



Installing Management Center for Cisco Security Agents 6.0

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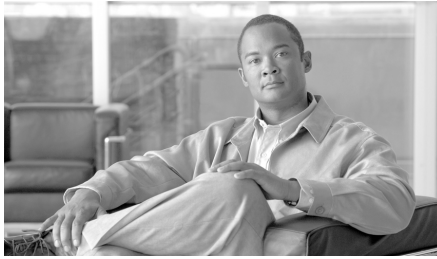
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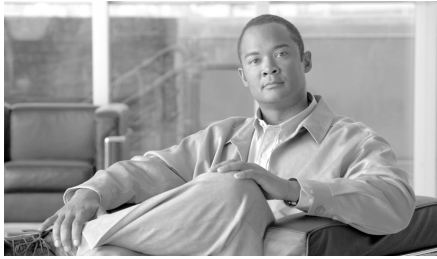
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Preface

This manual describes how to configure the Management Center for Cisco Security Agents on Microsoft Windows 2003 operating systems and the Cisco Security Agent on supported Microsoft Vista (32-bit), Microsoft Windows 2003, Microsoft Windows XP, Microsoft Windows 2000, Sun Solaris 9, Sun Solaris 8, RedHat Enterprise Linux 4.0, and RedHat Enterprise Linux 3.0 operating systems.

In addition to the information contained in this manual, the release notes contain the latest information for this release. Note that this manual does not provide tutorial information on the use of any operating systems.

Audience

This manual is for system managers or network administrators who install, configure, and maintain Management Center for Cisco Security Agents software. Installers should be knowledgeable about networking concepts and system management and have experience installing software on Windows operating systems.

Conventions

This manual uses the following conventions.

Convention	Purpose	Example
Bold text	User interface field names and menu options.	Click the Groups option. The Groups edit page appears.
<i>Italicized</i> text	Used to <i>emphasize</i> text.	You must <i>save</i> your configuration before you can deploy your rule sets.
Keys connected by the plus sign	Keys pressed simultaneously.	Ctrl+Alt+Delete
Keys not connected by plus signs	Keys pressed sequentially.	Esc 0 2 7
Monospaced font	Text displayed at the command line.	>ping www.example.com



Tip

Identifies information to help you get the most benefit from your product.



Note

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.



Caution

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

Related Documentation

**Note**

Although every effort has been made to validate the accuracy of the information in the printed and electronic documentation, you should also review Cisco Security Agent documentation on [Cisco.com](http://www.cisco.com) for any updates.

These are the documents that describe this offering of Cisco Security Agent, Release 6.0:

- *Installing Management Center for Cisco Security Agents 6.0*
- *Using Management Center for Cisco Security Agents 6.0*
- *Release Notes for Management Center for Cisco Security Agents 6.0*

You can find the documentation for Cisco Security Agent, Release 6.0

http://www.cisco.com/en/US/products/sw/secursw/ps5057/tsd_products_support_series_home.html

To navigate to the area represented by the link, follow these steps:

-
- Step 1** Mouse over the **Products & Services** menu on the home page of <http://www.cisco.com>.
- Step 2** Click **Security**.
- Step 3** Scroll down to the **Product Portfolio** area.
- Step 4** Click **Cisco Security Agent** under **Endpoint Security**.
- Step 5** Look for the **Support** box on the right side of the page.
- Step 6** Click **Cisco Security Agent**.

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>



CHAPTER 1

Preparing to Install

How the Cisco Security Agent Works

The Cisco Security Agent provides distributed security to your enterprise by deploying agents that defend against the proliferation of attacks across networks and systems. These agents operate using a set of rules provided by the Management Center for Cisco Security Agents and selectively assigned to each client node on your network by the network administrator.

This section includes the following topics.

- [Cisco Security Agent Overview, page 1-2](#)
- [About CSA MC, page 1-3](#)
- [Before Proceeding, page 1-4](#)
- [System Requirements, page 1-5](#)
- [Environment Requirements, page 1-10](#)
 - [DNS and WINS Environments, page 1-10](#)
 - [Browser Requirements, page 1-10](#)
 - [Time and Date Requirements, page 1-11](#)
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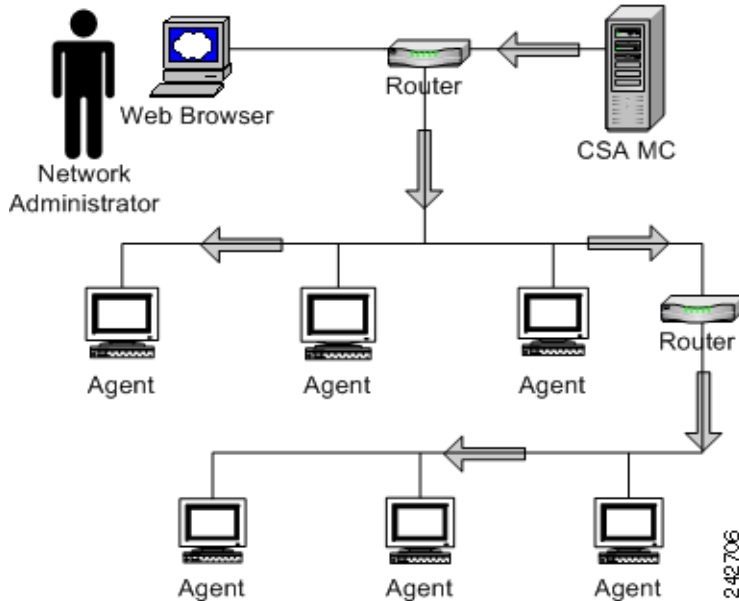
Cisco Security Agent Overview

Cisco Security Agent contains two components:

- The Management Center for Cisco Security Agents (CSA MC) — installs on a secured server and includes a web server, a configuration database, and a web-based user interface.
- The Cisco Security Agent (the agent) — installs on desktops and servers across your enterprise and enforces security policies on those systems.

Administrators configure security policies on CSA MC using the web-based interface. They distribute these policies to agents installed on end user systems and servers. Policies can allow or deny specific system actions. The agents check policies before allowing applications access to system resources.

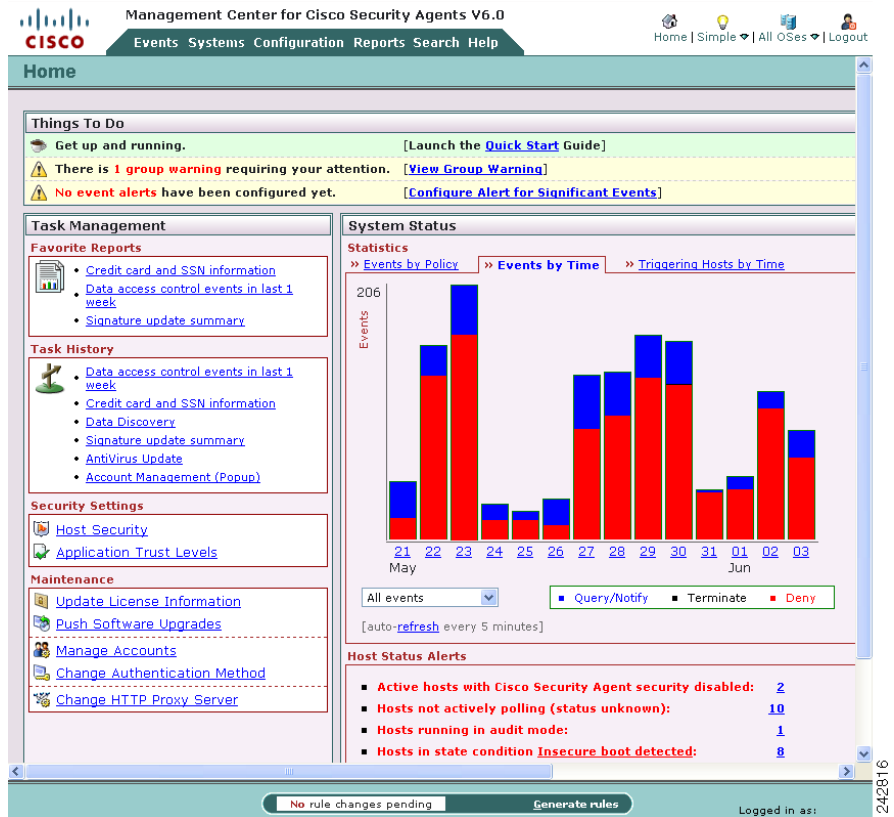
Figure 1-1 Product Deployment



About CSA MC

The CSA MC user interface installs as part of the overall Cisco Security Agent solution installation. It is through a web-based interface that all security policies are configured and distributed to agents. CSA MC provides monitoring and reporting tools, letting you generate reports with varying views of your network enterprise health and status. Providing this web-based user interface allows an administrator to access CSA MC from any machine running a web browser. See *Using Management Center for Cisco Security Agent 6.0* for further details.

Figure 1-2 CSA MC, Home Page



Before Proceeding

Before installing CSA MC software, refer to the Release Notes for up-to-date information. Not doing so can result in the misconfiguration of your system.

Make sure that your system is compatible with the Cisco product you are installing and that it has the appropriate software installed.

Read through the following information before installing the CSA MC software.

System Requirements


Note

The acronym CSA MC is used to represent the Management Center for Cisco Security Agents.

[Table 1-1](#) shows the minimum CSA MC server requirements for Windows 2003 systems. These requirements are sufficient if you are running a pilot of the product or for deployments up to 1,000 agents. If you are planning to deploy CSA MC with more than 1,000 agents, these requirements are insufficient. See [Scalable Deployments, page 1-21](#) for more detailed system requirements.

Table 1-1 Minimum Server Requirements

System Component	Requirement
Hardware	<ul style="list-style-type: none"> IBM PC-compatible computer Color monitor with video card capable of 16-bit
Processor	1 GHz or faster Pentium processor
Operating System	Windows 2003 R2 Standard or Enterprise Editions, Service Pack 0, 1, or 2 Note To run terminal services on the CSA MC system, you must edit the MC policy.
File System	NTFS
Memory	1 GB minimum memory
Virtual Memory	2 GB virtual memory
Hard Drive Space	9 GB minimum available disk drive space

- The minimum recommended screen resolution for viewing the CSA MC UI is 1024x768. For optimal viewing of the CSA MC UI, you should set your display to a resolution of 1280x600 or higher.

- On a system where CSA MC has never been installed, the CSA MC setup program first installs Microsoft SQL Server Express and the required .NET environment. If the CSA MC installation detects any other database type attached to an existing installation of Microsoft SQL Server Express, the installation will abort. This database configuration is not supported.

If you are planning to deploy no more than 1,000 agents, the shipped version of Microsoft SQL Server Express should be adequate. For a larger deployment, you also have the option of installing Microsoft SQL Server 2005 or Microsoft SQL Server 2000 instead of using the Microsoft SQL Server Express database that is provided. Note that if you are using SQL Server 2005 or 2000, it must be licensed separately and it must be installed on the system before you begin the CSA MC installation. See [Chapter 2, “Installing the Management Center for Cisco Security Agents”](#) for details.

We also recommend that you format the disk to which you are installing CSA MC as NTFS. FAT32 limits all file sizes to 4 GB.

To run the Cisco Security Agent on Windows servers and desktop systems, the requirements are as follows:

Table 1-2 Agent Requirements (Windows)

System Component	Requirement
Processor	Intel Pentium 200 MHz or higher Note Up to eight physical processors are supported.
Operating Systems	<ul style="list-style-type: none"> Windows Vista Business and Enterprise editions with service pack 0 or 1. Windows Server 2003 (Standard, Enterprise, Web, or Small Business Editions) Service Pack 0, 1, or 2 Windows XP (Professional, Tablet PC Edition 2005, or Home Edition) Service Pack 0, 1, 2, or 3. Windows 2000 (Professional, Server or Advanced Server) with Service Pack 0, 1, 2, 3, or 4 Note Citrix Metaframe and Citrix XP are supported. Terminal Services are supported on Windows 2003, Windows XP, and Windows 2000. Supported language versions are as follows: <ul style="list-style-type: none"> For Windows 2003, XP, and 2000, all language versions, except Arabic and Hebrew, are supported.
Memory	256 MB minimum—all supported Windows 2003, Windows XP, and Windows 2000 platforms 512 MB minimum—for Windows Vista.
Hard Drive Space	60 MB or higher Note This includes program and data.
Network	Ethernet Note Maximum of 64 IP addresses supported on a system.

To run the Cisco Security Agent on your Solaris server systems, the requirements are as follows:

Table 1-3 Agent Requirements (Solaris)

System Component	Requirement
Processor	UltraSPARC 400 MHz or higher Note Uni-processor, dual processor, and quad processor systems are supported.
Operating Systems	Solaris 9, 64 bit, patch version 111712-11 or higher installed. Solaris 8, 64 bit 12/02 Edition or higher (This corresponds to kernel Generic_108528-18 or higher.) Note If you have the minimal Sun Solaris 8 installation (Core group) on the system to which you are installing the agent, the Solaris machine will be missing certain libraries and utilities the agent requires. Before you install the agent, you must install the “SUNWlibCx” library which can be found on the Solaris 8 Software disc (1 of 2) in the /Solaris_8/Product directory. Install using the pkgadd -d . SUNWlibCx command.
Memory	256 MB minimum
Hard Drive Space	50 MB or higher Note This includes program and data.
Network	Ethernet Note Maximum of 64 IP addresses supported on a system.

**Caution**

On Solaris systems running Cisco Security Agents, if you add a new type of Ethernet interface to the system, you must reboot that system twice for the agent to detect it and apply rules to it accordingly.

To run the Cisco Security Agent on your Linux systems, the requirements are as follows:

Table 1-4 Agent Requirements (Linux)

System Component	Requirement
Processor	500 MHz or faster x86 processor (32 bits only) Note Uni-processor, dual processor, and quad processor systems are supported.
Operating Systems	RedHat Enterprise Linux 4.0 WS, ES, or AS RedHat Enterprise Linux 3.0 WS, ES, or AS
Memory	256 MB minimum
Hard Drive Space	50 MB or higher Note This includes program and data.
Network	Ethernet Note Maximum of 64 IP addresses supported on a system.

**Note**

Agent systems must be able to communicate with CSA MC over HTTPS.

**Note**

The Cisco Security Agent uses approximately 30 MB of memory. This applies to agents running on all supported Windows and UNIX platforms.

**Caution**

When upgrading or changing operating systems, uninstall the agent first. When the new operating system is in place, you can install a new agent kit. Because the agent installation examines the operating system at install time and copies components accordingly, existing agent components may not be compatible with operating system changes.

Environment Requirements

The following are recommendations for a secure setup and deployment of CSA MC.

- The system on which you are installing the CSA MC software should be placed in a physically secure, locked down location with restricted access.
- Do not install any software on the CSA MC system that is not required by the product itself.
- You must have administrator privileges on the system in question to perform the installation.
- The CSA MC system must have a static IP address or a fixed DHCP address.

DNS and WINS Environments

For agents and browsers to successfully communicate with CSA MC, the CSA MC machine name must be resolvable through DNS (Domain Name Service) or WINS (Windows Internet Naming Service).

Browser Requirements

You use a web browser to access CSA MC either locally or from a remote system. Browser requirements are as follows:

Internet Explorer:

- Version 6.0 or later

- You must have cookies enabled. This means using a maximum setting of “medium” as your Internet security setting. Locate this feature from the following menu, Tools>Internet Options. Click the Security tab.
- Pop-up blocking must be disabled.
- JavaScript must be enabled.
- If you are using Internet Explorer Version 6.0 SP1 or higher, your CSA MC FQDN cannot contain non-alphanumeric characters other than '-' and '.'. For example, if the server system name contains an underscore "_", CSA MC will not work properly.

Firefox:

- Version 1.5.0.x or higher
- You must have cookies enabled. Locate this feature from the following menu, Tools>Options>Privacy>Cookies.
- Pop-up blocking must be disabled.
- JavaScript must be enabled.

Time and Date Requirements

Before you install CSA MC, make sure that the system on which you plan install the software has the correct and current time, date, and time zone settings. If these settings are not current, you will encounter MC/agent certificate issues.

Port Availability

CSA MC acts as a web server and requires that no other web server software is running on the CSA MC system. Having multiple web servers running on the same system causes port conflicts.



Caution

By default, Windows 2003 has the World Wide Web Publishing service running. If the CSA MC installation detects this service running, the CSA MC installation will disable all Web publishing services in order for its own installation to proceed.

Windows Cluster Support

Cisco Security Agent supports Network Load Balancing and Server Cluster for Windows 2003 and 2000 Server platforms. Cluster support may require certain network permissions to operate. As with other network services, your CSA MC policies must account for these network permissions. (Component Load Balancing, and Solaris and Linux Clusters are not officially supported in this release.)

Adobe Reader

Reports generated on the CSA MC can be created in PDF format. We recommend that you use the most recent version of Adobe Reader to view the reports.

Internationalization and Localization Support

This section describes the localization of Cisco Security Agent on various Windows operating systems and the compatibility of Cisco Security Agent with various Windows operating systems running in different languages.

Localization Support for Cisco Security Agents

All Cisco Security Agent kits contain **localized** support for English, French, German, Italian, Japanese, Korean, Simplified Chinese, Spanish, Polish, Brazilian Portuguese and Russian language native desktops and Multilingual User Interface (MUI) desktops. This support is automatic in each agent kit and no action is required by the administrator. The agent UI, events, and agent help system will appear in the language of the end user's native operating system language or MUI language desktop.

The localized languages above have been **tested**, and are **supported** on these operating systems:

- Windows 2000 Professional, SP4
- Windows XP Professional, SP3
- Windows 2003 Server, SP3

- Vista Enterprise, SP1

Internationalization Support Tables

The following tables detail the level of support for each localized version of Windows operating systems. **Note that support for a localized operating system is different from having a localized agent. Support for a localized operating system means that** Cisco Security Agent can run on that localized version of an operating system even though CSA is not presented in the same language as the localized operating system. In this case, the dialogs will appear in U.S. English.

The tables below define the operating system support, not agent language support.



Note

For Multilingual User Interface (MUI) systems, installation screens, the CSA MC user interface, and dialog boxes can be displayed in any of the MUI languages we support: Chinese (Simplified), French, German, Italian, Japanese, Korean, Polish, Brazilian Portuguese, Spanish, or Russian.

Any Windows 2000, Windows XP, Windows 2003, or Windows Vista platforms/versions not mentioned in the tables below should be treated as not supported.

The following terms are used to describe the level of support:

- **Localized (L):** Cisco Security Agent kits contain localized support for the languages identified. This support is automatic in each agent kit and no action is required by the administrator. The agent UI, events, and help system appear in the language of the end user's desktop.
- **Tested (T):** The Cisco Security Agent was tested on these language platforms. Cisco Security Agent drivers are able to interpret the local characters in file paths and registry paths.
- **Supported (S):** The English version interface of Cisco Security Agent is suitable to run on these language platforms. The localized characters are supported by all agent functions.
- **Not applicable (NA):** Microsoft does not ship this combination
- **Not supported (NS):** Not supported

Look at the entry for Chinese (Simplified) in [Table 1-5](#). For Windows 2000 Professional with Service Pack 4, Cisco Security Agent has been localized (L) for Simplified Chinese, Cisco Security Agent has been tested (T) on the operating system, and Cisco Security Agent is supported (S) for use with the operating system.

