive
San Jose, CA 95134-1706
USA
www.cisco.com
Tel: 408 526-4000
800 553-NETS (6387)
Fax: 408 526-4100

European Headquarters
Cisco Systems International BV
Haarlerbergpark
Haarlerbergweg 13-19
1101 CH Amsterdam
The Netherlands
www-europe.cisco.com
Tel: 31 0 20 357 1000
Fax: 31 0 20 357 1100

Americas Headquarters
Cisco Systems, Inc.
170 West Tasman Drive
San Jose, CA 95134-1706
USA
www.cisco.com
Tel: 408 526-7660
Fax: 408 527-0883

Asia Pacific Headquarters
Cisco Systems, Inc.
Capital Tower
168 Robinson Road
#22-01 to #29-01
Singapore 068912
www.cisco.com
Tel: +65 6317 7777
Fax: +65 6317 7799

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