



CHAPTER 6

References

See the following items for additional information about Call Home feature and Smart Call Home service:

- [For more information.](#)
- [Resources for Smart Call Home.](#)
- [Terminology.](#)
- [CA Root Certificate Update Process.](#)

For More Information

For more information about Smart Call Home, there are several options available, you can:

- “Smart Call Home Service Introduction - http://www.cisco.com/en/US/products/ps7334/serv_home.html
- Smart Call Home presentation – <http://www.cisco.com/warp/public/437/services/smartcallhome/>
- Catalyst 6500 Call Home Configuration Guide – http://www.cisco.com/en/US/products/hw/switches/ps708/products_configuration_guide_book09186a00801609ea.html
- Catalyst 6500 Command Reference – http://cisco.com/en/US/products/hw/switches/ps708/products_command_reference_book09186a0080160cd0.html

- Generic Online Diagnostics on the Cisco Catalyst 6500 Series Switch – http://www.cisco.com/en/US/products/hw/switches/ps708/products_white_paper0900aecd801e659f.shtml
- Cisco Catalyst 6500 Series with Cisco IOS Software Modularity – http://www.cisco.com/en/US/products/hw/switches/ps708/prod_bulletin0900aecd80313e15.html
- Embedded Event Manager (EEM) on the Cisco Catalyst 6500 Series – http://www.cisco.com/en/US/products/hw/switches/ps708/products_white_paper0900aecd805457c3.shtml
- Cisco 7600 Series Command References - http://www.cisco.com/en/US/products/hw/routers/ps368/prod_command_reference_list.html
- Cisco 7600 Series Cisco IOS Software Configuration Guide, 12.2SX - <http://www.cisco.com/en/US/partner/docs/routers/7600/ios/12.2SXF/configuration/guide/swcg.html>
- Cisco 7600 Series Technical References - http://www.cisco.com/en/US/products/hw/routers/ps368/prod_technical_reference_list.html
- Cisco 7600 White Papers - http://www.cisco.com/en/US/products/hw/routers/ps368/prod_white_papers_list.html
- Use the feedback box on the Smart Call Home web application
- Access the Smart Call Home Technical Overview – http://www.cisco.com/application/pdf/en/us/guest/products/ps7334/c1266/dccont_0900aecd8063c595.pdf
- Contact Smart Call Home at email address – sch-support@cisco.com

Resources for Smart Call Home

The following items are resources that can be used with the Smart Call Home service:

- Cisco server certificate
- Download Transport Gateway
- Download (Smart) Call Home Configuration Script

- Smart Call Home Users' Guide
- Smart Call Home Technical Overview
- Call Home Configuration Guide
- Smart Call Home Web Application

Terminology

The following list defines the different components, tools and terms used in Smart Call Home:

- **Call Home (CH)** – Product feature in IOS version 12.3(33)SXH that uses SMTP or HTTP connections established with a configurable destination to send formatted messages. The messages contain Inventory or Configuration information that are collected at scheduled intervals. Configuration, Diagnostics, Environmental, Inventory or System Log (syslog) information is collected during real-time events; Test, Inventory, Configuration Diagnostic and Environmental information are collected on-demand.

The IOS code incorporates device diagnostics (i.e. GOLD) that enables the sending of the following outbound alerts and alarms in email messages to Smart Call Home.

- **Call Home Alert Group** – Is a configurable Call Home feature that groups detectable events from one of the Configuration, Diagnostics, Environmental, Inventory or System Log categories for monitoring.
- **Call Home Profile** – Is a configurable Call Home feature that provides a structure to bundle together several Alert Groups, to select transport methods, to assign multiple destination addresses and to specify message format options.
- **Call Home message formats** – Are configurable formatting options used by the IOS Call Home feature when creating messages. The Short Text format is suitable for pagers or printed reports and the Long Text format contains Full formatted message information suitable for human reading. The XML Messages contain the same data as the Long Message, but with the addition of XML tagging and AML specific transport information to allow machine-readable parsing and routing of the message in the Smart Call Home System.