Table 1-5 Windows 2000 Support

	Professional, SP4	Server	Advanced Server
Arabic	NS	NA	NA
Chinese (Simplified)	L, T, S	L, S	L, S
Chinese (Simplified) (MUI)			
Chinese (Traditional)	T, S	S	S
Chinese (Traditional) (MUI)			
Czech	S	S	NA
Danish (Native OS)	T, S	NA	NA
Danish (MUI)			
Dutch	S	S	NA
English (Canadian)	T, S	S	S
English (UK)	T, S	S	S
English (US)	L, T, S	L, S	L, S
Finnish	S	NA	NA
French	L, T, S	L, S	L, S
French (MUI)			
French (Canadian)	T, S	S	S
French (Canadian) (MUI)			
German	L, T, S	L, S	L, S
German (MUI)			
Greek	S	NA	NA
Hebrew	T, S	NA	NA
Hebrew (MUI)			

	Professional, SP4	Server	Advanced Server
Hungarian	S	S	NA
Italian	L, T, S	L, S	NA
Italian (MUI)			
Japanese	L, T, S	L, S	L, S
Japanese (MUI)			
Korean	L, T, S	L, S	L, S
Korean (MUI)			
Norwegian	S	NA	NA
Polish	L, T, S	L, S	NA
Polish (MUI)			
Portuguese (Brazilian)	L, T, S	L, S	NA
Portuguese (Brazilian) (MUI)			
Russian	L, T, S	L, S	NA
Russian (MUI)			
Spanish	L, T, S	L, S	L, S
Spanish (MUI)			
Swedish	S	S	NA
Turkish	S	S	NA

Table 1-6 Windows XP Support

	Professional, SP3	Home
Arabic	NS	NS
Chinese (Simplified)	L, T, S	L, S
Chinese (Simplified) (MUI)		
Chinese (Traditional)	T, S	S
Chinese (Traditional) (MUI)		
Chinese (Hong Kong)	S	S

	Professional, SP3	Home
Czech	S	S
Danish	T, S	S
Danish (MUI)		
Dutch	S	S
English (Canadian)	T, S	S
English (UK)	T, S	S
English (US)	L, T, S	L, S
Finnish	S	S
French	L, T, S	L, S
French (MUI)		
French (Canadian)	T, S	S
French (Canadian) (MUI)		
German	L, T, S	L, S
German (MUI)		
Greek	S	S
Hebrew	T, S	NS
Hebrew (MUI)		
Hungarian	S	S
Italian	L, T, S	L, S
Italian (MUI)		
Japanese	L, T, S	L, S
Japanese (MUI)		
Korean	L, T, S	L, S
Korean (MUI)		
Norwegian	S	S
Polish	L, T, S	L, S
Polish (MUI)		

	Professional, SP3	Home
Portuguese (Brazilian)	L, T, S	L, S
Portuguese (Brazilian) (MUI)		
Russian	L, T, S	L, S
Russian (MUI)		
Spanish	L, T, S	L, S
Spanish (MUI)		
Swedish	S	S
Turkish	S	S

Table 1-7 Windows 2003 Support

	Standard, SP2	Web	Enterprise
Chinese (Simplified)	L, T, S	L, S	L, S
Chinese (Simplified) (MUI)			
Chinese (Traditional)	T, S	S	S
Chinese (Traditional) (MUI)			
Chinese (Hong Kong)	S	S	S
Czech	S	S	S
Danish	T, S	S	S
Danish (MUI)			
Dutch	S	NA	NA
English (Canadian)	T, S	S	S
English (UK)	T, S	S	S
English (US)	L, T, S	L, S	L, S
French	L, T, S	L, S	L, S
French (MUI)			
French (Canadian)	T, S	S	S
French (Canadian) (MUI)			

	Standard, SP2	Web	Enterprise
German	L, T, S	L, S	L, S
German (MUI)			
Hebrew (Native)	T, S	S	S
Hebrew (MUI)			
Hungarian	S	S	S
Italian	L, T, S	L, S	L, S
Italian (MUI)			
Japanese	L, T, S	L, S	L, S
Japanese (MUI)			
Korean	L, T, S	L, S	L, S
Korean (MUI)			
Norwegian	S	S	S
Polish	L, T, S	L, S	L, S
Polish (MUI)			
Portuguese (Brazilian)	L, T, S	L, S	L, S
Portuguese (Brazilian) (MUI)			
Russian	L, T, S	L, S	L, S
Russian (MUI)			
Spanish	L, T, S	L, S	L, S
Spanish (MUI)			
Swedish	S	S	S
Turkish	S	S	S

Table 1-8 Windows Vista Support

	Standard	Web	Enterprise, SP1
Chinese (Simplified)	L, S	L, S	L, T, S
Chinese (Simplified) (MUI)			
Chinese (Traditional)	S	S	T, S
Chinese (Traditional) (MUI)			
Chinese (Hong Kong)	S	S	S
Czech	S	S	S
Danish	S	S	T, S
Danish (MUI)			
Dutch	S	NA	S
English (Canadian)	S	S	T, S
English (UK)	S	S	T, S
English (US)	S, L	S, L	L, T, S
French	L, S	L, S	L, T, S
French (MUI)			
French (Canadian)	S	S	T, S
French (Canadian) (MUI)			
German	L, S	L, S	L, T, S
German (MUI)			
Hebrew	S	S	T, S
Hebrew (MUI)			
Hungarian	S	S	S
Italian	L, S	L, S	L, T, S
Italian (MUI)			
Japanese	L, S	L, S	L, T, S
Japanese (MUI)			
Korean	L, S	L, S	L, T, S
Korean (MUI)			

	Standard	Web	Enterprise, SP1
Norwegian	S	S	S
Polish	L, S	L, S	L, T, S
Polish (MUI)			
Portuguese (Brazilian)	L, S	L, S	L, T, S
Portuguese (Brazilian) (MUI)			
Russian	L, S	L, S	L, T, S
Russian (MUI)			
Spanish	L, S	L, S	L, T, S
Spanish (MUI)			
Swedish	S	S	S
Turkish	S	S	S

On non-localized but tested and supported language platforms, the administrator is responsible for policy changes arising from directory naming variations between languages.

If the previous operating system tables do not indicate that CSA is localized (L) then the system administrator is responsible for checking to ensure that the tokens are in the language they expect and the directory path is the one they intend to protect.

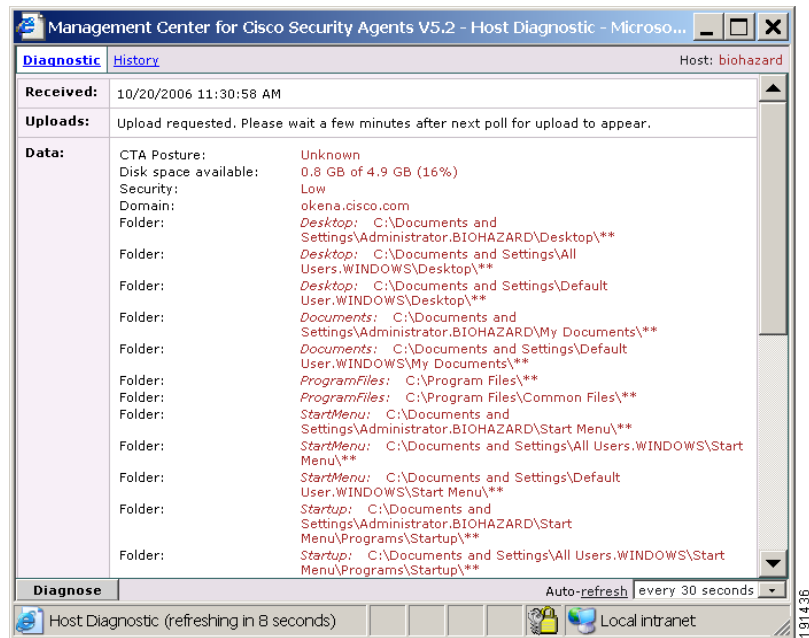
Verifying Language Tokens

To determine if language tokens are correct, follow this procedure:

-
- Step 1** Log on to CSA MC and switch to Advanced Mode.
 - Step 2** Move your mouse over **Systems** in the menu bar and select **Hosts** from the drop-down menu.
 - Step 3** Click the link to the host name using the language you want to verify.
 - Step 4** In the Host Status area, click the **Detailed Status and Diagnostics** link.
 - Step 5** Click the **Diagnose** button.

Look at the folder information in the Data area of the Diagnosis Data page. (See Figure 1-3.) These are the values of the directory tokens CSA needs for localization. Make sure that the folder paths are in the language you expect and that they protect the correct directory.

Figure 1-3 *Diagnosis for Localized Host*



Scalable Deployments

The Cisco Security Agent V6.0 release offers scaling of agents to 100,000 systems. To reach this deployment number, there are recommended multi-tiered CSA MC server system hardware, CPU, and memory requirements. Please refer to the following section.

Hardware Sizing

This section provides three server configuration examples and three hardware configuration examples. The server and hardware combinations will be charted in three tables providing information on how many agents can be deployed using each server and hardware configuration combination. This should give you an idea of how to configure CSA to scale up to a 100,000 agent deployment.

For the purpose of this guide, we will use three server configuration examples.

Server Configurations:

1. Single server
2. Two servers: one server for polling and configuration, one database server
3. Three servers: one server for polling, one server for configuration, one database server

We will use the following hardware configurations.

Hardware Configurations:

1. Single processor Pentium 4 (3Ghz+) with 2 GB RAM
2. Dual processor Xeon (2.5 Ghz+) with 4 GB RAM
3. Quad processor Xeon (2.5 Ghz+) with 8 GB RAM
4. Eight-Way Xeon (2.5 Ghz+) with 8 GB RAM

The following tables approximate the number of agents you could deploy with each server configuration installed on one of four hardware configurations provided.

Table 1-9 Server Configuration 1: Single Server

Hardware Configuration	Number of Agents
Hardware Configuration 1	2,500
Hardware Configuration 2	5,000
Hardware Configuration 3	10,000
Hardware Configuration 4	20,000

Table 1-10 Server Configuration 2: Two Servers

Hardware Configuration	Number of Agents
Hardware Configuration 1	7,500
Hardware Configuration 2	15,000
Hardware Configuration 3	30,000
Hardware Configuration 4	75,000

Table 1-11 Server Configuration 3: Three Servers

Hardware Configuration	Number of Agents
Hardware Configuration 1	10,000
Hardware Configuration 2	20,000
Hardware Configuration 3	50,000
Hardware Configuration 4	100,000

Software Considerations

- CSA MC is only supported on Windows 2003 R2 Standard and Enterprise operating systems. Only Hardware Configurations 1 and 2 (referenced in previous tables) support Windows 2003 R2 Standard. Hardware Configuration 3 with 8GB RAM requires Windows 2003 R2 Enterprise to take advantage of the increased memory. Refer to the Microsoft web site product information section for details.
- To support any deployment over 1,000 agents, you should use Microsoft SQL Server 2005 in lieu of Microsoft SQL Server Express. Only Hardware Configuration 1 supports Microsoft SQL Server 2005 Workgroup or Standard editions with their 4GB RAM limitation.



Note

Your memory consumption needs should dictate your CSA MC operating system choice, i.e. Windows 2003 R2 Standard and Enterprise.

Configuration Recommendations for Scalability

If you intend to scale to a deployment of approximately 100,000 agents, there are some configuration recommendations you should consider.

Set Polling Interval

With 100,000 agents deployed across your enterprise, you want to ensure that no more than 20 agents are communicating with the MC approximately every second or so. Therefore, with a deployment of this size, it is recommended that you set the polling interval to 24 hours and enable polling hints.

Use Content Engines

For large deployments, it is highly recommended that you use content engines with transparent web caching. It makes sense to direct groups of agents to different content engines in large deployment scenarios. Content engines reduce the load on the MC by caching rule downloads and software updates.

Factors in Network Sizing

You can use the following data points for computing product network usage. The following numbers average tasks based on the upper limit of a 100,000 agent deployment.

Agent and Configuration Statistics

- Number of agents: 100,000
- Polling interval: 24 hours
- Event retention: 60 days
- Event updates: 3 per agent per day

Task Size Statistics

- Hint message: 1 Kb
- Poll size: 2 Kb
- Event update size: 2.5 Kb
- Policy update size: 35 Kb
- Agent update size: 9,000 Kb
- Tracker (Application Behavior Investigation) (Product only): 100 Kb

- Tracker (Application Behavior Investigation) (Product and non-verbose network): 2,000 Kb
- Tracker (Application Behavior Investigation) (Product and verbose network): 8,000 Kb

Tracker (Application Behavior Investigation) Agent Installation Statistics

- Number of agents in Tracker (Product only) group: 1,000
- Number of agents in Tracker (Product and non-verbose network) group: 100
- Number of agents in Tracker (Product and verbose network) group: 10

Bandwidth Statistics

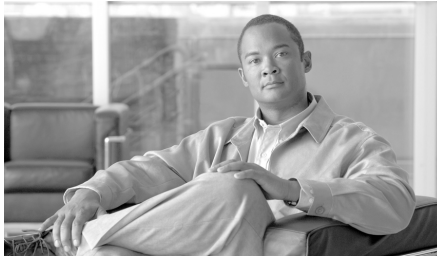
- Downstream from CSA MC: 1333.33 Kb/sec, continuous
- Upstream to CSA MC: 3600 Kb/sec, continuous
- Policy update (downstream): 5833.33 Kb/sec, during update timeframe
- Agent update (downstream): 2666666.67 Kb/sec, during update timeframe

As an example of how you could compute network load using the data points provided here, take 100,000 agents, each generating an average of 3 events per day, and multiply Event update size, by number of Event updates, by number of agents, per a time frame of your choosing and average out a network load.

Factors in Database Sizing

You can use the following data points for computing database sizing. The following numbers average table size based on the upper limit of a 100,000 agent deployment.

- Event table size: 11,707.02 Mb
- Formatted event table: 13,658.20 Mb
- Other tables: 20,000 Mb
- Total database size; 45,365.23 Mb



CHAPTER 2

Installing the Management Center for Cisco Security Agents

Overview

This chapter provides instructions for installing CSA MC. Once you have reviewed the preliminary information outlined in the previous chapter, you are ready to proceed.

It is through CSA MC that you create agent installation kits. The tools for creating agent kits are installed as part of CSA MC.

This chapter contains the following topics:

- [Licensing Information, page 2-2](#)
 - [PAK Certificates, page 2-3](#)
 - [License Types, page 2-3](#)
 - [License File Contents, page 2-4](#)
 - [Managing and Troubleshooting Licenses, page 2-5](#)
 - [Uploading a License, page 2-6](#)
- [File Integrity Check Instructions, page 2-7](#)
- [Installing V6.0 and Migrating Configurations and Hosts from Previous Versions, page 2-7](#)
- [Installation and Migration Overview, page 2-8](#)

- [Local and Remote DB Installation Overview, page 2-11](#)
 - [New Installation Configuration Options, page 2-11](#)
 - [Installing CSA MC with a Local Database, page 2-13](#)
 - [Installing CSA MC with a Remote Database, page 2-27](#)
 - [Installing CSA MC with a Previous Version's Database \(Same System Installation\), page 2-37](#)
 - [Note for Installing two CSA MCs on two separate machines, page 2-43](#)
 - [Installation Log, page 2-43](#)
- [Accessing Management Center for Cisco Security Agents, page 2-44](#)
 - [Local Access, page 2-44](#)
 - [Remote Access, page 2-44](#)
 - [Migration Instructions, page 2-45](#)
- [Initiating Secure Communications, page 2-49](#)
- [Uninstalling Management Center for Cisco Security Agents, page 2-54](#)
- [Hotfix Information, page 2-55](#)

Licensing Information

Management Center for Cisco Security Agents (CSA MC) ships with a preliminary license (csamc.lic) that is automatically imported during the CSA MC installation process. (Note that this is not the formal product license that you will eventually use.) This license is for the CSA MC itself; it allows the CSA MC to be installed, regardless of additional licenses, with at least one agent to protect it. (While you are waiting to receive the combination of PAK information and licensing information from Cisco Systems, you can install the product with this initial license, intending to copy the formal license at a later time.) See [License Types, page 2-3](#) for more information.

The information contained in your CSA MC license includes the number of server-agent licenses that have been allotted to you. When you receive your license from Cisco, you should copy it to the system to which you are installing CSA MC (or to a file share accessible from the CSA MC system). Then you can upload the licenses you need for your enterprise. See [Uploading a License, page 2-6](#) for more information.

PAK Certificates

PAK certificates will be delivered in packages separate from the software, often arriving in multiple packages. It is strongly suggested that you wait until you have received all packages (software and certificates) before registering the PAK numbers at the link below. Often, certificates arrive before software. Once you register the PAK numbers, you will then be emailed the license file(s).

When you receive your PAK information via email or mail, you can register the files at the following URL. You must have a CCO account to reach this URL:

<https://tools.cisco.com/SWIFT/Licensing/PrivateRegistrationServlet>

**Note**

If you have further licensing questions or are having trouble with your license, refer to the [Managing and Troubleshooting Licenses](#) section at the end of this document.

License Types

There are several separate and distinct licenses for the CSA product:

- A license for the **Management Console (CSA MC)**
- A license for **server platforms** (this includes all Windows servers such as Windows 2000 Server, Advanced Server, Windows 2003 Server family, Solaris, and Linux AS and ES)
- A license for **workstation platforms** (this includes Windows 2000 Professional, Windows XP Professional, XP Home, Windows Vista, and Linux WS)
- A license for the **Cisco Security Agent Analysis** (formerly known as “Profiler”). For more information on CSA Analysis, see the chapter on **CSA Analysis** in the *Using Management Center for Cisco Security Agents 6.0*.
- A license for **Data Loss Prevention**. The Data Loss Prevention (DLP) feature is available for Windows desktop platforms only. In order for data scanning rules to be distributed to a host, CSA requires a DLP license key in addition to the standard CSA desktop host key.

DLP licensees are named **DLP Desktop Agent Upgrade** and are available in bundles between 25 and 10,000 seats.

See [Uploading a License, page 2-6](#) for more information about uploading licenses. See the **Data Loss Prevention** chapter in the *Using Management Center for Cisco Security Agents 6.0* manual for more information about this feature.

License File Contents

The license for each product can arrive in a single *.lic file or in multiple *.lic files. For example, the following is an example of what is contained in an evaluation *.lic file. (Notice that all 4 items listed above are referenced in this single file.):

```
INCREMENT managementcenter cisco 1 09-apr-2005 uncounted \
VENDOR_STRING=Count=1 HOSTID=ANY ISSUER="Cisco Systems, Inc." \
NOTICE="<LicFileID>20050310082639273</LicFileID><LicLineID>1</LicLineID> \
<PAK></PAK>" TS_OK SIGN=BEE0095EFC0A
INCREMENT serveragent cisco 1 09-apr-2005 uncounted
\
VENDOR_STRING=Count=10 HOSTID=ANY ISSUER="Cisco Systems, Inc."
\
NOTICE="<LicFileID>20050310082639273</LicFileID><LicLineID>2</LicLineID> \
<PAK></PAK>" TS_OK SIGN=8E5A416A0C3C
INCREMENT desktopagent cisco 1 09-apr-2005 uncounted \
VENDOR_STRING=Count=25 HOSTID=ANY ISSUER="Cisco Systems, Inc."
\
NOTICE="<LicFileID>20050310082639273</LicFileID><LicLineID>3</LicLineID> \
<PAK></PAK>" TS_OK SIGN=8282418012F8
INCREMENT profiler cisco 1 09-apr-2005 uncounted \
VENDOR_STRING=Count=1 HOSTID=ANY ISSUER="Cisco Systems, Inc."
\
NOTICE="<LicFileID>20050310082639273</LicFileID><LicLineID>4</LicLineID> \
<PAK></PAK>" TS_OK SIGN=EB0183B81748
```

Notice that the license is for a particular part of the product, indicated by the first line of each license. For example:

```
"INCREMENT managementcenter. . ." is the license for the CSA MC.
"INCREMENT serveragent. . ." is the license for servers.
```

The number of seats is referenced in the “Count=x” part of the license.

Each of the licenses can arrive in a single file as well. So, for example, you can receive a *.lic file containing this information:

```
INCREMENT serveragent cisco 1 09-apr-2005 uncounted \
VENDOR_STRING=Count=10 HOSTID=ANY ISSUER="Cisco Systems, Inc."
\
NOTICE="<LicFileID>20050310082639273</LicFileID><LicLineID>2</LicLineID> \
<PAK></PAK>" TS_OK SIGN=8E5A416A0C3C
```

This example license is only for 10 server licenses and nothing else. Usually this kind of license arrives when you order additional seats for servers or desktops for a particular operating system.

Managing and Troubleshooting Licenses

- All license files are stored in this directory on the CSA MC:
Program Files\Cisco\CSAMC\CSAMC<version #>\cfg
- Rename license files that you receive from Cisco to have a more descriptive name. For example, you may get a license called 123456789.lic. Rename that to reflect the contents of the license (e.g. server_100.lic). This will help you keep a quick-glance inventory of each license type and seat count.
- Never upload a license file that contains within the title “CORE”. This is not a CSA license and might cause system instability.
- Never edit the contents of the license file itself (though the name of the *.lic file itself is editable). It may look like a straight text file but any changes in the contents of the license file itself will render it invalid.
- Always remove or rename the license file stored in the Program Files\Cisco\CSAMC\CSAMC<version #>\cfg directory of your CSA MC machines before attempting to reload the file. (You may have multiple CSA MC machines - remove/rename the files on all of them.)
- If you are having licensing issues, try to re-upload the licenses prior to contacting Cisco TAC. This means you should:
 - Stop the MC service on your CSA MC machine(s).
 - Rename or delete all the *.lic files located in Program Files\Cisco\CSAMC\CSAMC<version #>\cfg
 - Start the MC service

Upload the license(s), starting with the CSA MC license or the license that contains the CSA MC license first, via the CSA MC GUI. (Go to the Home page and click Update License Information.)

Uploading a License

Proceed with the installation of CSA MC first and then upload additional licenses for servers and desktops. You may use either of these methods to upload agent licenses.

Using the Home Page

You can upload licenses from the Home page in either **Simple** or **Advanced Mode**:

-
- Step 1** Login to the CSA MC as an administrator with “configure” privileges.
 - Step 2** Click **Home** to view the Home page.
 - Step 3** In the **Maintenance** area, click **Update License Information**.
 - Step 4** In the **Update License Information** pop-up, browse to the license file by clicking the **Browse** button.
 - Step 5** Once the license file is located, click the **Upload** button to copy the file into the CSA MC directory. You do **not** need to generate rules after uploading a license.

Using the Maintenance Menu

You can also upload licenses from choices in the Maintenance menu. This is available to users of Advanced Mode only.

-
- Step 1** Login to the CSA MC as an administrator with “configure” privileges.
 - Step 2** Mouse-over the **Maintenance** in the menu bar and select **License Information**.
 - Step 3** In the Update License Information area, browse to the license file by clicking the **Browse** button.
 - Step 4** Once the license file is located, click the **Upload** button to copy the file into the CSA MC directory. You do **not** need to generate rules after uploading a license.

File Integrity Check Instructions

You can perform integrity checks on the files provided with Management Center for Cisco Security Agents 6.0 on either the CD or files posted to CCO. Use the `cisco_V(#)_verify_digests.exe` file posted to CCO to check the MD5 hashes of the files. The MD5 of the `cisco_V(#)_verify_digests.exe` file is posted on CCO to maintain a linked verification chain.

When you run the `verify_digests.exe` file, you can enter the CD drive letter and check the files on the CD itself or you can copy the files to your system and check them from the directory to which they were copied.

The following output is displayed:

- The output displays “OK” if the hashes match and the files are valid.
- If the hashes do not match, “Failure” is displayed. Contact the Cisco Technical Assistance Center (TAC) if this occurs.

Installing V6.0 and Migrating Configurations and Hosts from Previous Versions

If you have previous versions (V5.2, V5.1, V5.0, V4.5.x, or 4.0) of the product installed, installing Management Center for Cisco Security Agents 6.0 does not upgrade those previous versions. V6.0 configurations coexists with V5.2 or V5.1, but in some cases it requires that V5.0 configurations and V4.x configuration be migrated to V5.1 before then migrating to V6.0.

When migrating from V5.0, be sure to backup the local database before migrating. If you are reusing the same hardware, you must uninstall CSA MC V5.0 and VMS from your Windows 2000 system. You must then uninstall Windows 2000 and perform a clean installation of Windows 2003 R2.



Caution

Do not perform an operating system upgrade of Windows 2000 Server to Windows 2003 R2. Prior versions of system and SQL libraries may not be compatible with the CSA 5.2/6.0 environment running on Windows 2003 R2.

Then you can install CSA 6.0 on your newly installed Windows 2003 system.

Then you could migrate older V5.0.x configurations and hosts to your 6.0 CSA MC using migration tools that are provided.

The migration procedure is more straightforward if you are not reusing the same hardware. In that case, you could install Management Center for Cisco Security Agents 6.0 on the Windows 2003 system and migrate configurations and hosts from the Management Center for Cisco Security Agents 5.1, 5.0 or 4.5.x on the Windows 2000 system.

