Configuring Call Home

The Call Home feature provides e-mail-based and web-based notification of critical system events. A versatile range of message formats are available for optimal compatibility with pager services, standard e-mail, or XML-based automated parsing applications. Common uses of this feature may include direct paging of a network support engineer, e-mail notification to a Network Operations Center, XML delivery to a support website, and utilization of Cisco Smart Call Home services for direct case generation with the Cisco Systems Technical Assistance Center (TAC).

Finding Feature Information

Your software release may not support all the features documented in this module. For the latest caveats and feature information, see Bug Search Tool and the release notes for your platform and software release. To find information about the features documented in this module, and to see a list of the releases in which each feature is supported, see the feature information table.

Use Cisco Feature Navigator to find information about platform support and Cisco software image support. To access Cisco Feature Navigator, go to https://cfnng.cisco.com/. An account on Cisco.com is not required.

Prerequisites for Call Home

How you configure Call Home depends on how you intend to use the feature. Consider the following requirements before you configure Call Home:

- Obtain e-mail, phone, and street address information for the Call Home contact to be configured so that the receiver can determine the origin of messages received.
- Identify the name or IPv4 address of a primary Simple Mail Transfer Protocol (SMTP) server and any backup servers, if using e-mail message delivery.
- Verify IP connectivity from the router to the e-mail server(s) or the destination HTTP server.

- If Cisco Smart Call Home is used, an active service contract covering the device is required to provide full SCH service.

Information About Call Home

Call Home provides e-mail-based and web-based notification of critical system events. A versatile range of message formats are available for optimal compatibility with pager services, standard e-mail, or XML-based automated parsing applications. Common uses of this feature may include direct paging of a network support engineer, e-mail notification to a Network Operations Center, XML delivery to a support website, and utilization of Cisco Smart Call Home services for direct case generation with the Cisco Systems Technical Assistance Center (TAC).

The Call Home feature can deliver alert messages containing information on configuration, environmental conditions, inventory, syslog, and crash events.

The Call Home feature can deliver alerts to multiple recipients, referred to as *Call Home destination profiles* , each with configurable message formats and content categories. A predefined destination profile (CiscoTAC-1) is provided, and you also can define your own destination profiles. The CiscoTAC-1 profile is used to send alerts to the backend server of the Smart Call Home service, which can be used to create service requests to Cisco TAC, the service will depend on the Smart Call Home service support in place for your device and the severity of the alert.

Flexible message delivery and format options make it easy to integrate specific support requirements.

Benefits of Using Call Home

The Call Home feature offers the following benefits:

- Multiple message-format options:
  - Short Text—Suitable for pagers or printed reports.
  - Plain Text—Full formatted message information suitable for human reading.
  - XML—Matching readable format using Extensible Markup Language (XML) and Adaptive Markup Language (AML) document type definitions (DTDs). The XML format enables communication with the Cisco Smart Call Home server.
- Multiple concurrent message destinations.
- Multiple message categories, including configuration, environmental conditions, inventory, syslog, and crash events
- Filtering of messages by severity and pattern matching.
- Scheduling of periodic message sending.

Obtaining Smart Call Home Services

If you have a service contract directly with Cisco, you can register for the Smart Call Home service. Smart Call Home analyzes Smart Call Home messages and provides background information and recommendations. For critical issues, Automatic Service Requests are generated with the Cisco TAC.

Smart Call Home offers the following features:

- Continuous device health monitoring and real-time alerts.

- Analysis of Smart Call Home messages and, if needed, Automatic Service Request generation routed to the correct TAC team, including detailed diagnostic information to speed problem resolution.
- Secure message transport directly from your device or through an HTTP proxy server or a downloadable Transport Gateway (TG). You can use a TG aggregation point to support multiple devices or in cases where security dictates that your devices may not be connected directly to the Internet.
- Web-based access to Smart Call Home messages and recommendations, inventory, and configuration information for all Smart Call Home devices provides access to associated field notices, security advisories, and end-of-life information.

You need the following items to register for Smart Call Home:

- SMARTnet contract number for your router.
- Your e-mail address
- Your Cisco.com username

For information on how to configure and register a Cisco ASR 1000 Series Router for Smart Call Home, see the Smart Call Home Quick Start Configuration Guide

Anonymous Reporting

Smart Call Home is a service capability that is included with many Cisco service contracts and is designed to assist you help resolve problems quickly. In addition, the information gained from crash messages helps Cisco understand equipment and issues occurring in the field. You can enable Anonymous Reporting without Smart Call Home. Anonymous Reporting allows Cisco to securely receive minimal error and health information from the device. If you enable Anonymous Reporting, your identity remains anonymous, and no identifying information is sent.

Note When you enable Anonymous Reporting, you acknowledge your consent to transfer specified data. The data is shared with Cisco or to vendors operating on behalf of Cisco (including countries outside the United States). Cisco maintains the privacy of all customers. For information about how Cisco treats personal information, see the Cisco Privacy Statement at Cisco Online Privacy Statement.

When Call Home is configured in an anonymous way, only crash, inventory, and test messages are sent to Cisco. No identifying information is sent.

For more information about what is sent in these messages, see the Alert Group Trigger Events and Commands section.