- **Call Home message type** – Is a field within an IOS Call Home message that indicates what type of message it contains: Configuration, Diagnostics, Environmental, Inventory, Test or System Log (syslog) information.
- **Call Home message sub-type** – Is a field within an IOS Call Home message that indicates that the message contains full or delta Configuration or Inventory information, Gold major, minor or normal Diagnostics information, minor or major Environmental information, Test or System Log (syslog) information.
- **Cisco.com profile** – Where information on Cisco contracts, case management permissions and user's company are kept for use by the Smart Call Home service.
- **Cisco Backend (CBE)** – Contains a collection of various tools and information:
 - Smart Call Home service.
 - Guided searches for the Smart Call Home reporting process.
 - Generation of customized reports for Smart Call Home users.
 - Device install-base data and their associated contracts.
 - Customer device-based troubleshooting tools.
- **Cisco Contracts:**

Contract information is kept in the Cisco.com profile. A customer can register a device using one of the following types of branded contracts:

 - **Cisco Branded – Direct:** Customer bought product directly from Cisco and contacts Cisco directly if they need support.
 - **Cisco Branded – CBR (Cisco Branded Reseller):** Customer bought product from Cisco reseller and customer contacts Cisco directly if they need support.
 - Other types of contracts will become supported in a future release.
- **Customer Specific Network Alerts** – Smart Call Home supports the following Call Home message types:
 - **Configuration** – Contains image name and feature, running and startup configs, SW features technologies and sub-technologies.

- **Environment** – Contains information about environmental alarms for the device clock, VTT, power supply and modules. Depending on the type of alert, a notification is sent to the customer and a Service Request is generated.
- **GOLD** – Contains information about diagnostic tests, what tests were run, their status, and results. Depending on the type of failure, a Service Request is generated.
- **Inventory** – Contains information about the device, software, modules.
- **Test** – Contains information that is common to all message types. The content of test messages is not processed by Smart Call Home and hence no specific message processing results will be available for test messages.
- **Embedded Event Manager (EEM)** – Detects real time events and takes action based on a pre-defined rules policy. EEM has event detectors with which Call Home registers; the registration is dependent upon which alert-groups the EEM profile is configured. The profile can subscribe to alert-groups for the following type events:
 - GOLD diagnostic
 - Environmental
 - Configuration
 - Inventory
- **Generic Online Diagnostics (GOLD)** – Provides a common command-line interface (CLI) for manually generating Smart Call Home messages and scheduling run-time diagnostics.

GOLD can detect faults in hardware and provides the triggers that proactively engage high-availability features and actions, such as the switch-hitter of modules or turning off modules or individual ports. The GOLD test suite also gives support personnel the tools to test the functioning of hardware modules and troubleshoot down to the field-replaceable unit (FRU) level.
- **Smart Call Home service**– Is a service that captures and processes Call Home diagnostics and inventory alarms that are sent from a device containing the Smart Call Home feature. This service provides proactive messaging that resolves issues before they become problems and for those problems that occur, resolving them faster using enhanced diagnostics

- **Smart Call Home Client** – A device that sends or forwards IOS Call Home or other supported messages to Smart Call Home using SMTP or HTTPS connections; the messages must be registered with the Smart Call Home system.
- **Smart Call Home supported messages** – Currently is an AML/XML message, created by a device using the IOS Call Home Feature, that contains Configuration (full), Diagnostics (major & minor), Environmental (major & minor), Inventory (full), Test or System Log information.
- **Transport Gateway (TG)** – Securely transports Call Home messages from the customer hardware to the [Smart Call Home service](#) on the [Cisco Backend](#). A Smart Call Home software client that runs on a device under the Windows 2000, Windows 2003, Windows XP, Solaris or Linux operating systems. The Transport Gateway acts as an intermediary device and is capable of forwarding supported messages collected from Smart Call Home Client devices and sends them to the Smart Call Home System using an HTTPS connection.

CA Root Certificate Update Process

Periodically, Cisco updates security credentials to ensure the continued secure communications to the Smart Call Home back-end. This section applies to those who are using either Transport Gateway or the HTTPS method for communicating to the back-end.