And if you are running Management Center for Cisco Security Agents 5.2 or 5.1 on Windows 2003, the migration is quite simple.

All migration scenarios mentioned here are detailed in this chapter.

Installation and Migration Overview

The following migration to CSA MC V5.2 scenarios are supported. (See [Figure 2-1](#) for a graphical representation of these upgrade path installation scenarios.)

- **Scenario 1 - Migrating V5.2 to V6.0 - Same System:** Install V6.0 on the same machine as V5.2 and perform migration using the [Migration Instructions, page 2-45](#).
- **Scenario 2 - Migrating V5.2 to V6.0 - Separate System:** You can install V6.0 on a new machine and use the provided migration tools to move V5.2 configurations and hosts to the newly installed V6.0 system.
- **Scenario 3 - Migrating V5.1 to V6.0 - Same System:** You can install V6.0 on the same machine as V5.1 and perform migration using the [Migration Instructions, page 2-45](#).
- **Scenario 4 - Migrating V5.1 to V6.0 - Separate Systems:** You can install V6.0 on a new machine and use the provided migration tools to move V5.1 configurations and hosts to the newly installed V6.0 system.
- **Scenario 5 - Migrating V5.0 to V5.1 to V6.0 - Same System:** You can install V6.0 on the same machine where V5.0 resided once V5.0 and VMS are uninstalled, the database is backed up safely (if local DB) and the system is running a Windows 2003 R2 operating system. Then you can use the migration tools provided to access and migrate the backed-up V5.0 database while installing 5.1 and 6.0 MCs.

- **Scenario 6 - Migrating V5.0 to V6.0 - Separate Systems:** You can install V6.0 on a new Windows 2003 R2 system and use the provided migration tools to move V5.0 configurations and hosts to the newly installed V6.0 system.
- **Scenarios 7 and 8 - Migrating V4.5.x or 4.0.3 (4.x) to V6.0 - All:** You can install V6.0 on a new Windows 2003 R2 system and use the provided migration tools to move V4.5.x or 4.0.3 configurations and hosts to the newly installed V6.0 system. If you are running CSA MC V4.5.x or 4.0.3 on the same system where V6.0 will be installed, you must first upgrade to CSA MC V5.0 before you can migrate to CSA MC V6.0 using one of the previously mentioned scenarios.

**Note**

If you have a CSA MC with V5.1 and V5.2 already installed, you can not add V6.0 to the same system. There can only be two versions of CSA MC running on the same system. Either V5.1 or V5.2 must be uninstalled before V6.0 can be installed.

Figure 2-1 Supported Migration Scenarios 1, 2, 3, and 4

Supported Migration Scenarios 1, 2, 3, and 4

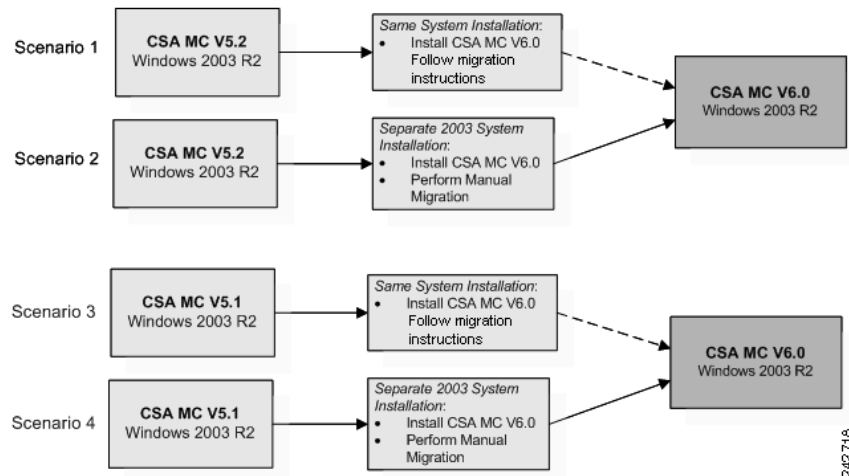
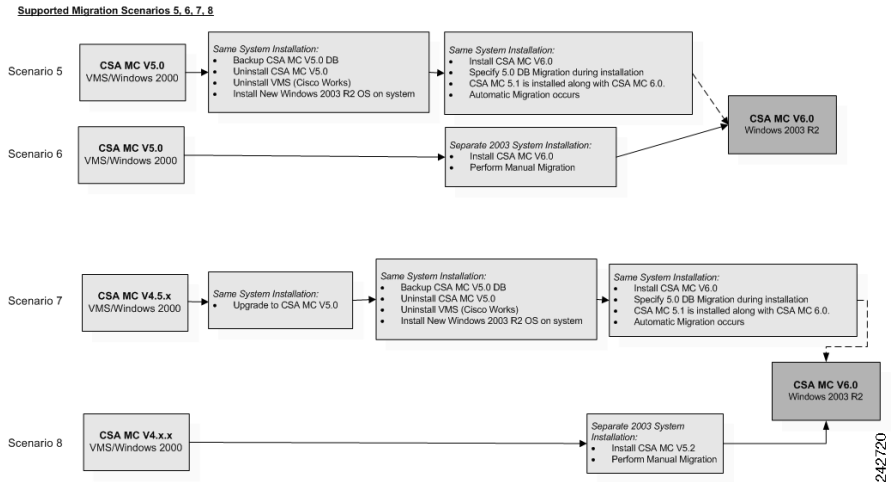


Figure 2-2 Supported Migration Scenarios 5, 6, 7, and 8

The CSA MC V6.0 installation does not automatically upgrade or overwrite the older installations. Content defined as “untrusted” by the earlier version of CSA will also be treated as untrusted content by CSA 6.0.

Ultimately, the migration process will allow you to import your older configuration items into the newly installed V6.0 system. It will also allow you to migrate hosts to V6.0. After installing V6.0, it is expected that you will spend some time examining how policies and other functionality has changed between versions and you will gradually apply the V6.0 policies to the migrated hosts.



Caution

For Scenario 4 in [Figure 2-1](#), you should not uninstall V5.1 until you have migrated all agents to V6.0. Once you install V6.0, you can apply hotfixes to the old V5.1 version, but you cannot install a V5.1 version of the product once the V6.0 version is installed in a one system installation scenario.

If you do apply hotfixes to an old V5.1 version after you install V6.0, you have to manually restart the CSA MC system for both MCs to begin running again.

CSA MC V6.0 creates a new directory structure if it is being installed on a new system. However, if CSA MC V5.2 is being upgraded to CSA MC V6.0, CSA MC V6.0 will use the existing CSA MC V5.2 directory structure. Refer to the following for a list of directory paths:

Directory Paths Per Version

Cisco\CSAMC\CSAMC60

Cisco Systems\CSAMC\CSAMC52

Cisco Systems\CSAMC\CSAMC51

CSCOpX\CSAMC50

Local and Remote DB Installation Overview

You must have local administrator privileges on the system in question to perform the CSA MC installation. Once you've verified system requirements, you can begin the installation.



Caution

After you install CSA MC, you should not change the name of the MC system. Changing the system name after the product installation will cause agent/CSA MC communication problems.

New Installation Configuration Options

For a new product install, you have three installation configuration options to consider before launching the CSA MC installation process.

- You can install CSA MC and the database on the same machine. (Select the **Local Database** radio button during the CSA MC installation.)

For a local database configuration, you have the option of installing CSA MC and the included Microsoft SQL Server Express Edition (provided with the product) on the same system if you are planning to deploy no more than 1,000 agents. In this case, the CSA MC installation also installs its own version of Microsoft SQL Server Express Edition on the system.

For a local database configuration, you also have the option of installing Microsoft SQL Server 2005 Service Pack 2 instead of using the Microsoft SQL Server Express Edition that is provided. Microsoft SQL Server Express Edition has a 4 GB database size limit. In this case, you can have CSA MC and Microsoft SQL Server 2005 on the same system depending on the number

of agents you are deploying (see [Scalable Deployments, page 1-21](#)). Note that if you are using SQL Server 2005, it must be licensed separately and it must be installed on the system before you begin the CSA MC installation.

**Note**

There is no upgrade path from Microsoft SQL Server Express to Microsoft SQL 2005 Service Pack 2.

**Note**

If your plan is to use SQL Server 2005, it is recommended that you choose one of the other installation configuration options rather than the local database configuration.

**Note**

Microsoft SQL Server 2005 is the database version that will be used for this installation section, but you should note that SQL Server 2000 is also supported at this time.

- You can install CSA MC on one machine and install the database on a remote machine. (Select the **Remote Database** radio button during the CSA MC installation. Note that you must install a Cisco Security Agent on this remote database to protect this system. See [Microsoft SQL Server 2005 and 2000 Remote Setup, page 2-27](#).)

Use this configuration option depending on the number of agents you are deploying (see [Scalable Deployments, page 1-21](#)). If you are using a separately licensed, managed, and maintained SQL Server 2005 database, SQL Server 2005 must be installed and configured on the remote system before you begin the CSA MC installation.

**Caution**

If you are installing CSA MC and the database to multiple machines, make sure the clocks of each machine are in sync. If all clocks are not in sync, unexpected behavior may occur.

- You can install two CSA MCs on two separate machines and install the database on a remote machine. In this case, both CSA MCs use the same remote database. (Select the **Remote Database** radio button during the CSA

MC installation. Note that you must install a Cisco Security Agent on this remote database to protect this system. See [Microsoft SQL Server 2005 and 2000 Remote Setup, page 2-27.](#))

This is the recommended configuration if you are deploying more than 5,000 agents and are using a separately licensed, managed, and maintained SQL Server 2005 database. SQL Server 2005 must be installed and configured on the remote system before you begin the MC installations.

Using this configuration, you can deploy up to 100,000 agents. Having two CSA MCs lets you use one MC for host registration and polling and another MC for editing configurations.

**Caution**

If you are installing two CSA MCs with one of the MCs residing on the machine where the database is installed, you must select the Remote Database radio button during the installation of both MCs. Even though one MC is “local” to the database, for the two MCs configuration to work properly, they must both be configured to communication with the database as though it were remote.

Installing CSA MC with a Local Database

If you are installing both CSA MC and the database to the same machine with the provided Microsoft SQL Server Express database, you should install Microsoft SQL Server Express Edition as part of the CSA MC installation. The CSA MC installation runs the Microsoft SQL Server Express installation program choosing the Microsoft SQL Server Express settings the MC needs. During the MC installation, if you want to install the database on a different system drive from the MC, the install prompts allow you to do this.

It is recommended that you install SQL Server Express via the CSA MC installer. If you install it manually as implied that you might do in step 8 on [page 2-16](#), you should know that if you take the SQL Server Express defaults, then your subsequent CSA MC installation will fail. (See Caution below)

**Caution**

Because Microsoft SQL Server Express is provided on the CD separately, you might be tempted to install it yourself manually. This is not recommended. If you install it yourself, you must select specific non-default settings for the database to

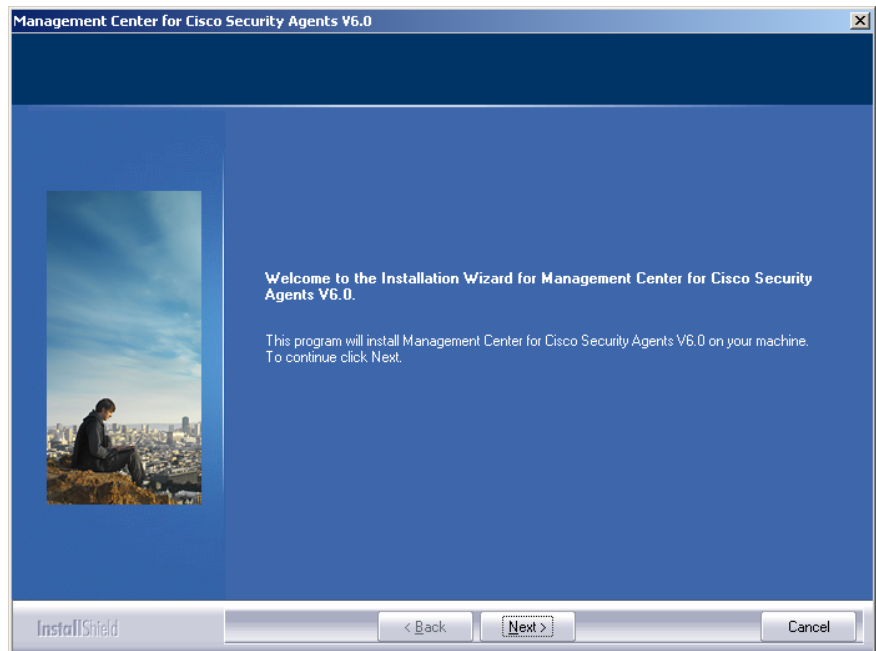
work with CSA MC. Those settings are provided in another section here, see [Microsoft SQL Server Express Manual Installation Settings, page 2-26](#). But again, this is not the recommended deployment.

Before beginning, exit any other programs you have running on the system where you are installing CSA MC.

To install the CSA MC, do the following:

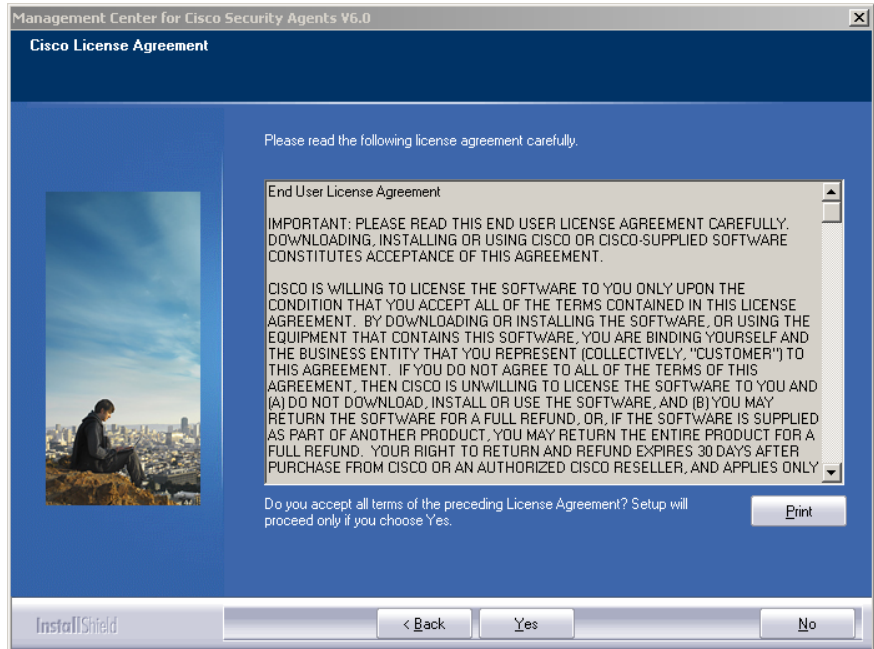
- Step 1** Log on as a local Administrator on your Microsoft Server Windows 2003 R2 Standard or Enterprise system.
- Step 2** Put the Management Center for Cisco Security Agents CD into the CDROM drive. The welcome screen appears. Click **Next** to begin the installation. See [Figure 2-3](#). (If the installation does not start automatically, browse to the setup.exe file on the CD and double click to begin the installation.)

Figure 2-3 CSA MC Installation Welcome Screen



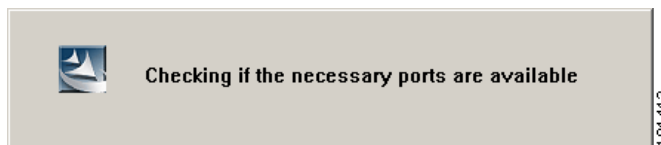
- Step 3** After you click **Next** in the welcome screen, various system checks are performed before the system installation continues.
- Step 4** When the initial system checks are complete, you are prompted to accept the license agreement. Accept the agreement by clicking **Yes**. See [Figure 2-4](#).

Figure 2-4 *CSA MC End User License Agreement*

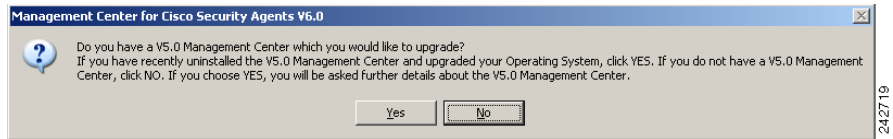


- Step 5** The installation checks if the needed ports are available.

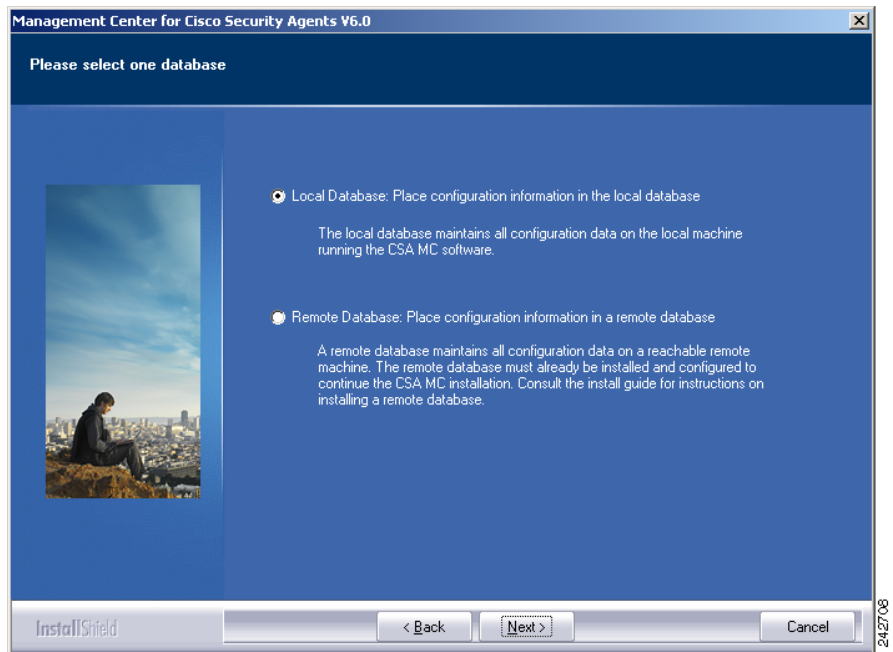
Figure 2-5 *Installation Port Check*



- Step 6** The installation next asks if you are upgrading from a V5.0 Management Center. In this case, click **No** to continue. See [Figure 2-6](#). (If you are upgrading from a V5.0 Management Center, click **Yes** and refer to [Installing CSA MC with a Previous Version's Database \(Same System Installation\)](#), page 2-37.)

Figure 2-6 Upgrade Question Window

- Step 7** The install then begins by prompting you to select a database location. In this case, you will keep the default selection of **Local Database** and click the **Next** button. See [Figure 2-7](#).

Figure 2-7 Database Setup Type

- Step 8** If installing locally, the installation next checks to see if you have Microsoft SQL Server Express Edition installed. CSA MC uses Microsoft SQL Server Express Edition for its local configuration database. If this software is not detected, you are prompted to install it. See [Figure 2-8](#).

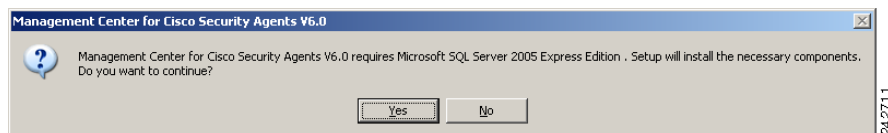
**Note**

For installations exceeding 1,000 agents, it is recommended that you install Microsoft SQL Server 2005 instead of using the Microsoft SQL Server Microsoft SQL Server Express Edition that is provided with the product. Refer to [New Installation Configuration Options, page 2-11](#) for more information. If you are using Microsoft SQL Server 2005, refer to [Microsoft SQL Server 2005 and 2000 Local Installation Notes, page 2-24](#) for details.

**Caution**

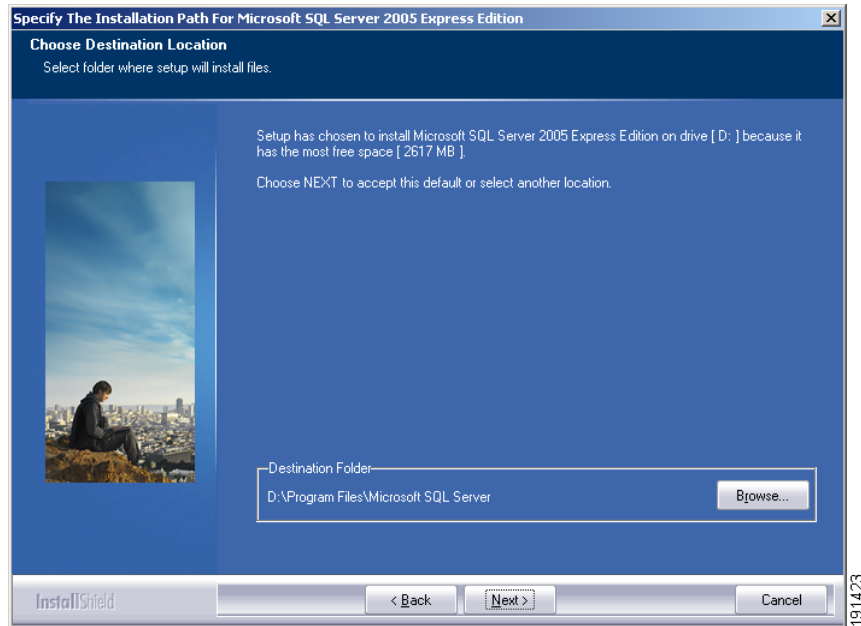
On a system where CSA MC has not previously been installed, the setup program first installs Microsoft SQL Server Express Edition. If the CSA MC installation detects any other database type attached to an existing installation of Microsoft SQL Server Express Edition, the installation will abort. This database configuration is not qualified.

Figure 2-8 *Install Microsoft SQL Server Express Edition Prompt*



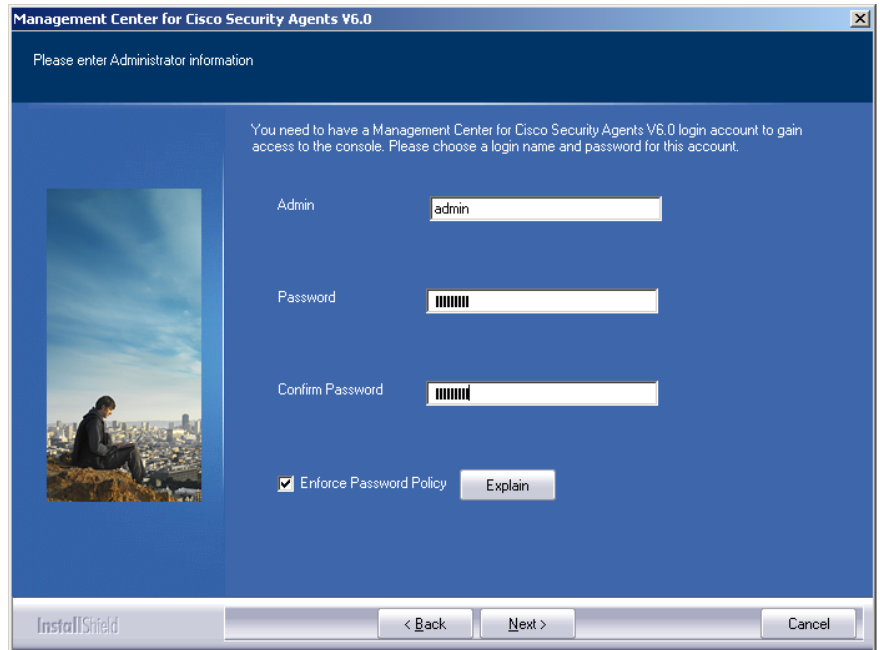
After clicking **Yes**, you are prompted to select an Microsoft SQL Server Express Edition install directory.

Figure 2-9 SQL Server Installation Directory Selection



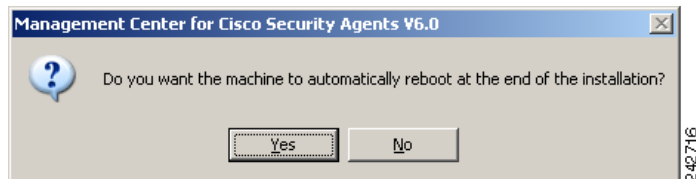
- Step 9** You are prompted to select a CSA MC directory installation path. Either accept the default installation path or browse to a different path for installation.
- Step 10** You are next prompted to enter Administrator Name and Password information. This is the user name and password you will use to login in to CSA MC. Checking the **Enforce password policy** checkbox places these constraints on the password you enter:
- Password cannot be the same as, or contain, the login name
 - Password must be between 6 and 32 characters long
 - Password must contain characters from at least three of the following classes:
 - lower case letters
 - upper case letters
 - digits
 - non-alphanumeric characters

See [Figure 2-10](#). Enter this information and click **Next**.

Figure 2-10 Enter Administrator Name and Password

The screenshot shows a window titled "Management Center for Cisco Security Agents V6.0". The window has a dark blue header with the text "Please enter Administrator information". Below the header, there is a light blue area with a vertical image on the left showing a person sitting on a ledge overlooking a city. To the right of the image, there is a text prompt: "You need to have a Management Center for Cisco Security Agents V6.0 login account to gain access to the console. Please choose a login name and password for this account." Below this prompt are three input fields: "Admin" with the text "admin" entered, "Password" with masked characters, and "Confirm Password" with masked characters. There is a checkbox labeled "Enforce Password Policy" which is checked, and an "Explain" button next to it. At the bottom of the window, there is a grey bar with the "InstallShield" logo on the left and three buttons: "< Back", "Next >", and "Cancel". A small vertical number "242704" is visible on the right side of the window.

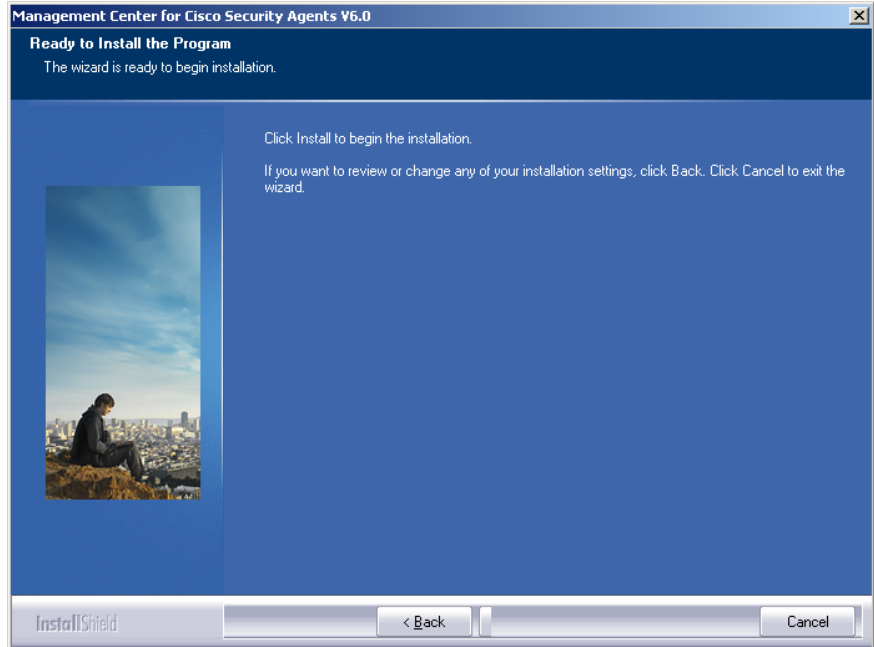
- Step 11** You are next prompted to select whether or not you want the system to automatically reboot once the installation is complete (see [Figure 2-11](#)). It is required that you reboot the system after the installation is complete whether you select Yes to have it done automatically or you choose to manually reboot at the end.

Figure 2-11 Automatic Reboot Option Prompt

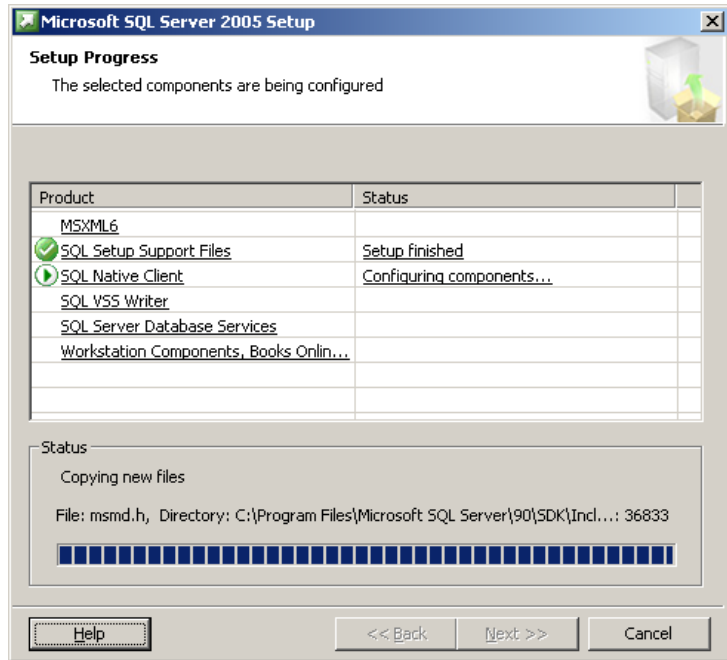
The screenshot shows a dialog box titled "Management Center for Cisco Security Agents V6.0". The dialog box has a light grey background and a question mark icon on the left. The text inside the dialog box reads: "Do you want the machine to automatically reboot at the end of the installation?". Below the text are two buttons: "Yes" and "No". A small vertical number "242716" is visible on the right side of the dialog box.

- Step 12** You are next prompted to begin the installation. Click the **Install** button (see [Figure 2-12](#)).

Figure 2-12 *Begin Install*



SQL Server Express Edition installs .NET Framework on the system and continues to perform configuration tasks (see [Figure 2-13](#)). The SQL Server Express Edition windows that appear require no user action.

Figure 2-13 SQL Server Express Edition Configuration Status Window

When the Microsoft SQL Server Express Edition installation finishes, the CSA MC installation automatically begins again, copying the necessary files to your system, (see [Figure 2-14.](#)) and then installing them (see [Figure 2-15.](#)).

Figure 2-14 Copy Files

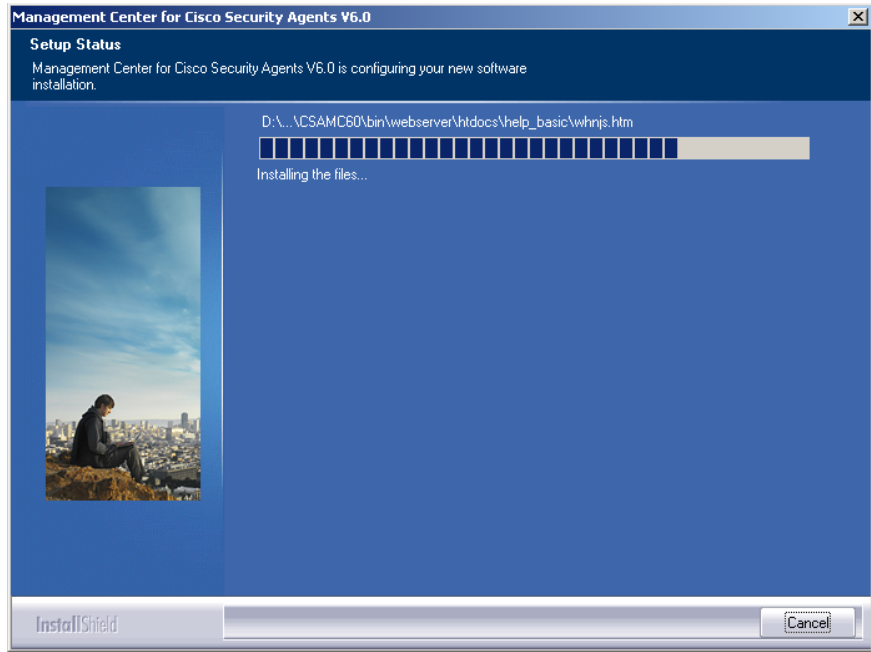
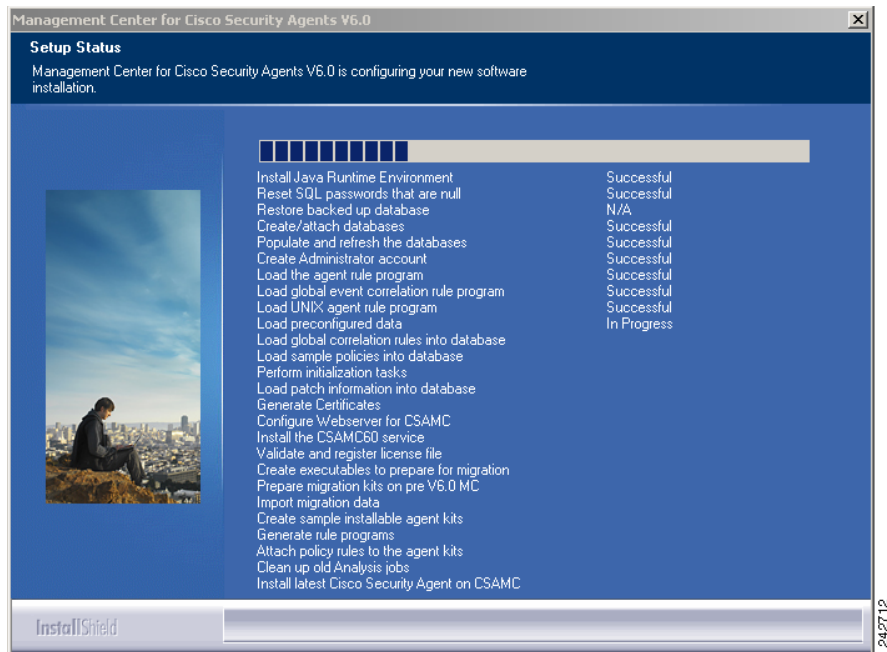


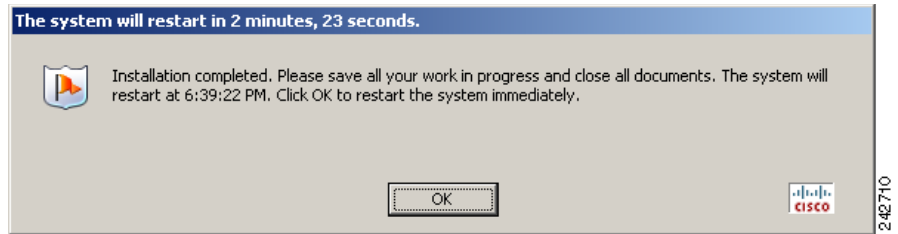
Figure 2-15 Installation Proceeds

**Note**

When the CSA MC installation completes, an agent installation automatically begins. It is recommended that an agent protect the CSA MC system. (You may uninstall the agent separately if you choose, but this is not the recommended configuration.)

If an agent is already installed on a system to which you are installing CSA MC, that agent will automatically be upgraded by the CSA MC agent installation.

When the MC and agent installs are complete, if you selected to have the system reboot automatically, you are prompted that the automatic reboot will occur within 5 minutes. If you selected not to have the system reboot automatically, it is required that you manually reboot the system at this time.

Figure 2-16 Automatic Reboot Prompt

Once the system reboots, you should login to the MC and copy the license key file(s) you received from Cisco Systems to your CSA MC. CSA MC ships with and automatically uses a license for the MC and local agent. See [Uploading a License, page 2-6](#) for more information.

Microsoft SQL Server 2005 and 2000 Local Installation Notes



Note

The following instructions are only intended for administrators choosing to install CSA MC and Microsoft SQL Server 2005(or 2000) to the same system. These instructions are not for administrators using CSA MC with a remote database. If you are choosing to use Microsoft SQL Server 2005 as a remote database, information is provided in the section titled [Installing CSA MC with a Remote Database, page 2-27](#). All instructions apply to both Microsoft SQL Server 2005 and 2000 unless otherwise specified.



Note

No additional database should be present on the server running CSA MC.



Caution

CSA MC supports Microsoft SQL Server 2005 with Service Pack 0, Service Pack 1, or Service Pack 2. You should note that if you install a SQL Server 2005 build that is lower than build number 2153 (released after SP1), the service “SQL Server Integration Services” will fail upon system reboot. You can manually start the service or you can upgrade to Microsoft SQL Server 2005 SP1 build number 2153 or higher.

For local database installations exceeding 1,000 agents, it is recommended that you install Microsoft SQL Server 2005 instead of using the Microsoft SQL Server Express Edition that is provided with the product. Microsoft SQL Server Express Edition has a 4 GB limit. SQL Server 2005 must be licensed separately and it must be installed on the local system before you begin the CSA MC installation.

In order for Microsoft SQL Server 2005 to function properly with CSA MC, you must select certain settings during the installation. Those settings are listed here. (Refer to your Microsoft SQL Server 2005 manual for detailed installation information.)

**Note**

You should not change the default instance name of “MSSQLSERVER” for the SQL Server 2005 database. If you change this, the CSA MC installation will not detect the database.

When installing Microsoft SQL Server 2005, choose the default settings except in the following instances:

- In the **Setup Type** installation window, choose the **Typical** radio button and in the **Destination Folder** section, click the various **Browse** buttons to install SQL Server on the system.
- In the **Components to Install** dialog box, select **SQL Server Database Services** and **Analysis Services**.
- In the **Instance Name** dialog box, select **Default Instance**.
- In the **Service Account** installation dialog box, choose **Use the built-in System Account** radio button and specify **Local System**. In the **Start Services at the End of Setup** area, select **SQL Server** and **Analysis Services**.
- In the **Authentication Mode** dialog box, select **Windows Authentication Mode**.
- (For Microsoft SQL Server 2000 only) In the **Choose Licensing Mode** installation window, select the **Per Seat for** radio button and then increment the **devices** number field to a positive value—at least 1 or 2.

(For Microsoft SQL Server 2005 only) Reboot the system.

(For Microsoft SQL Server 2000 only) Reboot the system and install the most recent service pack for SQL Server 2000. CSA MC has been qualified with Service Pack 4. When installing the service pack, choose the default settings except in the following instances

- When you install the service pack, in the **Installation Folder** screen, you should select a drive that has at least 140 MB of free space. For the service pack installation, choose the default settings in all instances.
- In the **SA Password Warning** installation screen, select the **Ignore the security threat warning, leave the password blank** radio button.
- In the **SQL Server 2000 Service Pack Setup** installation screen, select the **Upgrade Microsoft Search and apply SQL Server 2000 SP4 (required)** checkbox.

Microsoft SQL Server Express Manual Installation Settings

Because Microsoft SQL Server Express is provided on the CD separately, during a local database MC installation, you might be tempted to install Microsoft SQL Server Express yourself manually. This is not recommended. If you install it yourself, you must select specific non-default settings for the database to work with CSA MC. Those settings are provided here. But again, this is not the recommended deployment.



Caution

If you are installing both CSA MC and the database to the same machine with the provided Microsoft SQL Server Express database, you should install Microsoft SQL Server Express Edition as part of the CSA MC installation. The CSA MC installation runs the Microsoft SQL Server Express installation program choosing the Microsoft SQL Server Express settings the MC needs. During the MC installation, if you want to install the database on a different system drive from the MC, the install prompts allow you to do this.

During the Microsoft SQL Server Express manual installation, you can simply leave all the default settings except in the following cases:

- **Registration information** dialog - UNCHECK the “Hide advanced configuration options” option.
- **Instance name** dialog - Choose the “Default instance” option.

- **Service Account** - Select “User the built-in system account” and from the drop down menu, select “Local System”.

Installing CSA MC with a Remote Database

If you are installing one or two CSA MCs and their corresponding database to different machines, you must first install and properly configure Microsoft SQL Server 2005 on the remote system according to Microsoft’s instructions. You should restrict access to this database machine as much as possible using any access control systems you already have in place on your network.



Caution

It is recommended that all installed CSA MCs and remote databases be placed on a private LAN. If you cannot provide a private LAN, then you should follow Microsoft’s recommendations for securing communication between database servers and application servers.



Caution

It is important that the time on the database server system closely match the time on the CSA MC system. Both systems must be in the same time zone and you should make sure both times are set correctly.



Caution

You must install a Cisco Security Agent on this remote database. This agent should be in the Servers–CSA Management Center– Secured Remote Database group. This group is hidden by default, you will need to change the visibility view on the Groups list page to “Show all items” to expose this group. You should install this agent after the last CSA MC has been installed and rebooted.

Microsoft SQL Server 2005 and 2000 Remote Setup



Note

The following section contains overview information for setting up the Microsoft SQL Server 2005 or Microsoft SQL Server 2000 database to work correctly with CSA MC. More detailed SQL Server configuration information should be

obtained from your Microsoft documentation. All instructions apply to both Microsoft SQL Server 2005 and 2000 unless otherwise specified.

**Caution**

CSA MC supports Microsoft SQL Server 2005 with Service Pack 0, Service Pack 1, or Service Pack 2. You should note that if you install a SQL Server 2005 build that is lower than build number 2153 (released after SP1), the service “SQL Server Integration Services” will fail upon system reboot. You can manually start the service or you can upgrade to Microsoft SQL Server 2005 SP1 build number 2153 or higher.

In order to enter the requested remote database information during the CSA MC installation, you must first setup the SQL Server database system by doing the following. (Note that these steps may be performed by your database administrators. The procedure is detailed after the bullet list.)

- Create an empty database.
- You must configure a new login ID and password and associate it with a new user ID which has the standard access rights on the CSA MC database, including db_ddladmin, db_datareader, and db_datawriter. Note that the login ID and user ID must be identical. (db_owner privileges are not required.)
- (SQL Server 2005 - only instruction) Right-click on the server name and view Properties. On the left side of the Properties panel, click Permissions. In the table containing the logins and roles, click on the user id that has been created for CSA MC. In the explicit permissions list for the user, for the permission “View Server State”, check the box for “Grant”.
- (SQL Server 2005 - only instruction) Under the created CSA MC database, select Schema. Create a new schema with a name that is identical to the user id and login id. Click the Search button and locate the user. Attach this user to the new schema and click OK. Return to the Users in the database. Double-click the user id and select the newly created schema as the default schema.
- Make sure the default language is set to English. Note that you should not change the language default after CSA MC is installed. The SQL Server collision string must contain **Latin1_General**.
- Make sure that the database is configured to accept SQL Server authentication.

- You also need to create a file group for the database called “analysis” and it must have at least one file attached.

More specifically, use the following procedure as a guideline:

-
- Step 1** Right click your SQL Server. Select the **Security** tab and set “Authentication” to **SQL Server and Windows**. Then click **OK**.
 - Step 2** Stop and start sql server.
 - Step 3** Create new database “CSAMC60”.
 - Step 4** Inside the DB properties, click **Filegroups** and create a new filegroup called ANALYSIS. Inside the DB properties, click **Data Files** and in the **File Name** field, type “csamcanalysis”, and in the Filegroup field type “ANALYSIS”. Then click **OK**.
 - Step 5** Expand the “security” + and right-click Logins. Then create a new login. Use SQL Server Authentication. Set Defaults -> Database = csamc60 database.



Note Do not click anything under “server roles”.

- Step 6** In the “database access” section, permit access to csamc60 and give the role of db_ddladmin, db_datareader and db datawriter permissions must also be provided. Click **OK**.
- Step 7** Restart the server.

Once this is configured, you can begin the CSA MC installation.

Before beginning, exit any other programs you have running on the system where you are installing CSA MC. To install the CSA MC, do the following:

-
- Step 1** Log on as a local Administrator on your Microsoft Server Windows 2003 R2 Standard or Enterprise system.
 - Step 2** Management Center for Cisco Security Agents CD into the CDROM drive. The welcome screen appears. Click Next to begin the installation. (If the installation does not start automatically, browse to the setup.exe file on the CD and double click to begin the installation.)
 - Step 3** The Management Center for Cisco Security Agents appears. After you click **Next** in the welcome screen, various system checks are performed before the system installation continues.