When there is a security credential update from Cisco, instructions will be sent via e-mail to SCH-registered user e-mail addresses that are linked to a valid CCO ID. Instructions for updating security credentials are as follows:

There are two methods for secure communication to the Smart Call Home backend, Transport Gateway (TG) and HTTPS. Both of these options have a certificate update process:

There are two methods for secure communication to the Smart Call Home backend, Transport Gateway (TG) and HTTPS. Both of these options have a certificate update process:

- For Transport Gateway, there are two variations for the certificate update process:
 - [Linux/Solaris](#), which uses the certUpgrader_script.zip to update the TG keystore (certificate) file.

- [Windows](#), which uses the certUpgrader_windows.zip to update the TG keystore (certificate) file.
- For the HTTPS method, there are two variations (regardless of platform), IOS devices and Nexus 7000 devices.
 - [IOS devices](#) use either IOS certificate content from this section of the Smart Call Home User Guide, or use the contents from the Verisign-G3-SSCA.zip file.
 - [Nexus 7000 devices](#) use either the "chained" certificate content from this section of the Smart Call Home User Guide, or use the combined contents of the certificate files in the Verisign-CA-Certs.tar file.

Transport Gateway Certificate Update Process

There are two Transport Gateway certificate update processes:

- [Update the Linux/Solaris Root CA Certificate](#)
- [Update the Window's Root CA Certificate](#)

Both of these processes use scripts that update the certificate file on the Transport Gateway.

Update the Linux/Solaris Root CA Certificate

The following information explains how to update the Linux/Solaris Root CA Certificate for Transport Gateway Users. This process instructs you how to download and use the certUpgrader_script.zip file:


- Go to the following URL:

<http://www.cisco.com/cisco/software/release.html?mdfid=282152778&catid=268439477&softwareid=283490182&release=3.1.1&rellifecycle=&relind=AVAILABLE&reltype=latest>







- On the Download Software window, click the **Download Now** button for the certUpgrader_script.zip file; the Download Cart window appears.



- On the Download Cart window, click **Agree**;  the Select a Download Option area appears.



- In the Select a Download Option area  click the Non Java Download option;  the Non Java Download area appears. 

- Click **Download**  for the certUpgrader_script.zip file; the file is downloaded to your computer.
- On the Transport Gateway device, navigate to the bin directory of the Transport Gateway installation location.
Example: /opt/CSCOSchtg/tg/bin
- Unzip the certUpgrader_script.zip file to the bin directory.



- After unzipping the file, the certUpgrader_script.sh and Verisign-G3-SSCA.cer files will be available in the bin directory.
- Stop the TG service, if it's running.
- Click on the **certUpgrader_script.sh** batch file to start importing the new root CA cert to the TG Certificate chain.



Note Give permission, if not available, for the certUpgrader_script.sh patch file (i.e. # chmod 777 certUpgrader_script.sh)

- When asked if you want to trust this certificate, enter **yes** and press **ENTER**.
- Restart the TG service; now the TG should be able to communicate with the backend servers, which have the new root CA certificate.

Update the Window's Root CA Certificate

The following information is the procedure for how to update the Windows Root CA Certificate for Transport Gateway Users. This process instructs you how to download and use the certUpgrader_windows.zip file:


- Go to the following URL:

<http://www.cisco.com/cisco/software/release.html?mdfid=282152778&catid=268439477&softwareid=283490182&release=3.1.1&rellifecycle=&relind=AVAILABLE&reltype=latest>







- On the Download Software window, click the **Download Now** button for the certUpgrader_windows.zip file; the Download Cart window appears.



On the Download Cart window, click **Agree**;  the Select a Download Option area appears.



- In the Select a Download Option area  click the **Non Java Download** option;  the Non Java Download area appears. 
- Click **Download**  for the certUpgrader_windows.zip file; the file is downloaded to your computer.
- On the Transport Gateway device, navigate to the bin directory of the Transport Gateway installation location.
 - Example:** C:\Program Files\Cisco Systems\Cisco Transport Gateway\Transport Gateway\bin
- Unzip the certUpgrader_windows.zip file to the bin directory.
- After unzipping the file the certUpgrader_windows.bat and Verisign-G3-SSCA.cer files will be available in the bin directory.
- Stop the TG service, if it's running.
- Click on the **certUpgrader_windows.bat** batch file to start importing the new root CA cert to the TG Certificate chain.
- When asked to enter keystore password: enter **Test123%** and press **ENTER**.
- When asked if you want to trust this certificate, enter **yes** and press **ENTER**.
- Restart the TG service; now the TG should be able to communicate with the backend servers, which have the new root CA certificate.