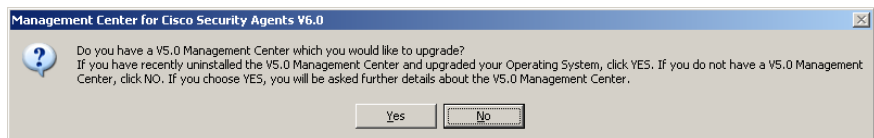
- Step 4** When the initial system checks are complete, you are prompted to accept the license agreement. Accept the agreement by clicking **Yes**. See [Figure 2-17](#).

Figure 2-17 CSA MC End User License Agreement



- Step 5** The installation asks if you are upgrading from a V5.0 Management Center. In this case, click **No** to continue. See [Figure 2-18](#). (If you are upgrading from a V5.0 Management Center, click **Yes** and refer to [Installing CSA MC with a Previous Version's Database \(Same System Installation\)](#), page 2-37.)

Figure 2-18 Upgrade Question Window



- Step 6** The install begins by prompting you to choose a database setup type. In this case, you will select the **Remote Database** radio button and click the **Next** button.

When you select the Remote Database radio button, you are next prompted to enter the following information for the remote SQL Server database (see [Figure 2-19](#)):

- Name of the server
- Name of the database
- Login ID
- Password

Figure 2-19 Remote Database Information

Management Center for Cisco Security Agents V6.0

Please enter the database details

Server Name

Database Name

User Name

Password

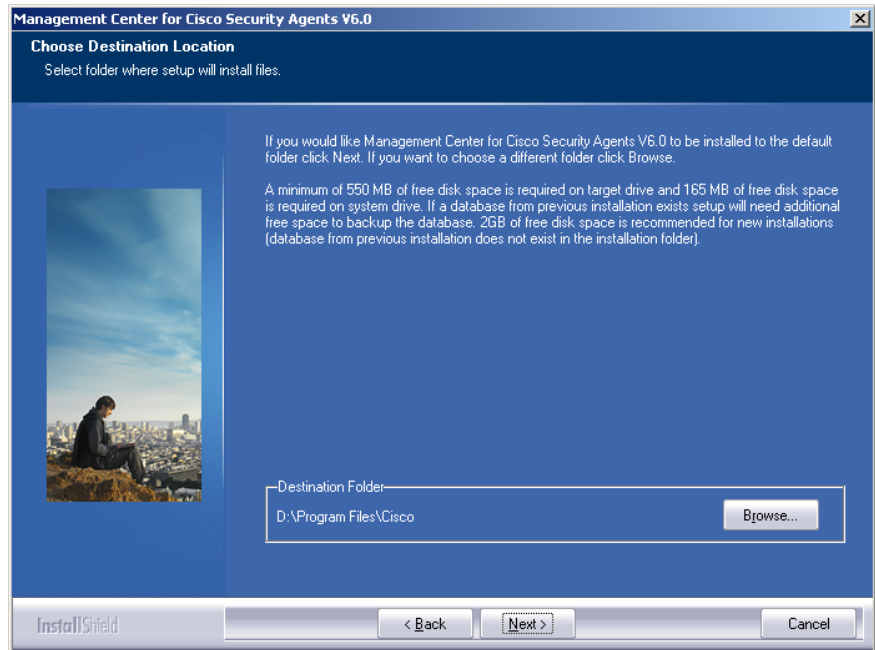
InstallShield

242717

Step 7 Once you enter the database information and click **Next**, the installation attempts to locate the database and verify that it is configured appropriately. If the database is not setup correctly, you are prompted with this information and the installation will not continue. Otherwise, the installation proceeds.

Step 8 You are next prompted to select a CSA MC directory installation path. Either accept the default installation path or browse to a different path.

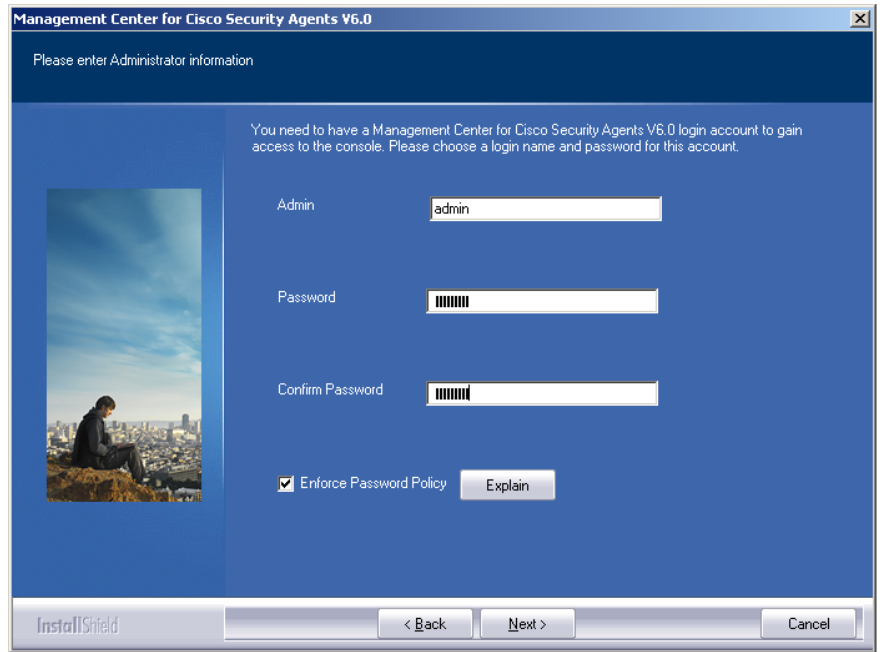
Figure 2-20 Installation Directory



Step 9 You are next prompted to enter Administrator Name and Password information. This is the user name and password you will use to login in to CSA MC. Checking the **Enforce password policy** checkbox places these constraints on the password you enter:

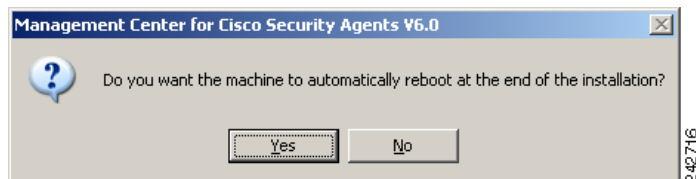
- Password cannot be the same as, or contain, the login name
- Password must be between 6 and 32 characters long
- Password must contain characters from at least three of the following classes:
 - lower case letters
 - upper case letters
 - digits
 - non-alphanumeric characters.

See [Figure 2-21](#). Enter this information and click **Next**.

Figure 2-21 Enter Administrator Name and Password

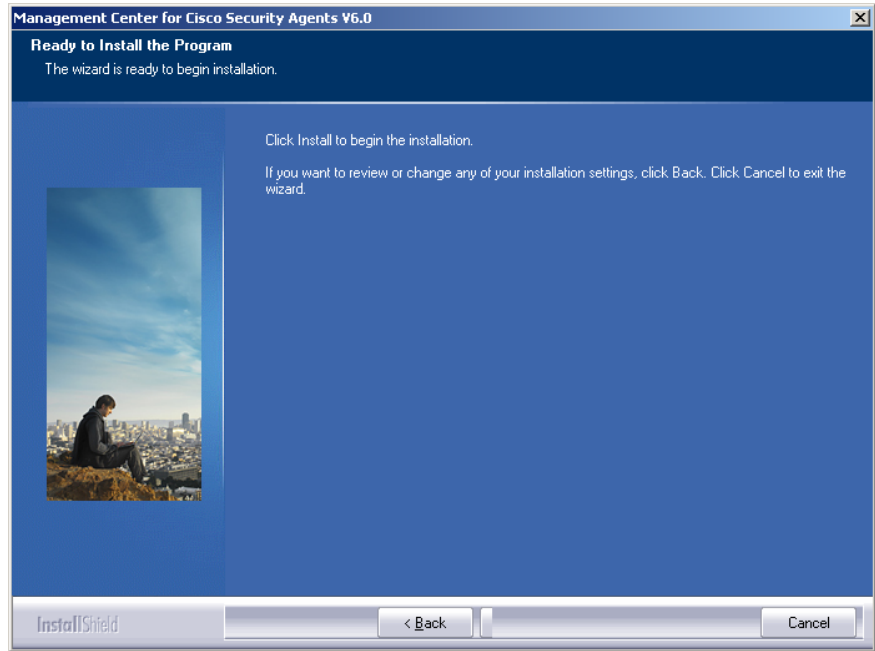
The screenshot shows a window titled "Management Center for Cisco Security Agents V6.0". The main heading is "Please enter Administrator information". Below this, a message states: "You need to have a Management Center for Cisco Security Agents V6.0 login account to gain access to the console. Please choose a login name and password for this account." To the left of the form is a vertical image of a person sitting on a ledge overlooking a city. The form contains three input fields: "Admin" with the text "admin", "Password" with masked characters, and "Confirm Password" with masked characters. There is a checked checkbox for "Enforce Password Policy" and an "Explain" button next to it. At the bottom of the window are "InstallShield" branding, a "< Back" button, a "Next >" button, and a "Cancel" button. A vertical ID number "242704" is on the right side.

- Step 10** You are next prompted to select whether or not you want the system to automatically reboot once the installation is complete (see [Figure 2-22](#)). It is recommended that you reboot the system after the installation is complete whether you select Yes to have it done automatically or you choose to manually reboot at the end.

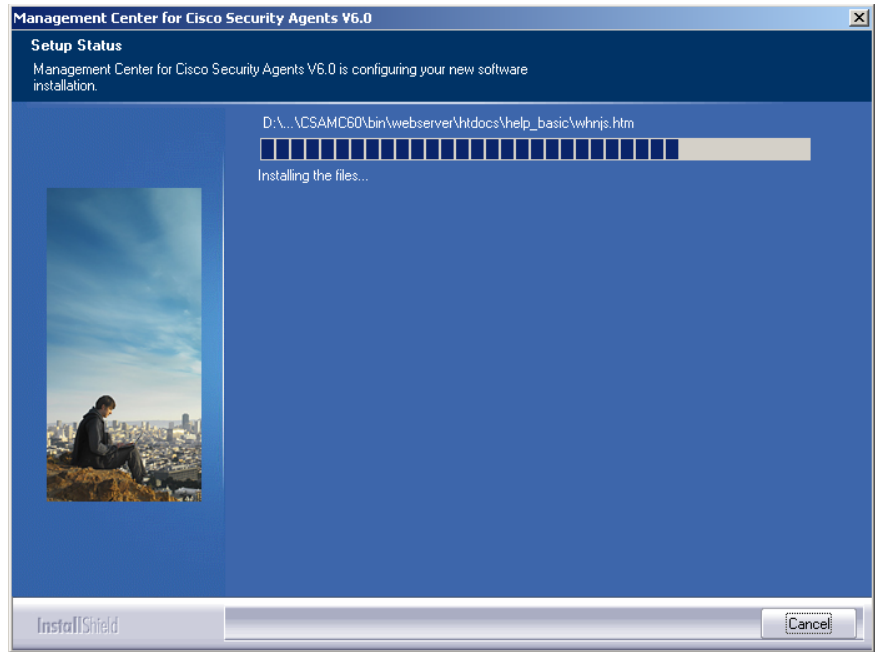
Figure 2-22 Automatic Reboot Option Prompt

The screenshot shows a dialog box titled "Management Center for Cisco Security Agents V6.0". It features a question mark icon and the text: "Do you want the machine to automatically reboot at the end of the installation?". At the bottom are two buttons: "Yes" and "No". A vertical ID number "242716" is on the right side.

You are next prompted to begin the installation. Click the **Install** button. (See [Figure 2-23](#).)

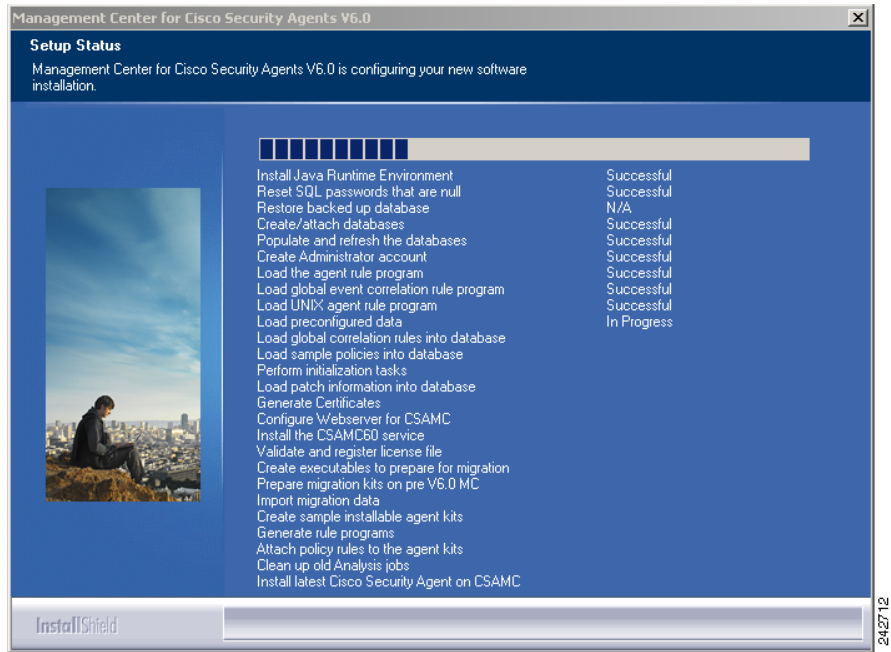
Figure 2-23 *Begin Install*

The install then proceeds copying the necessary files to your system (see [Figure 2-24](#)).

Figure 2-24 Copy Files

Once the copying is complete, the installation begins configuration and setup tasks. See [Figure 2-25](#).

Figure 2-25 Installation Proceeds

**Note**

When the CSA MC installation completes, an agent installation automatically begins. It is recommended that an agent protect the CSA MC system and this is done automatically for you. (You may uninstall the agent separately if you choose, but this is not the recommended configuration.)

When the MC and agent installs are complete, if you selected to have the system reboot automatically, you are prompted that the automatic reboot will occur within 5 minutes. If you selected not to have the system reboot automatically, it is recommended that you manually reboot the system at this time.

Once the system reboots, should login to the MC and copy the license key file(s) you received from Cisco Systems to your CSA MC. CSA MC ships with and automatically uses a license for the MC and local agent. You must manually import all other licenses through the MC **Maintenance>License** Information window. See [Uploading a License, page 2-6](#) for license import instructions.

Installing CSA MC with a Previous Version's Database (Same System Installation)

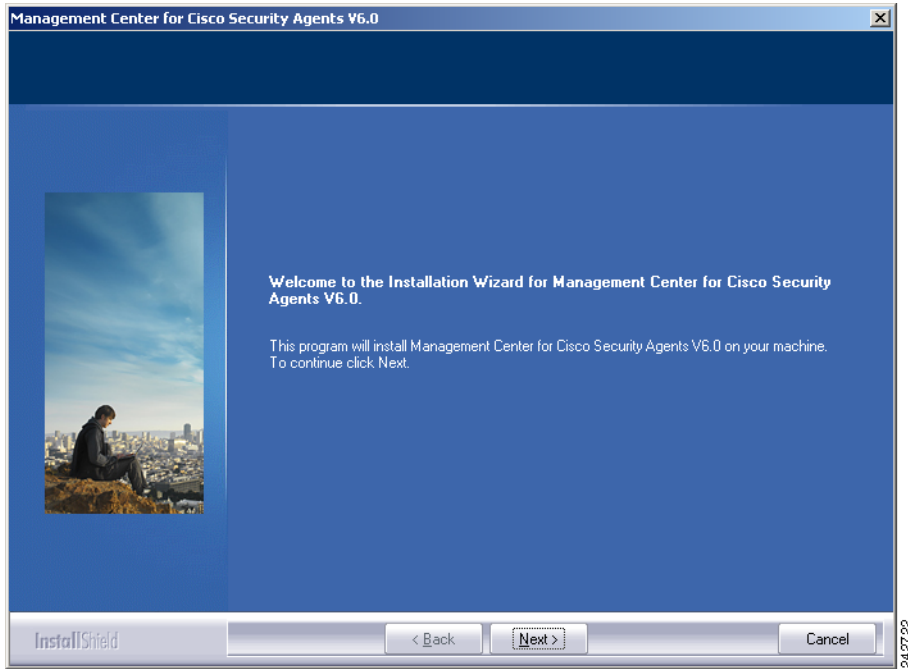
This section addresses the procedure for backing up and importing a 5.0 database as part of CSA MC V6.0. same system installation. (Scenarios 5 and 7 in [Figure 2-1](#)).

In order to perform this type of migration you must install a V5.1 MC along with the V6.0 MC. You must use V5.1 to migrate your V5.0 hosts and data to the V6.0 product schema. V5.1 is provided as an interim tool for bringing all your data into V6.0 correctly. The V6.0 installation installs both MCs, first 5.1 and then 6.0, with one reboot at the end.

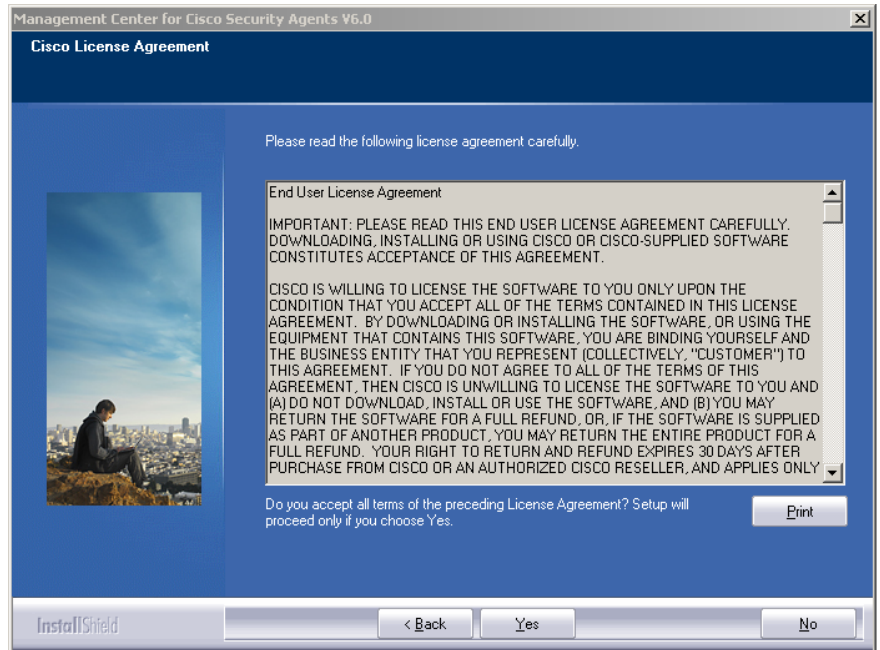


Note If you are migrating from CSA MC V4.x in a same system installation scenario, you must first upgrade to CSA MC V5.0. Refer to the CSA MC V5.0 Installation Guide for that procedure. Once you've completed that upgrade, you can use the following procedure.

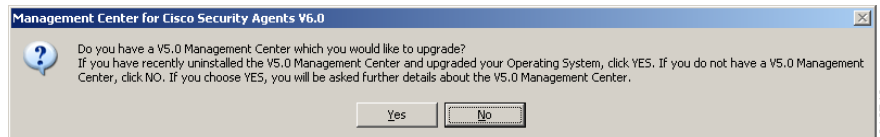
-
- Step 1** Uninstall CSA MCV5.0 per the instructions in your CSA MC V5.0 Installation Guide. (If V5.0 uses a local database, during the CSA MC V5.0 uninstall procedure, when prompted, make sure to select to backup the database. When the uninstall completes, move the backed-up database to a different, network accessible system.)
- Step 2** Re-install that same system with the Windows 2003 R2 operating system. Install CSA MC V6.0 as follows:
-
- Step 1** Log on as a local Administrator on your Microsoft Server Windows 2003 R2 Standard or Enterprise system.
- Step 2** Place the Management Center for Cisco Security Agents CD into the CDROM drive. The welcome screen appears. Click Next to begin the installation. See [Figure 2-26](#). (If the installation does not start automatically, browse to the setup.exe file on the CD and double click to begin the installation.)

Figure 2-26 CSA MC Installation Welcome Screen

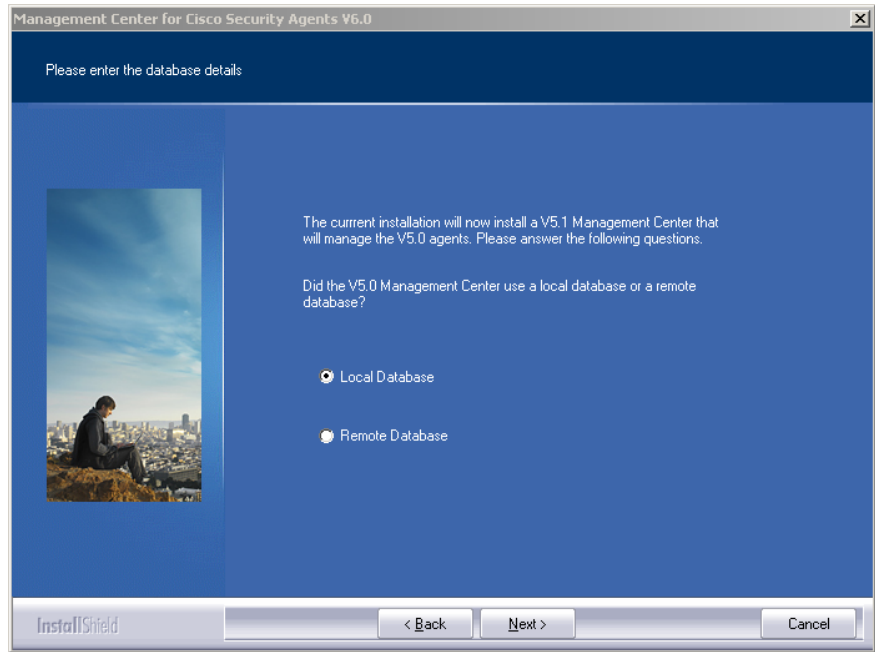
- Step 3** After you click **Next** in the welcome screen, various system checks are performed before the system installation continues.
- Step 4** When the initial system checks are complete, you are prompted to accept the license agreement. Accept the agreement by clicking **Yes**. See [Figure 2-27](#).

Figure 2-27 *CSA MC EULA License Agreement*

- Step 5** The installation asks if you are upgrading from a V5.0 Management Center. In this case, click **Yes** to continue. See [Figure 2-28](#).

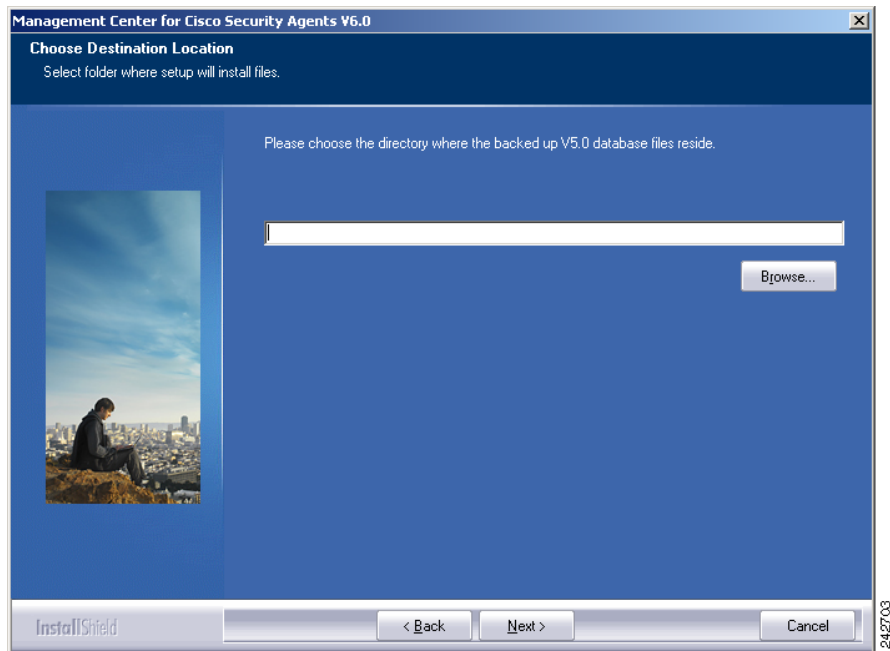
Figure 2-28 *Upgrade Question Window*

- Step 6** Select whether your V5.0 installation used a local or a remote database. See [Figure 2-29](#).

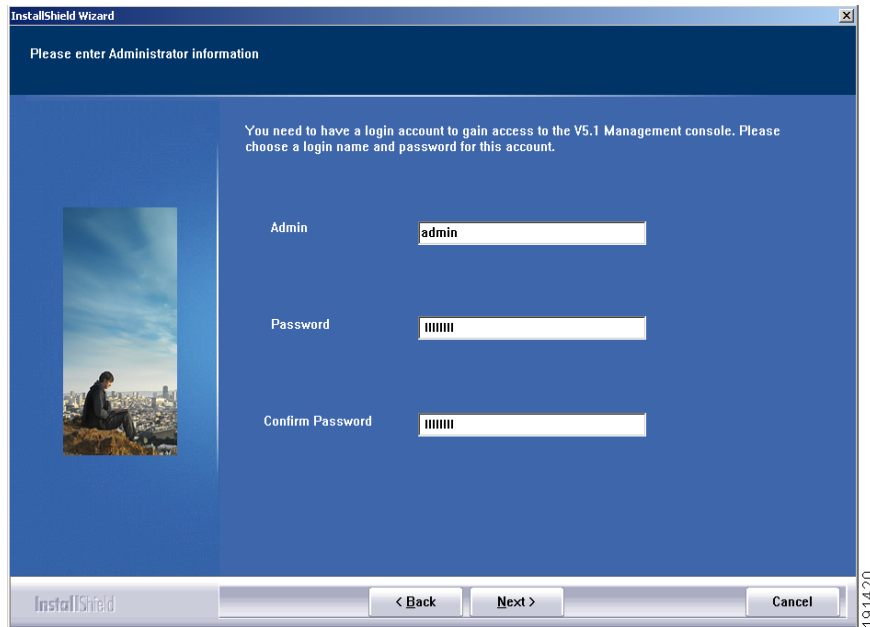
Figure 2-29 *Select V5.0 Database Type*

Step 7 If you select Local Database, you are next asked to browse to the location of the backed-up V5.0 database. Once you've located the database, click **Next** to continue. See [Figure 2-30](#).

If you select Remote Database, you are asked to enter data for accessing the remote database. This remote database entry screen is the same as [Figure 2-19](#).

Figure 2-30 Browse to Backed-up V5.0 Database

- Step 8** Once the V5.0 local or remote database is located, the installation will proceed to install CSA MC V5.1.
- Step 9** You must create a user name and password to login into the CSA MC V5.1. See [Figure 2-31](#). (You will later create another user and password for CSA MC V6.0).

Figure 2-31 Uername and Password Creation for V5.1

InstallShield Wizard

Please enter Administrator information

You need to have a login account to gain access to the V5.1 Management console. Please choose a login name and password for this account.

Admin

Password

Confirm Password

InstallShield

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From here, you can continue by following the procedures detailed in [Installing CSA MC with a Local Database, page 2-13](#) or [Installing CSA MC with a Remote Database, page 2-27](#) depending on how you are installing the product. As stated earlier, the installation will proceed by first installing V5.1 and then directly begin the V6.0 installation with one reboot at the end of the procedure. For both V5.1. and V6.0 installations, you must select a database type and setup usernames and passwords as explained in the procedures referenced above.

Note for Installing two CSA MCs on two separate machines

If you are installing two CSA MCs using one remote database, repeat the steps detailed in this section, entering the same remote database information for the second MC.

**Caution**

When installing two CSA MCs, the first MC you install automatically becomes the polling and logging MC. The second MC acts as the configuration MC. During the installation process, the CSA MCs know the order in which the MCs were installed and direct polling, logging, and management tasks to the appropriate MC.

**Caution**

In a distributed MC environment, when installing, upgrading, or uninstalling any MC in the distributed configuration, the service must be stopped on the other MCs and restarted later.

Installation Log

The installation of CSA MC produces a log file. This log file, called “CSAMC-Install.log” and located in the CSAMC60\log directory, provides a detailed list of installation tasks that were performed. If there is a problem with the installation, this text file should provide information on what task failed during the install.

**Note**

The installation of the agent produces a similar file called “CSAgent-Install.log” and is located in the Cisco\CSAgent\log directory on agent host systems.

Accessing Management Center for Cisco Security Agents

When the installation has completed and you've rebooted the system, a Management Center for Cisco Security Agents [version number] shortcut icon is placed on your desktop. Double-clicking this icon launches the MC in your default browser.

Local Access

To access CSA MC locally on the system hosting the CSA MC software, double-click the shortcut icon added to your desktop during the installation. This launches the management console login screen in your default browser.

**Note**

See [Initiating Secure Communications, page 2-49](#) if you cannot connect to CSA MC.

Remote Access

To access CSA MC from a remote location, launch a browser application on the remote host and enter the following in the Address or Location field (depending on the browser you're using) to access the Login view:

```
https://<management center system hostname>.<domain>
```

For example, enter `https://stormcenter.cisco.com`

**Note**

In this example, CSA MC is installed on a host system with the name stormcenter.

Figure 2-32 CSA MC Login Window

Management Center for
Cisco Security Agents

Version: 6.0

Running on: client221

Username:

Password:

Login

Please log in

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[[Get root certificate](#)] [[Agent Kits](#)]

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Migration Instructions

The following section contains information for migrating to CSA MC V6.0 from a previous version installed on the same system as CSA MC V6.0 and for a previous version installed on a separate machine. Both scenarios are covered here.

**Note**

If you install 6.0 on the same system where you have 5.2 installed, the majority of this migration is done automatically.

If you intend to migrate 5.2 Solaris agents, please read [Solaris and Linux Agent Migration, page 2-48](#) before starting your upgrade.

To migrate to V6.0, do the following:

Step 1

Install the Management Center for Cisco Security Agents V6.0. See previous sections for instructions.

- If you're installing CSA MC V6.0 on the same machine running CSA MC V5.2, an xml file containing V5.2 configuration items and several .dat files containing host information are automatically generated by the installation and ready for importing once the install is complete.
- If you're installing CSA MC V6.0 on a different machine from the system running V5.x or V4.x, after installing V6.0, you must copy and manually run an executable file on the V5.x or V4.x machine to create the xml and dat files needed for importing V5.x or V4.x configurations and host information to V6.0.

Step 2 If you have installed V6.0 on the same machine as V5.2, you can skip to Step 8. Otherwise, once you've installed CSA MC V6.0 and rebooted the system, navigate to the Cisco\CSAMC\CSAMC60\migration directory. Copy the appropriate file (named `prepare_<version>_migration.exe` depending on the version you're migrating from, for example `prepare_50_migration.exe`) to your V5.x or V4.x system. (You can copy it to any place on the system.)

Step 3 On your V5.x or V4.x system, disable agent security and run the `prepare_<version>_migration.exe` file that you copied from the V6.0 system. (You must disable security in order to run the executable file and create the import xml data.) This launches a command prompt which displays the progress of the migration.

Step 4 When the `prepare_<version>_migration.exe` file is finished, on the V5.x or V4.x system, navigate to the Cisco Systems\CSAMC\CSAMC52\migration\export or CSCOpX\CSAMC50\migration\export directory (again, directory name depends on the version you're migrating from) and locate several newly created files. Your configuration data is now in a file named `migration_data_export.xml`. Your host data (hosts and distinct host groupings) are now in several files, depending on how many distinct host groupings existed, named `migration_host_data<number>.dat`.

Using the data that is now wrapped up in these files allows you to import your existing policy configurations and your current host groupings, thereby preserving the policy tuning and host group configurations for your new V6.0 installation.

Step 5 Next you copy the `migration_data_export.xml` and all the `migration_host_data<number>.dat` files from the V5.x or V4.x system to your V6.0 system. These files must exist together in the same directory on the V6.0 system (although the directory name and location does not matter).

- Step 6** Then from the V6.0 system, run the `webmgr import` utility from a command prompt to pull the data into the new MC. You cannot use the CSA MC UI Import utility to do this. That utility does not allow you to import the .dat files that are associated with the .xml file as one grouping.

From a command prompt window on the V6.0 system, `cd` to the directory in the following example and run the command as follows:

```
%system%Cisco\CSAMC\CSAMC60\bin>webmgr import  
%path_to_xml_file%\migration_data_export.xml
```

Because the host .dat files are associated with the .xml file, this command imports both the configuration and host data with the `migration_data_export.xml` file.

- Step 7** You must generate rules once the import is complete. If you do not generate rules at this point, you cannot upgrade agent host software as described in the next section.

**Note**

CSA MC V6.0 ships with policies that contain new V6.0 functionality. This new functionality does not match all V5.x or V4.x configurations. CSA MC configuration item names are labeled with the release version number to distinguish them from older (or newer) configuration items or items created by administrators. When you import your older configuration, new V6.0 items are not overwritten. You will likely have items from both versions in your CSA MC V6.0. If the import process finds that two items have the exact same contents and the only difference is the V6.0 appended name field, the older item is not imported and the newer V6.0 item is used in its place.

- Step 8** To upgrade migrated V5.x or V4.x agents to V6.0, schedule V6.0 software updates for older agents. You schedule this upgrade from the V5.x or V4.x system. (Running the `prepare_<version>_migration.exe` file placed a V6.0 software update on the V5.x or V4.x machine.)

Once the older agents receive the scheduled software update, they will point to and register with the new CSA MC V6.0. The update contains the appropriate new certificates to allow this to occur. Once hosts register with V6.0, they will be associated with the correct groups based on the host migration that you performed earlier.

To schedule the update, mouse-over the Systems menu and navigate **Software Updates > Scheduled Software Updates**. For instructions on how to schedule the software update, navigate **Help > Online help**.

**Note**

Agent kits are configuration items that do not migrate to the new version. Because host migration does not relate to agent kits, old agents kits are not considered to be necessary migration items.

Also, configuration items that are not used (not attached to any group) do not migrate to the new version.

**Caution**

When upgrading V5.x or V4.x agents to software version 6.0, the upgrade program disables the system network interfaces to ensure a secure upgrade process. The agent service is also stopped to allow the update to occur. Once the update is complete, the agent service is restarted and the network interfaces are enabled. (Note, that secure upgrades are not supported for Windows NT systems.)

Once you have migrated all old agents to the newer version, you can uninstall the old version of CSA MC. See [Uninstalling Management Center for Cisco Security Agents, page 2-54](#).

Solaris and Linux Agent Migration

**Caution**

Solaris agent versions 4.0.3.736 or later can be upgraded to version 6.0. Earlier Solaris agents cannot be upgraded.

Only Linux agent version 4.5.1.638 or later can be upgraded to version 6.0. Earlier Linux agents cannot be upgraded.

You should note that the Solaris host migration process is a bit different than Windows and Linux migration.

Once scheduled, Solaris software upgrades must be launched manually by accessing the **csactl** command line tool on the Solaris systems and typing in the software update command. When the update is complete, network connectivity is disabled and remains disabled until the system automatically reboots within 5

minutes. This reboot *cannot* be stopped. Therefore, once you launch the Solaris software update, you must understand that the system will reboot when the update completes.

Upgrade Note

Newer versions of policies are not automatically attached to the auto-enrollment groups during upgrade. If you want to update the mandatory policies, you can use the CSA MC Compare tool to synchronize the existing auto-enrollment groups with the new updated auto-enrollment groups added by the upgrade.

Initiating Secure Communications

CSA MC uses SSL to secure all communications between the CSA MC user interface (locally and remotely) and the Management Center for Cisco Security Agents server system itself. This way, all configuration data travels over secure channels irrespective of the location of the CSA MC host system.

During installation, CSA MC generates private and public keys to be used for secure communications between any system accessing the CSA MC user interface and the CSA MC itself.

When your browser connects to the server, it receives the server's certificate. You are then prompted to accept this certificate. It is recommended that you import it into your local certificate database so that you are not prompted to accept the certificate each time you login. The following sections show the process of importing certificates into Internet Explorer and Netscape Web browsers.

Internet Explorer: Importing the Root Certificate



Note

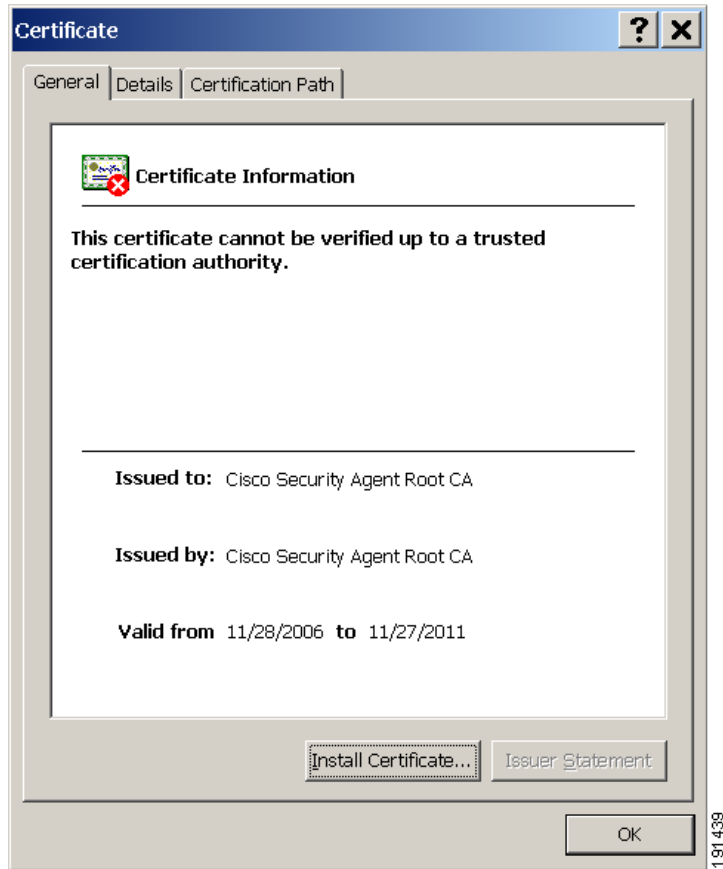
If you are using Internet Explorer 7.0, you see an “Invalid Certificate” screen when you first attempt to open a CSA MC browser window. See the end of this section for further information.

Step 1

You import the certificate from the CSA MC login window. Click the **Get root certificate** link. See [Figure 2-32](#).

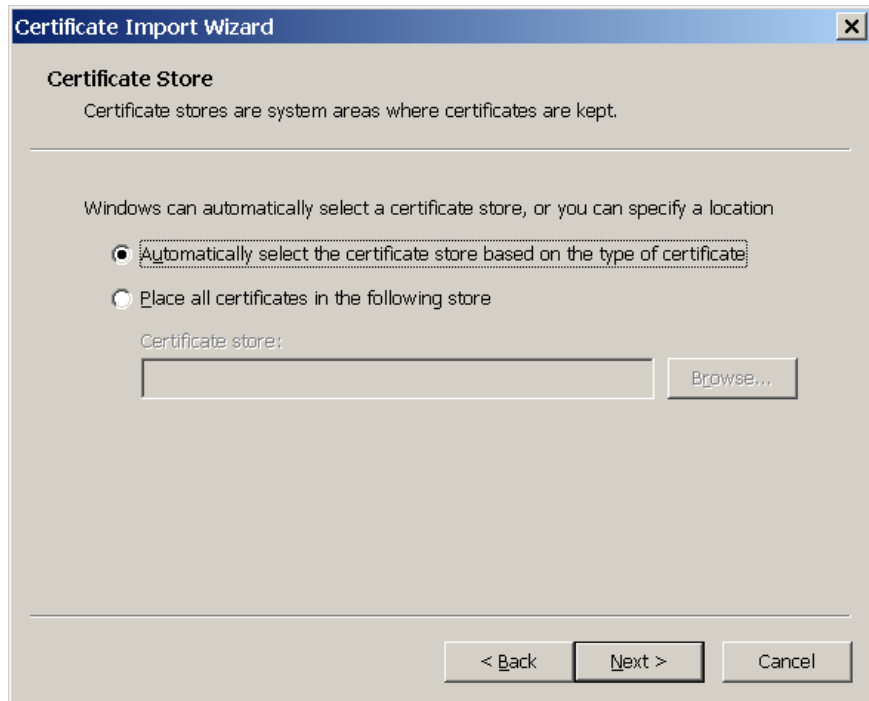
- Step 2** Select the **Open** (this file from its current location) button and click **OK**.
- Step 3** The certificate information box appears (see [Figure 2-33](#)). It contains information on the system the certificate is issued to and it displays expiration dates. Click the **Install Certificate** button to start the Certificate Manager Import Wizard.

Figure 2-33 Certificate Information



- Step 4** The first Certificate Manager Import page contains an overview of certificate information. Click **Next** to continue.
- Step 5** From the Select a Certificate Store page, make sure the **Automatically select the certificate store based on the type of certificate** radio button is selected. Click **Next**.

Figure 2-34 Certificate Wizard



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- Step 6** You've now imported your certificate for the server. Click the **Finish** button (Figure 2-35) to continue.

Figure 2-35 Certificate Wizard Finish Page



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- Step 7** Now, you must save the certificate. Click the **Yes** button in the Root Certificate Store box.
- Step 8** You are next prompted with a confirmation box informing you that your certificate was created successfully.



Note You must perform this certificate import process the first time you login to CSA MC from any remote machine. Once the certificate import is complete, you can access the login page directly for all management sessions. To access the login page remotely, enter the URL in the following format.

```
http://<management center system hostname>.<domain>
```

For example, enter `http://stormcenter.cisco.com`

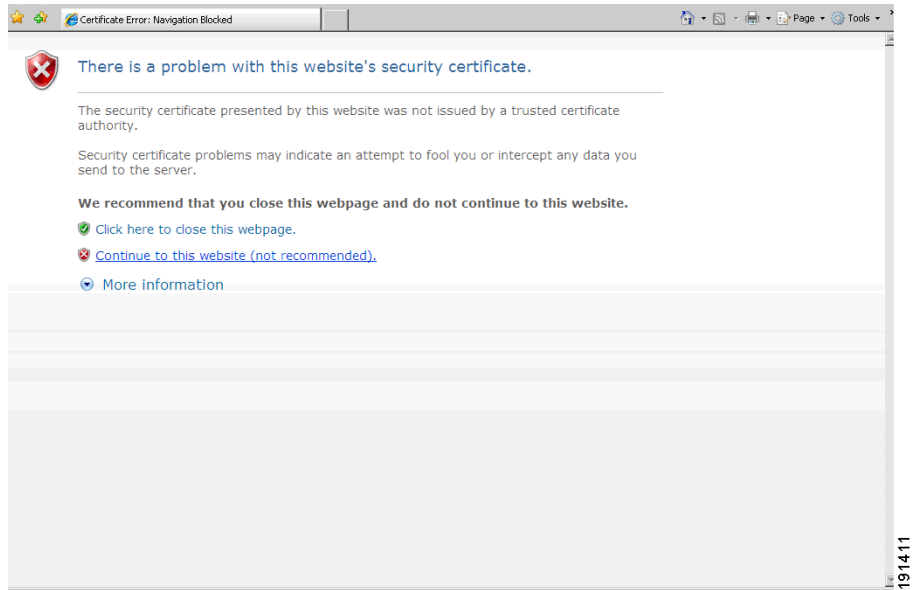
**Caution**

If you have not obtained a valid license from Cisco, when you login to CSA MC, you'll receive a warning informing you that your license is not valid. Refer back to [page 2-2](#) for further licensing information.

Internet Explorer 7.0: Importing the Root Certificate

If you are using Internet Explorer 7.0, you see an “Invalid Certificate” screen when you first attempt to open a CSA MC browser window. When that screen appears, click the **Continue to this website (not recommended)** link, see [Figure 2-36](#). Then you can continue by following instructions in [Internet Explorer: Importing the Root Certificate, page 2-49](#).

You will only see this screen the first time you access the CSA MC browser in IE 7.0. Once you follow the instructions and import the root certificate, the screen should not appear again.