HTTPS Certificate Processes (New or Update)

There are two different HTTPS certificate processes:

- [HTTPS Certificate Process for All Devices Except Nexus 7000 Devices](#)
- [HTTPS Certificate Process for Nexus 7000 Devices](#)

HTTPS Certificate Process for All Devices Except Nexus 7000 Devices

There are two different time frames when you will be using certificate content on your IOS device, when you are:

- [Adding the certificate to an IOS device](#), for the first time; you will perform the steps and use the certificate data identified below in this document.
- When you are [updating an expired security certificate on an IOS device](#), you can use the certificate content contained in the Verisign-G3-SSCA.zip file.

Adding the Certificate to a non-Nexus 7000 Device

For all IOS devices, use this procedure to update the Root CA Certificate for HTTPS Users:

- Identify all trust points.
- Delete the existing Smart Call Home Certificate trust point.
- Create a new trust point.
- Copy the new certificate.
- Save and send test message.

For all IOS devices, use the following specific instructions to install the new certificate:

- If the old trustpoint name is not cisco then replace the text in <angle brackets> with the appropriate trustpoint name, or remove the lines with the blue text if the old trustpoint is needed or does not exist.
- Enter the following commands:

```
config t
no crypto ca trustpoint <cisco>
yes
crypto ca trustpoint cisco
enroll terminal
```



```
quit
yes
end
write mem
call-home send alert-group inventory profile CiscoTAC-1
```

Downloading a New Certificate for an IOS Device

If you need the new CA Root certificate file it can be downloaded perform the following steps:

- Go to the following URL:

<http://www.cisco.com/cisco/software/release.html?mdfid=282152778&catid=268439477&softwareid=283490182&release=3.1.1&rellifecycle=&relind=AVAILABLE&reltype=latest>

- On the Download Software window, click the Download Now button for the Verisign-G3-SSCA.zip file



- Unzip the file and use the data contained in the certificate file.

HTTPS Certificate Process for Nexus 7000 Devices

There are two different time frames when you will be using HTTPS certificate content on your Nexus 7000 device, when you are:

- [Adding the certificate to a Nexus 7000 device](#), for the first time; you will perform the steps and use the certificate data identified below in this document.
- When you are [updating an expired security certificate on a Nexus 7000 device](#), you will use the script files and certificate data contained in the Verisign-CAs-Certs.tar file.

Adding the Certificate to a Nexus 7000 Device

For Nexus 7000 devices, use the following instructions to install a security root certificates chain:

Go to the following URL:

<http://www.cisco.com/cisco/software/release.html?mdfid=282152778&catid=268439477&softwareid=283490182&release=3.1.1&rellifecycle=&relind=AVAILABLE&reltype=latest>

On the Download Software window, click the **Download Now** button for the Verisign-CAs-Certs.tar file



Gunzip the Verisign-CAs-Certs.tar file to the directory of your choice.

Additional Information

For more information on the SSL certificate, see the information at the following URL:

<https://knowledge.verisign.com/support/ssl-certificates-support/index?page=content&id=AD146>

For technical support, please contact Cisco Smart Services Bureau (SSB) via:

Email: ask-smart-services@cisco.com <mailto:ask-smart-services@cisco.com>

Telephone:

US and Canada: +1-877-330-9746

Europe:	Austria	0800 006 206
	Belgium	0800 49913
	France	0805 119 745
	Germany	0800 589 1725
	Italy	800 085 681
	Netherlands	0800 0201 276
	Spain	800 600472
	Switzerland	0800 840011
	UK	0800 2795112

From the rest of the world, choose the appropriate phone number from http://www.cisco.com/en/US/support/tsd_cisco_worldwide_contacts.html