Figure 2-36 Internet Explorer 7.0 Certificate Screen

Uninstalling Management Center for Cisco Security Agents

Uninstall the CSA MC software as follows:

- Step 1** Click the uninstall CSA MC option on the system from **Start > Programs > Cisco > Uninstall Management Center for Cisco Security Agents**. This launches the uninstall program.

You must respond to uninstall confirmation and database back-up prompts during the uninstall process. The CSA MC uninstall also removes the Cisco Security Agent on the MC system.



Note Uninstalling CSA MC does not uninstall the Microsoft SQL Server Desktop Engine (database). You must uninstall this separately from the **Control Panel>Add/Remove Programs** window if you are completely removing the product from your system.

**Caution**

If you are upgrading to a new version of CSA MC, or if you are reinstalling the product on the same system, and you want to preserve your current configuration, you should select to **Backup the Database** during the uninstall when you are prompted to do so. If you do not backup the database, the uninstall removes all program files and configurations. (Note that this only applies to local database installations. CSA MC does not provide a backup mechanism for remote databases.)

Hotfix Information

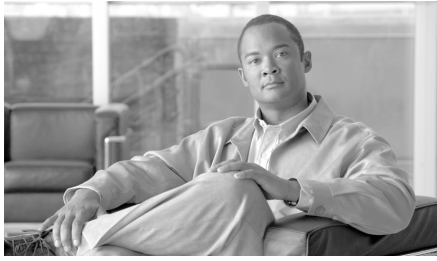
After a hotfix is installed, administrators must clear the cache of the browsers they use to reach the updated CSA MC.

Clearing the cache in Internet Explorer

-
- Step 1** From the Tools menu of Internet Explorer, select **Internet Options**.
 - Step 2** In the Temporary Internet files section click **Delete Files**.
 - Step 3** In the Delete Files dialog box, select **Delete all offline content**.
 - Step 4** Click **OK** to delete the content.
 - Step 5** Click **OK** to close the Internet Options dialog box.

Clearing the cache in Mozilla Firefox.

-
- Step 1** From the Tools menu of Mozilla Firefox, click **Clear Private Data**.
 - Step 2** Make sure that **Cache** is selected.
 - Step 3** Click **Clear Private Data Now**.



CHAPTER 3

Quick Configuration & Deployment

Overview

This chapter provides the basic setup information you need to start using the Management Center for Cisco Security Agents to configure some preliminary groups and build agent kits. The goal of this chapter is to help you quickly configure and distribute Cisco Security Agent kits to hosts and have those hosts successfully register with CSA MC. Once this is accomplished you can configure some policies and distribute them to installed and registered Cisco Security Agents.

For detailed configuration information, you should refer to the User Guide.

This section contains the following topics.

- [Logging on to the CSA MC, page 3-2](#)
 - [Access Management Center for Cisco Security Agents, page 3-2](#)
 - [Simple View and Advanced View Modes, page 3-4](#)
 - [Visible, Hidden, and Read-only Components on CSA MC, page 3-4](#)
- [Cisco Security Agent Policies, page 3-5](#)
- [Piloting the Product, page 3-6](#)
 - [Running a Pilot Program, page 3-6](#)
- [Quick Configuration and Deployment, page 3-7](#)
 - [1. Update your Licenses, page 3-7](#)

- 2. Pick your Policies, page 3-8
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- View Registered Hosts, page 3-9
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- Configuring Your Own Policies, page 3-16
- Distributing Agent Kits Using a Third Party Tool, page 3-17
 - Setup.exe Command Switches, page 3-18
 - Command Examples, page 3-20

Logging on to the CSA MC

Use the procedures in this section to access the CSA MC from a browser. After logging on you reach CSA MC's Home Page. For a description of the CSA MC interface, see "Interface Overview of Management Center for Cisco Security Agents" in *Using Management Center for Cisco Security Agents*.

Access Management Center for Cisco Security Agents

An initial administrator account was created as part of the CSA MC installation process. Use that administrator account to log into CSA MC.

You access CSA MC locally or remotely from a supported Web browser. No more than 12 users may be logged on to the CSA MC at the same time.

Local Access

- To access CSA MC locally on the system hosting CSA MC software, double-click the CSA MC desktop icon created during the installation.

Remote Access

- To access CSA MC from a remote location, launch a browser application and enter

```
https://<system hostname>.<domain>
```

For example, enter `https://stormcenter.cisco.com`

Enter the administrator name and password created during the CSA MC installation.



Note

When you login to the CSA MC system, you are presented with the CSA MC Home page. Various messages or warnings may appear in the Things to Do area. See the description of the **Home Page** in *Using the Management Center for Cisco Security Agents* for more information.



Tip

Once you have logged on, look at the global command buttons in the top right corner of the Home Page. One will indicate “All OSEs,” “Windows,” or “Unix.” Click the command button to view the components relevant to the operating system you choose. Clicking Unix displays components for both Solaris and Linux operating systems.



Caution

If you have not obtained a valid license from Cisco, when you login to CSA MC, you’ll receive a warning informing you that your license is not valid. Any newly deployed agents will not be able to register with the unlicensed CSA MC. Refer back to [Licensing Information, page 2-2](#) for further licensing information.

Simple View and Advanced View Modes

When you first login to CSA MC, the administrator created during the installation process has a simplified view of CSA MC. This “Simple Mode” view provides everything you need to deploy and administer the product. Default groups are pre-configured and shipped with the MC to provide out-of-the-box security policies for servers and desktops. Through the use of a wizard, you can refine the policies to match the security needs of your site and of the applications that run on your network.

For advanced users there is the “Advanced Mode” view. This view exposes all CSA MC menus and pages to administrators. This gives the administrator the ability to create or configure any component, view all possible reports, and have access to the full range of analytical and maintenance utilities. Advanced view is best for administrators who need to create customized policies for their enterprise or who want more granular control of the system.

Visible, Hidden, and Read-only Components on CSA MC

What you see on component list pages and on the Host Security page depends on your user configuration and whether or not the component is hidden or visible. What you can edit on list pages or through the Host Security page depends on your user configuration.

Some components are “hidden” by default other components are “Read-only” by default. Users are not expected to have to configure these components in a deployment that uses the groups, policies, and other components, supplied with this release.

Before you begin your pilot, view the system in Advanced Mode and, from the menu bar, navigate **Maintenance > Administrators > Account Management**. From the account list page, click the login ID you intend to use to manage your pilot. The details page shows the user’s preferences.

Here you can configure users viewing mode, their ability to see hidden objects, and their permissions to edit read-only objects. Configure your users with the permissions they will need to conduct the pilot. See “Configuring Role Based Administration” in the **Management Center for Cisco Security Agents Administration** chapter of the *User Guide*.

From the menu bar, navigating **Configuration > Host Security** brings up the Host Security page. From this page you can configure groups and create agent kits. The groups and policies appear on this page because their Simple Mode Settings are set to expose the component on the page.

If there are other groups or policies you want to manage through the Host Security page, you can configure them to be displayed if your user account allows you to edit read-only components. See “Configuring Groups” and “Configuring a Policy” in the User Guide for instructions on exposing these components on the Host Security page.

Cisco Security Agent Policies

CSA MC default Cisco Security Agent kits, groups, policies, and configuration variables are designed to provide a high level of security coverage for desktops and servers. These default Cisco Security Agent kits, groups, policies, rule modules and configuration variables cannot anticipate all possible local security policy requirements specified by your organization's management, nor can they anticipate all local combinations of application usage patterns. Cisco recommends deploying agents using the default configurations and then monitoring for possible tuning to your environment.

If you are using shipped policies, you can also use shipped, pre-built agent kits. Therefore, if you're not creating your own configurations, you can simply refer to the chapters on **Management Center for Cisco Security Agents Administration** and **Event Logging and Alerts** in *Using Management Center for Cisco Security Agents* for information on deploying kits to end users and viewing the event log.



Note

Each pre-configured rule module, policy, and group page has data in the expandable **+Detailed** description field explaining the item in question. Read the information in these fields to learn about the items described and to determine if the item in question meets your needs for usage.

As a jumping off point for creating your own configurations, the following sections in this manual take you through the step by step process of configuring some of the basic elements you need to initiate server/agent communications and to begin the distribution of your own policies.

Piloting the Product

Before deploying Cisco Security Agents (CSA) on a large scale, it is worthwhile to run a manageable and modest initial pilot of the product. Even in a CSA upgrade situation, a short pilot program will be beneficial.

CSA 6.0 ships with many security policies that you should be able to run in your enterprise as they are or with only minimal tuning. This tuning is best done on a small sample of systems that are representative of the whole.

Once the pilot is operating satisfactorily, with CSA protecting systems using properly tuned policies, you can turn your pilot into a larger deployment.

The following sections provide a guideline for conducting a pilot of CSA and deploying the product on a large scale.

Running a Pilot Program

Your pilot program should proceed in the following manner:

- *How large should a pilot program be?* Select a logical, manageable, sample of systems on which agents will be installed. A good rule of thumb is to make your pilot approximately 1% the size of what the entire deployment will be.

Details:

- If your entire deployment will be very small, be sure to pilot at least 15-20 systems.
- If your entire deployment will be very large, roll out your pilot in steps. For example, do not pilot 1,000 systems initially and all at once. Start with a smaller sample and gradually expand the pilot.

The pilot should include machines that you can access readily (either yourself or through a responsive end-user). If you will eventually be installing agents on multiple, supported operating systems, your pilot should include machines running those operating systems. Again, systems in your pilot should be representative of the whole deployment to which you intend to scale.

- *How long should a pilot program run?* The policies in CSA 6.0 are designed to be used as they are or with only minimal tuning. Still, deploying and tuning policies is an iterative process. Initially, you will have some event log noise to parse. You must examine the data coming in and fine tune your policies accordingly.

Although every site is different, it would not be unusual to run a pilot program for approximately one to two weeks after you feel you have tuned your policies to your satisfaction. All possible application usage should take place within the pilot time frame. It is important to note that this recommended time frame allows you to exercise applications, their deployment and usage, within an entire fiscal quarter. The idea being, every application you use and every manner in which you use it will occur during this piloting period.

Quick Configuration and Deployment

The Management Center for Cisco Security Agents (CSA MC) comes preconfigured with downloadable kits for desktop and server hosts. Here's how to get your pilot program up and running in five easy steps:

1. Update your Licenses

CSA MC comes with a few free agent licenses for servers so you can install the CSA MC and get started quickly. Before deploying agents throughout your network, you must install a more comprehensive license for desktops and servers. If you want the added protection of the Data Loss Prevention feature, you will need to upload a separate license for that.

For a procedure on how to update your licenses and to learn more about Data Loss Prevention update your licenses, see [Licensing Information, page 2-2](#).



Note

You can proceed through step 3 without loading a license, but make sure to load a license before proceeding to step 4.

If you need help getting your formal CSA MC license file(s) from Cisco, see the Product Licensing Information section of the *Documentation and Licensing Overview for Management Center for Cisco Security Agents 6.0*. If you need keys for a product evaluation, and you are a registered user of Cisco.com, you can go to the Cisco Product License Registration page and download the **Cisco Security Agent 6.x Demo License**.

2. Pick your Policies

To pick policies for your desktops, mouse-over the **Configuration menu** on the CSA MC and click **Host Security**, then follow this procedure:

-
- Step 1** Click the “Desktops” group for the appropriate operating system. You will see a list of policies - you can click on a policy name to see a description of the policy.
 - Step 2** Click the checkbox for each policy you want enforced on your desktops. If you want a policy’s rules to be logged but not enforced, click the policy’s “**Audit Mode**” checkbox. If you are unsure of what to check, just keep the defaults. If you change a checkbox from its default state, press the **Save** button when done.
 - Step 3** If a policy displays a red [warning] link, click the link to show the items that require customization. Customize each item by clicking its link in the Policy Warning dialog box and editing the pop-up provided. If you customize something, press the **Save** button when done.

**Tip**

If you want to take the deployment a little slower, enable one policy at a time and tune that policy before turning on the next policy. This will help you match specific outcomes with specific policies.

3. Update the Agent Kits

Policies are bundled together into downloadable, installable agent kits. If you made changes in the previous step, you must update these kits by clicking **Generate rules** at the bottom of your browser window, then pressing the **Generate** button to confirm the action. (If you didn't change anything, then you can skip this step.)

You can see a list of all your agent kits by mousing-over **Systems** in the menu and selecting **Agent kits**.

4. Distribute and Install the Kits

To see the agent kit corresponding to your desktop group's policies, go to the **Host Security** page and click on the appropriate **Desktops** group. You should see the text “Available kits for this group” followed by a link. Click the link to pop up the name of the kit, and click on this name to see the kit’s details dialog box.

On this dialog, under the heading **Download**, there will be a URL. The URL references the executable that installs CSA with the appropriate policies. E-mail this URL to your users who should install CSA. Alternatively, you can click on the URL, save the resulting executable, then use systems-management software (like SMS) to push the executable to your endpoints for installation.

When an agent kit is downloaded and installed, the agent will register with the CSA MC, start enforcing your policies and generating events.

Once you have completed steps 1-4 for desktops, repeat them for the servers you want to protect with CSA.

5. Create Exceptions as Necessary

If CSA denies an action that you wish to allow, you can create a policy exception to permit the action.

-
- Step 1** Open the Event Log by navigating **Events > Event Log** from the menu bar.
 - Step 2** Locate the event corresponding to the denied action in the Event Log.
 - Step 3** For the appropriate event, click the Wizard link to launch the exception wizard.
 - Step 4** Follow the steps given in the wizard to make the agent more permissive. Take the default settings offered by the wizard.

View Registered Hosts

Once you have distributed agent kits to your pilot hosts, you can see which hosts have successfully registered using any of these methods:

- In Simple or Advanced Mode, mouse-over **Configuration** in the menu bar and select **Host Security**. For a particular group, click the number of hosts in the hosts column to see which hosts have registered as a member of that group.
- In Advanced Mode, mouse-over the **Systems** menu and select **Hosts**. This takes you to the **Hosts list** page. On the right side of this page is a column that displays varying types of information on each host. Use the pulldown menu for this column to view hosts that are Active.
- To search for specific hosts based on more status data, use the **Search** option in CSA MC. Search for Hosts using available status information such as:
 - Active hosts—A host is active if it polls into CSA MC at regular intervals.
 - Not active hosts—A host is inactive if it has missed a certain number polling intervals or if it has not polled into the server for at least one hour.

Policy Tuning and Troubleshooting

Once you have started your CSA pilot, you may need to tune the policies to suit your needs and troubleshoot any problems that occur. Beyond creating exceptions you may need to tune rules to deny or allow user actions or prevent false positives. Tuning policies is best done using Advanced Mode.

Overall Guidelines

This section presents some overall guidelines for tuning and troubleshooting your CSA pilot. Please read through this section carefully and consider the specific needs and requirements of your pilot before moving on to actually using the techniques. Here are the most important guidelines to follow when tuning and troubleshooting policies:

- *Never directly modify one of the supplied groups, policies, or rule modules unless you are using the links provided through the Home page or Host Security page.* The groups, policies, rule modules provided are designed to work in your enterprise with minimal or no tuning. Using the links provided on the Home page and Host Security page will direct you to the areas that require your attention. If you need to dramatically change a group, policy, or

rule module, make sure you *clone and rename* it first so you preserve it for use later. Modifying the supplied groups, policies, and rule modules directly makes it difficult to back out of any inadvertent mistakes.

- Policies displaying a red [warning] link on the Host Security page may need your attention. Click the warning link to display the Policy Warning dialog box. In the box you will find links to one or more items that may have already been customized but may require occasional updates. Customize each item by clicking its link in the Policy Warning dialog box and editing the pop-up provided.
- Use the supplied groups and if necessary define additional groups for *each distinct desktop and server type* in your network. In your pilot, you should have some participants that are using each desktop and server type so you can tune and troubleshoot all policies before deployment.

Group membership is cumulative, which can be useful in tuning and troubleshooting. For example, at the beginning of a pilot, participating hosts that are Windows desktops would be attached to the **All Windows and Desktops** groups. Once you are satisfied with the performance of these basic policies, you could define a new group for a specific department's applications, attach hosts to the new group, and pilot those policies.

- If you are running your pilot with policies or groups in Audit Mode, examine the event log (**Events -> Event Log** menu) for possible tuning and troubleshooting needs before moving to enforcement mode (also known as live mode). With the current release, you can place *individual policies within a group* in audit mode or a *single rule module* in audit mode. Therefore, as you tune and troubleshoot, you can incrementally move rule modules to enforcement mode if need be. Keep in mind when using audit mode that the area under test is completely vulnerable from a security standpoint.
- Policy tuning and troubleshooting is an *iterative* process. Focus on a single policy for improvement at a time and then verify that the tuning and troubleshooting techniques did what you expected before deploying the improved policy.
- *Prioritize* the security features you want to implement with CSA policies. You can also prioritize applications and groups. By having clear priorities and working through a single policy improvement at a time, you can manage the complexity of deploying large policy sets in large networks. For example, based on priorities, you can keep a specific rule module in audit mode while the rest of the rule modules in the policy are in live mode.

- Large policy sets can generate enormous numbers of log messages. Another advantage of piloting one policy at a time is that you can focus on the just the events the new policy has generated. Otherwise, you need to use the tools provided that help *filter out* extraneous information and *isolate* the specific policy to be improved or behavior to be studied. For example, you can log only the events that result in Deny actions or create an exception rule that stops logging a specific event to reduce the overall number of log messages. In addition, host diagnostics can be used to filter rules based on the user state (that is, the user and group) the host is in, such as only logging the behavior of the rules used by members of the Administrator group. Monitor policies can be used in clever ways to focus in on specific behavior without interrupting applications and services.
- Set up *separate agent kits* to support the different features of your pilot. For example, you might have some desktop kits that have all policies in audit mode, some desktop kits with a basic set of well-tested policies in live mode plus one experimental policy in audit mode, and so forth. Labelling these kits clearly will help your pilot participants download the right set of policies you want to test and give you clear feedback on areas needing improvement.

Creating Policies for Your Special Applications

Once you have distributed and piloted a generic Desktops or Servers agent kit, you are ready to create and pilot policies that address the needs of special applications you in use in your enterprise.

The Application Behavior Investigation tool allows you to understand the behavior of these special applications.

Prioritize the applications that you want to protect and begin your analysis with the highest priority application. From the menu bar, navigate **Analysis -> Application Behavior Investigation > Behavior Analyses** to launch the Behavior Analyses tool. Using this tool will allow you to understand the behavior of the application, craft a policy, place it in audit mode on the pilot machines, and examine the event log. Use the techniques in the rest of this section to tune/troubleshoot that application's policy, re-examine the event log, and if you are satisfied with the result, place the application's policy in live mode on the pilot machines. You repeat these steps with each application on your prioritized list.

Using Audit Mode

CSA policies can execute in *live mode*, where they enforce rules by denying or allowing events, or *audit mode*, where they indicate in the event log what the action would have been to the given event. All entries in the event log for rules in audit mode begin with the label `AuditMode:` to make it easy to scan for events relating to rules under test. In general, you start a pilot in audit mode and gradually change over to live mode as you examine the performance of each policy. You can place an entire group, individual policies within a group, or individual rule modules within a policy, in audit mode.

See the **Rule Module Configuration** chapter in *Using Management Center for Cisco Security Agents* and review the **Using Audit Mode** section for a complete discussion of how to use audit mode.



Note

When running your pilot, explain to participants the difference between audit mode and live mode, clearly label whether agent kits are for audit mode or live mode, and tell participants which kits to download and use during various phases of the pilot.

Audit mode is *not* intended to be used indefinitely because the area under test is completely vulnerable from a security standpoint. Groups and rule modules in audit mode should move to live mode in a timely fashion. Once the pilot is over, you need to carefully control which hosts if any are in audit mode. You can remove the audit mode kits to ensure they do not get downloaded during deployment and periodically monitor hosts involved in the audit to ensure that all pilot participants have migrated to live mode agent kits. You want to avoid the situation where a security hole exists after deployment because some groups or rule modules were inadvertently left in audit mode.

Disabling Specific Rules

When you examine the event log with the **Events -> Event Log** menu, the description of each event references the *rule number*. If you find a consistent pattern of false positives with the same specific rule number, you can disable that rule if desired. There are two different approaches to disabling rules:

- You can disable the rule *temporarily*. At a later time, you can go back and modify the rule, set up a query with a cached response, or set up an exception rule.
- You can disable the rule *permanently* if the rule protects a resource that you don't need protected as part of your security policy.

The easiest way to disable a rule is by clicking on the rule number at the bottom of the event description in the event log. On the rule page, you click on the Enabled checkbox to uncheck it and disable the rule. Once you generate the rules, this rule will be disabled.

Caching and Resetting Query Responses

Rules can be configured with enforcement actions of allow, deny, terminate, or query the user. In some cases, there are rules that already query the user but do so repeatedly instead of caching the user's response to make it persistent. In other cases, there are rules that are generating a mix of false positives and valid enforcements in the event log and need to be modified so they query the user and cache the user's response for the false positives.

You set up a query and cache the answer with *different* CSA MC menus:

- To set up a query, you display the rule you wish to modify by clicking on the rule number in the event log. You then select **Query User** from the action popup menu.
- To cache the response for a query, select the **Configuration -> Variables -> Query Settings** menu option, and then select the desired query from the page. Then, click on the **Enable "don't ask again" option** checkbox if it is not already checked. When users receive the query and indicate they don't want to be asked this query again, their answer is cached.

**Note**

One trade-off of setting up a cached query response is that users can answer the query inappropriately and then the inappropriate response becomes persistent. After setting up a cached query response, review the event log to make sure users are responding appropriately to the query. If some users give inappropriate responses, you can reset their agents and then give the users more information about responding to the query.

If a user has responded to a query inappropriately and the response is being cached, you can reset the user's cache by doing the following:

1. Select the **Systems -> Hosts** menu option.
2. Click on the **<hostname>**.
3. Click the **Reset Cisco Security Agent** link in the Tasks menu.

Setting Up Exception Rules

In some cases, you need two or more different rules to completely specify the desired actions to a specific event. For example, you could have one rule that denies all applications from writing to the //blizzard/webdocs directory and another rule that allows the WebGuru application with authenticated user webmaster to write to the //blizzard/webdocs directory. The second rule allowing write access for WebGuru is considered *an exception rule* because it overrides a small part of the overall deny rule for the //blizzard/webdocs/ directory. The MC manipulates the precedence of exception rules so that they are evaluated before the rules that they override.

Although you can create exception rules with the MC rule pages, the easiest way to create exception rules is using the Event Management Wizard from the event log. The wizard tailors its behavior to the event from which you launch it. You can use the wizard to create two general types of exception rules:

- Exception rules that under certain conditions allow an event that was denied
- Exception rules that stop logging similar events

To launch the wizard:

1. Select **Events -> Event Log**.
2. Click on the **Wizard** link at the bottom of the desired event's description.

The wizard asks you questions about the following:

- Whether the exception rule applies to the user/state conditions of the triggering rule or the user/state conditions of the specific event where you launched the wizard. If you want the exception to apply to all users, you typically want the user/state conditions of the triggering rule (the default). If you want to create an exception rule only for the user specified in the event, you need to explicitly select the **specific user state conditions** radio button
- Whether the description of the proposed exception rule looks correct. Keep in mind that if you need to make some small changes to the rule, such as the applications specified, you can do so later. After the wizard finishes, you can still modify the exception rule further before saving it.
- Whether you want to put this new exception rule in a separate exception rule module (the default) or modify the rule module that triggered the event. In most cases, you want to put this in a separate exception rule module so you can preserve the supplied rule modules.
- Whether you want the exception rule based on the application specified in the event or whether you want to base it on a new application class.

After you click Finish in the wizard, the MC displays the new exception rule. At this point, you should do the following:

1. Change the **Description** field to an appropriate name.
2. Examine the details in the **when** box. If necessary, you can change these details to expand or narrow the conditions for the exception.
3. Click the **Save** button.

Configuring Your Own Policies

Creating a complete custom set of policies requires a team of network security experts who have assembled a detailed list of security features and studied the many supplied rule modules. The experts use the **Behavior Analyses** tool to thoroughly study the applications for which they will write rules. Then, the experts will craft custom policies by selecting the desired rule modules and rules. With this custom approach, consider conducting a small pilot of a few systems in a test lab and then expanding to a larger and more thorough pilot.

To create a set of custom policies these are the tasks you need to complete after you have assessed your application's vulnerabilities and decided on your security needs:

-
- Step 1** Familiarize yourself with the CSA MC user interface in Advanced Mode. See the chapter on **Management Center for Cisco Security Agents Administration** in *Using Management Center for Cisco Security Agents* (this is also referred to as the *User Guide*) for more information.
 - Step 2** Select an existing rule module or create your own. See the chapter on **Rule Module Configuration** in the *User Guide* for more information.
 - Step 3** Add existing rules to the rule modules or create your own rules and add them to the rule module.
 - Step 4** Create a policy and associate rule modules with the policy. See the chapter on **Building Policies** in the *User Guide* for more information.
 - Step 5** Associate the policy with a group you create or an existing group that you select. See the chapter on **Configuring Groups and Managing Hosts** in the *User Guide* for more information.
 - Step 6** Create an agent kit to distribute the policy. See **Configuring Groups and Managing Hosts** in the *User Guide* for more information.
 - Step 7** Monitor events created by the new policy, then tune and configure the policy. See the chapter on **Event Logging and Alerts** in the *User Guide* and [Policy Tuning and Troubleshooting, page 3-10](#).

Distributing Agent Kits Using a Third Party Tool

Agent kits can be distributed using third party software distribution tools. After the agent has been downloaded and installed it will attempt to register with the CSA MC.



Note

The agent kit is a self-extracting executable file that contains several files (16 total) such as cab files, hdr, and setup files. In order to distribute agent kits using a third party software distribution tool, you must first extract the files manually

from the agent kit and then run a script or a command from a command shell applying certain switches. The switches are referenced AFTER the extracted setup.exe.

This distribution methodology is for Windows agents only.

-
- Step 1** Download the agent kit from CSA MC.
- Step 2** Extract the files in the agent kit. If the agent kit is named **CSA-Desktops-setup-abc123.exe**, run this command from a command prompt:
- ```
c:\>CSA-Desktops-setup-abc123.exe -x
```
- This will extract all the files to the directory
- ```
C:\{D933754D-B870-45b7-BFAA-1BDD2A7D4B80}
```
- Step 3** Connect to the directory {D933754D-B870-45b7-BFAA-1BDD2A7D4B80}:
- ```
c:\>cd {D933754D-B870-45b7-BFAA-1BDD2A7D4B80}
```
- Step 4** Run the extracted setup.exe with the necessary parameters for mass deployment. This command is run as a local user:
- ```
setup.exe /s --targetdir=f:\installfolder\ --disable_net=0 --reboot=0
```
- Notice the use of f2 in the next example. This will allow you to specify where the Installshield log directory will be written, just in case it cannot write to the drive where the setup.exe is located. This is useful if you are installing over a network:
- ```
setup.exe /s /f2"c:\setup.log" --autolevel=3 --reboot=0 --nshim=1
--startagent=0
```

## Setup.exe Command Switches

The following are the switches for the agent setup.exe in versions 5.0.0.x and later

### --autolevel

--autolevel switches define the amount of user interaction with the installation.

--autolevel=1 no questions are asked. The default actions are taken.

--autolevel=2 no warnings are displayed

--autolevel=3 suppresses all warnings and error messages

**--autolevel=4** which makes the install completely silent (not even the message saying “Installing CSA” is displayed)

## --reboot

**--reboot=0** The agent install finishes silently and the host is not rebooted.

**--reboot=1** The agent reboots automatically at the end of the install. (This is the default.)

## --rebootdelay

**--rebootdelay=x** Specifies in seconds what the reboot delay is if `reboot=1`.



### Note

---

If this parameter is missing and you set the machine to reboot (`reboot=1`), the default is 300 seconds (five minutes).

---

## --startagent

This switch is applicable only if `reboot=0`.

**startagent=0** The agent is not started after the installation is finished.

**startagent=1** This agent is started after the installation is finished. This is the default setting.



### Warning

---

**The agent will provide NO security until the agent service is MANUALLY started or the machine is rebooted.**

---

## --disable\_net

This switch is used to suspend agent security and prevent further connections to and from the machine.

**--disable\_net=0** We do not prevent network connections.

**--disable\_net=1** We do prevent any network connections. This is the default setting.

**Warning**


---

**During an upgrade, the agent service is stopped. If this switch is set to 0, the machine is unprotected during the time of the upgrade.**

---

**--targetdir**

This switch allows you to install the agent to a directory of your choice)

```
--targetdir=<path>
```

```
setup.exe /s --targetdir=c:\Path\To\Directory
```

**Note**


---

The <path> should NOT have quotes, even if the path contains spaces.

---

If the path does not exist, the installation will create it. Also, if the path is invalid (invalid driver letter or encrypted directory, for example), the installation aborts.

The default path, if no command line targetdir is specified, is

```
<PROGRAMFILES>\Cisco
```

**--mt**

This switch is used to uninstall CSA

**--mt=removeall**

for example:

```
C:\{D933754D-B870-45b7-BFAA-1BDD2A7D4B80}>setup.exe --mt=removeall
```

## Command Examples

**Example 3-1** *Install silently, no errors displayed, reboot at the end of install*

```
setup.exe /s --autolevel=3 --reboot=1
```

The reboot=1 will show the 5 minute countdown prior to reboot - this box cannot be suppressed at this time)

**Example 3-2 Install silently, do not log errors, force a reboot after 10 seconds**

```
setup.exe /s --autolevel=3 --reboot=1 --rebootdelay=10
```

**Example 3-3 Silent installation, install on f:\targetfolder, do not disable the NIC and do not reboot:**

```
setup.exe /s --autolevel=3 --targetdir=f:\installfolder\
--disable_net=0 --reboot=0
```

**Example 3-4 Silent uninstallation, no user interaction**

```
setup.exe /s /f1"%PROGRAMFILES%\InstallShield Installation
Information\{DE499746-67B9-11D4-97CE-0050DA10E5AE}\setup.iss"
--mt=removeall --autolevel=4
```

You will then need to reboot eventually, there is no forced reboot.

**Example 3-5 Silent uninstallation from the Installshield Installation Information folder:**

Change directories to:

```
*:\Program Files\InstallShield Installation
Information\{DE499746-67B9-11D4-97CE-0050DA10E5AE}
```

Then run:

```
setup.exe /s /f1"D:\Program Files\InstallShield Installation
Information\{DE499746-67B9-11D4-97CE-0050DA10E5AE}\setup.iss"
--mt=removeall --autolevel=4
```

**Example 3-6 Drive independent uninstallation**

If you do NOT want the uninstall to be drive dependent, then you can wildcard the program files”

```
setup.exe /s /f1"%PROGRAMFILES%\InstallShield Installation
Information\{DE499746-67B9-11D4-97CE-0050DA10E5AE}\setup.iss"
--mt=removeall --autolevel=4
```





# APPENDIX **A**

## Cisco Security Agent Installation and Overview

---

### Overview

This chapter describes the Cisco Security Agent and provides information on the agent user interface. It also includes installation information for Windows, Linux, and Solaris agents. (This information, with additional details, also appears in a similarly titled Appendix A in the User Guide.)

Once the agent is installed, there is no configuration necessary on the part of the end user in order to run the agent software. Optionally, as the administrator, you can ask users to enter individualized contact information into the fields provided. If required, the agent user interface makes it easy for the user to enter this data and send it to CSA MC.

This section contains the following topics.

- [Downloading and Installing, page A-2](#)
- [The Cisco Security Agent User Interface, page A-4](#)
- [Installing the Solaris Agent, page A-6](#)
- [Installing the Linux Agent, page A-8](#)

# Downloading and Installing

Once you build an agent kit on CSA MC, you deliver the generated URL, via email for example, to end users so that they can download and install the Cisco Security Agent. They access the URL to download and then install the kit. This is the recommended method of agent kit distribution. But you may also point users to a URL for the CSA MC system. This URL will allow them to see all kits that are available. That URL is:

```
https://<system name>/csamc60/kits
```

If you are pointing users to the “kits” URL and you have multiple agent kits listed here, be sure to tell users which kits to download.

**Note**

---

Note that the Registration Control feature also applies to the <system name>/csamc60/kits URL. If the Registration Control feature (see the User Guide for details on the feature) prevents your IP address from registering, it also prevents you from viewing the agent kits URL.

---

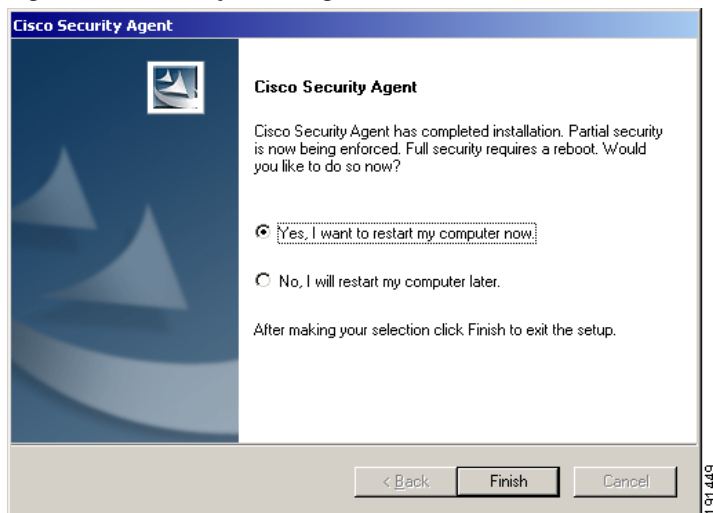
**Note**

---

Cisco Security Agent systems must be able to communicate with the Management Center for Cisco Security Agents over HTTPS.

---

Once users install agents on their systems, they can optionally perform a reboot (if Force reboot is not selected). See [Figure A-1](#). Whether a system is rebooted or not, the agent service starts immediately and the system is protected.

**Figure A-1** *Optional Agent Reboot*

If a system is not rebooted following the agent installation, the following functionality is not immediately available. (This functionality becomes available the next time the system is rebooted.)

#### Windows agents

- Network Shield rules are not applied until the system is rebooted.
- Network access control rules only apply to new socket connections. Network server services should be stopped and restarted for full network access control security without a system reboot.
- Data access control rules are not applied until the web server service is restarted.

Solaris and Linux agents, when no reboot occurs after install, the following caveats exist

- Network access control rules only apply to new socket connections. Network server services should be stopped and restarted for full network access control security without a system reboot.
- Buffer overflow protection is only enforced for new processes.
- File access control rules only apply to newly opened files.
- Data access control rules are not applied until the web server service is restarted.

After installation, the agent automatically and transparently registers with CSA MC. To see which hosts have successfully registered, switch to Advanced Mode, from the **Systems** menu select **Hosts**. This displays the hosts list view. All registered host system names appear here.

## The Cisco Security Agent User Interface

**Note**

---

The Cisco Security Agent user interface does not run on Solaris systems.

---

**Note**

---

If the **Agent UI control rule** is not present (available on Windows and Linux only) for the system group, no agent UI appears on the end user system.

---

To open the Cisco Security Agent user interface on Windows and Linux systems, users can double-click on the flag icon in their system trays. The user interface opens on their desktop.

As the administrator, you decide which agent UI options to provide to the end user. These options are controlled by the Agent UI control rule. Available options are as follows:

- **Allow user to reset agent UI default settings**—Selecting this checkbox in the Agent UI control rule causes the end user to have a product reset option available from the **Start>Programs>Cisco>Cisco Security Agent** menu. Selecting the “Reset Cisco Security Agent” option puts all agent settings back to their original states and clears almost all other user-configured settings. This does not clear configured Firewall Settings or File Protection settings. But if these features are enabled, they are disabled as this is the default factory setting. The information entered into the edit boxes for these features is not lost.
- **Allow user interaction**—Selecting this checkbox in the Agent UI control rule causes the end user to have a visible and accessible agent UI, including a red flag in the system tray.
- **Allow user access to agent configuration and contact information**—Selecting this checkbox in the Agent UI control rule provides Status, Messages, and Contact Information features, including the ability to manually poll the MC.

- **Allow user to modify agent security settings**—Selecting this checkbox in the Agent UI control rule provides System Security and Untrusted Applications features.
- **Allow user to modify agent personal firewall settings**—Selecting this checkbox in the Agent UI control rule provides Local Firewall Settings and File Protection features.

The options available to the user in the agent UI depend upon the features selected in the Agent UI control rule governing the agent in question. All possible agent features are described in Appendix A of the User Guide.

## Uninstall Windows Cisco Security Agent

To uninstall the Cisco Security Agent, do the following:

From the **Start** menu, go to **Programs>Cisco>Cisco Security Agent>Uninstall Cisco Security Agent**. Reboot the system when the uninstall is finished.



---

**Note** You can also uninstall the agent from the **Start>Settings>Control Panel> Add/Remove Programs** dialog.

---

# Installing the Solaris Agent

This section details the commands you enter and the subsequent output that is displayed when you install the Cisco Security Agent on Solaris systems.



## Note

See the similarly titled Appendix A in the User Guide for information on a Solaris agent utility which allows you to manually poll to CSA MC and perform other tasks.

When you download the Cisco Security Agent kit from CSA MC, do the following to unpack and install it. (Note that you can put the downloaded tar file in any temp directory. Do not put it in the opt directory, for example, as you may then experience problems with the installation.)

**Step 1** You must be super user on the system to install the agent package.

```
$ su
```

**Step 2** Untar the agent kit.

```
tar xf
CSA-Test_Mode_Server_V5.2.0.265-sol-setup-f734064be5a448b88e2a2786
7059113c.tar
```

**Step 3** Install the agent package. (Use the command listed below when you install. This command forces the installation to use a package administration file to check the system for the required OS software agent dependencies. If the required dependencies are not present, such as the "SUNWlibCx" library, the install aborts.)

```
pkgadd -a CSCOcsa/reloc/cfg/admin -d .
```

```
[Output:]
The following packages are available:
 1 CSCOcsa CSAagent
 (sun4u) 5.2.0.15
```

**Step 4** Select the correct package or press enter to unpack all current packages.

```
Select package(s) you wish to process (or 'all' to process all
packages). (default: all) [?,??,q]:
[Output:]
Processing package instance <CSCOcsa> from </space/user>
```

The install now displays the Cisco copyright and prompts you to continue the installation.

**Step 5** Answer yes (y) to continue the installation.

This package contains scripts which will be executed with super-user permission during the process of installing this package.

Do you want to continue with the installation of <CSCOcsa> [y,n,?]

y

[Output:]

Installing CSAagent as <CSCOcsa>

The installation continues to copy and install files. When the install is complete, the following is displayed:

[Output:]

The agent installed cleanly, but has not yet been started. The command: /etc/init.d/ciscosec start will start the agent. The agent will also start automatically upon reboot. A reboot is recommended to ensure complete system protection.

The following packages are available:

```
1 CSCOcsa CSAagent
 (sun4u) 5.2.0.15
```

**Step 6** Quit (q) when installation is finished.

Select package(s) you wish to process (or 'all' to process all packages). (default: all) [?,??,q]: q

**Step 7** Optionally, reboot the system by entering the following.

```
shutdown -y -i6 -g0
```

**Caution**

If a system is not rebooted following the agent installation, the following functionality is not immediately available: Buffer overflow protection is only enforced for new processes, network access control rules only apply to new socket connections, file access control rules only apply to newly opened files, and data access control rules are not applied until the web server service is restarted. (This functionality becomes available the next time the system is rebooted.)

The agent installs into the following directory:

```
/opt/CSCOcsa
```

Some files are put into additional directories such as

```
/kernel/strmod/sparcv9, usr/lib/csa, /etc/init.d and /etc/rc?.d.
```

**Caution**

If you are upgrading the Solaris agent and you encounter the following error, "There is already an instance of the package and you cannot install due to administrator rules", you must edit the file `/var/sadm/install/admin/default`. Change "instance=unique" to "instance=overwrite" and then proceed with the upgrade.

## Uninstall Solaris Agent

To uninstall the Cisco Security Agent, enter the following command:

```
pkgrm CSC0csa
```

**Note**

If an agent is running a policy which contains an Agent self protection rule, the agent cannot be uninstalled unless this rule is disabled. (Administrators can generally do this through a remote management session if the default policies applied to the CSA MC/VMS system are not changed to restrict this access.) See **Agent self protection** in the User Guide for details on this rule type.

A shipped UNIX policy allows secured management applications to stop the agent service. For example, after having logged in by selecting Command Line Login in the options menu of the login screen, all login applications are considered secure management applications. You can now run the `pkgrm` command to uninstall the agent.

## Installing the Linux Agent

This section details the commands you enter and the subsequent output that is displayed when you install the Cisco Security Agent on Linux systems.

When you download the Cisco Security Agent kit from CSA MC, do the following to unpack and install it.

**Step 1** Move the tar file downloaded from CSA MC to a temporary directory, e.g.

```
$ mv
CSA-Server_V5.2.0.218-lin-setup-1a969c667ddb0a2d2a8da3e7959a30b2.t
ar /tmp
```

**Step 2** Untar the file.

```
$ cd /tmp
$ tar xvf
CSA-Server_V5.2.0.218-lin-setup-1a969c667ddb0a2d2a8da3e7959a30b2.t
ar
```

**Step 3** cd to CSCOcsa directory where the rpm package is located.

```
$ cd /tmp/CSCOcsa
```

**Step 4** Run script install\_rpm.sh as root.

```
sh ./install_rpm.sh
```

The package will be installed to `/opt/CSCOcsa`, with some files being put into directories such as `/lib/modules/CSCOcsa`, `/lib/csa`, `/etc/init.d` and `/etc/rc?.d`.



---

**Note**

CSAagent rpm packages are not relocatable.

---



---

**Caution**

If a system is not rebooted following the agent installation, the following functionality is not immediately available: Buffer overflow protection is only enforced for new processes, network access control rules only apply to new socket connections, file access control rules only apply to newly opened files, and data access control rules are not applied until the web server service is restarted. (This functionality becomes available the next time the system is rebooted.)

---



---

**Note**

Linux Agent UI: For gnome desktop environments, the install script will only modify the default session config file for launching the agent UI automatically every time a user starts a gnome desktop session. But if a user already has their own session file (`~/.gnome2/session`), the default session file (`/usr/share/gnome/default.session`) will not be effective. Therefore, the agent UI will not automatically start when the user logs in. In such a case, the user must add the agent UI (`/opt/CSCOcsa/bin/ciscosecui`) manually (using “gnome-session-properties” utility) to make the agent UI auto-start.

---

**Caution**

---

On Linux systems, if you upgrade the kernel version or boot a different kernel version than the initial version where the agent was installed, you must uninstall and reinstall the agent.

---

## Uninstall Linux Agent

To uninstall the Cisco Security Agent, do the following.

- 
- Step 1** You must know the version number of the currently installed agent. Keep in mind that upgrades may have been installed since the first installation. When you know the version, run the following, using the correct version number.

```
rpm -qf /opt/CSCOcsa/bin/ciscosecd
CSAgent-5.2-218
```

- Step 2** Remove that rpm with rpm -ev, e.g.

```
rpm -ev CSAgent-5.2-218
```

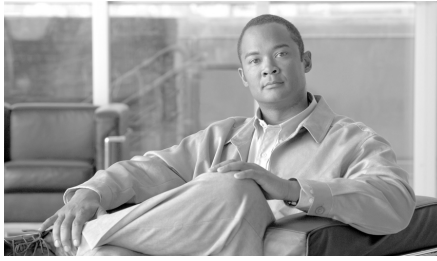
**Caution**

---

If an agent is running a policy which contains an Agent self protection rule, the agent cannot be uninstalled unless this rule is disabled. (Administrators can generally do this through a remote management session if the default policies applied to the CSA MC system are not changed to restrict this access.) See **Agent self protection** in the User Guide for details on this rule type.

You can uninstall the linux agent regardless of policies if you login using single user mode.

---



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## Mozilla 1.xx (libcurl)

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## Jasper Reports V1.2.0 and JFreeChart V1.0.5

**jTDS version 1.2**

**JFreeChart version 1.0.5**

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Version 2.1, February 1999

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