How to Configure Call Home

Configuring Smart Call Home (Single Command)

To enable all Call Home basic configurations using a single command, perform the following steps:

SUMMARY STEPS

1. **configure terminal**

2. **call-home reporting** {**anonymous** | **contact-email-addr** *email-address*} [**http-proxy** {*ipv4-address* | *ipv6-address* | **name**} **port** *port number*]

DETAILED STEPS

	Command or Action	Purpose
Step 1	**configure terminal** **Example:** `Device# configure terminal`	Enters global configuration mode.
Step 2	**call-home reporting** {**anonymous** | **contact-email-addr** *email-address*} [**http-proxy** {*ipv4-address* | *ipv6-address* | **name**} **port** *port number*] **Example:** `Device(config)# call-home reporting contact-email-addr email@company.com`	Enables all Call Home basic configurations using a single command. • **anonymous**—Enables Call-Home TAC profile to only send crash, inventory, and test messages and send the messages in an anonymous way. • **contact-email-addr**—Enables Smart Call Home service full reporting capability and sends a full inventory message from Call-Home TAC profile to Smart Call Home server to start full registration process. • **http-proxy** {*ipv4-address* | *ipv6-address* | **name**—An ipv4 or ipv6 address or server name. Maximum length is 64. • **port** *port number*—Port number. Range is 1 to 65535. **Note** HTTP proxy option allows you to make use of your own proxy server to buffer and secure internet connections from your devices. **Note** After successfully enabling Call Home either in anonymous or full registration mode using the **call-home reporting** command, an inventory message is sent out. If Call Home is enabled in anonymous mode, an anonymous inventory message is sent out. If Call Home is enabled in full registration mode, a Full Inventory message for full registration mode is sent. For more information about what is sent in these messages, see the “Alert Group Trigger Events and Commands” section.

Configuring and Enabling Smart Call Home

SUMMARY STEPS

1. **configure terminal**
2. **call-home**
3. **profile CiscoTAC-1**
4. **destination transport-method http**
5. **active**
6. **exit**
7. **contact-email-addr** *email-address*
8. **exit**
9. service call-home
10. **exit**
11. copy running-config startup-config

DETAILED STEPS

	Command or Action	Purpose
Step 1	**configure terminal** **Example:** `Device# configure terminal`	Enters global configuration mode.
Step 2	**call-home** **Example:** `Device(config)# call-home`	Enters call home configuration mode.
Step 3	**profile CiscoTAC-1** **Example:** `Device(config-call-home)# profile CiscoTAC-1`	Enters call home destination profile configuration mode for the CiscoTAC-1 destination profile.
Step 4	**destination transport-method http** **Example:** `Device(cfg-call-home-profile)# destination transport-method http`	(Required only if using HTTPS) Configures the message transport method for http.
Step 5	**active** **Example:** `Device(cfg-call-home-profile)# active`	Enables the destination profile.

	Command or Action	Purpose
Step 6	**exit** **Example:** `Device(cfg-call-home-profile)# exit`	Exits call home destination profile configuration mode and returns to call home configuration mode.
Step 7	**contact-email-addr** *email-address* **Example:** `Device(cfg-call-home)# contact-email-addr username@example.com`	Assigns the customer's e-mail address. Enter up to 200 characters in e-mail address format with no spaces.
Step 8	**exit** **Example:** `Device(cfg-call-home)# exit`	Exits call home configuration mode and returns to global configuration mode.
Step 9	service call-home **Example:** `Device(config)# service call-home`	Enables the Call Home feature.
Step 10	**exit** **Example:** `Device(config)# exit`	Exits global configuration mode and returns to privileged EXEC mode.
Step 11	copy running-config startup-config **Example:** `Device# copy running-config startup-config`	Saves the configuration to NVRAM.

Enabling and Disabling Call Home

To enable or disable the Call Home feature, complete the following steps:

SUMMARY STEPS

1. **configure terminal**
2. **service call-home**
3. **no service call-home**

DETAILED STEPS

	Command or Action	Purpose
Step 1	**configure terminal** **Example:** `Router# configure terminal`	Enters global configuration mode.
Step 2	**service call-home** **Example:** `Router(config)# service call-home`	Enables the Call Home feature.
Step 3	**no service call-home** **Example:** `Router(config)# no service call-home`	Disables the Call Home feature.

Configuring Contact Information

Each router must include a contact email address. You can optionally include a phone number, street address, contract ID, customer ID, and site ID.

To assign the contact information, complete the following steps:

SUMMARY STEPS

1. **configure terminal**
2. **call-home**
3. **contact-email-addr** *email-address*
4. **phone-number** +*phone-number*
5. **street-address** *street-address*
6. **customer-id** *text*
7. **site-id** *text*
8. **contract-id** *text*

DETAILED STEPS

	Command or Action	Purpose
Step 1	**configure terminal** **Example:** `Router> configure terminal`	Enters global configuration mode.
Step 2	**call-home** **Example:**	Enters call home configuration mode.

	Command or Action	Purpose
	`Router(config)# call-home`	
Step 3	**contact-email-addr** *email-address* **Example:** `Router(cfg-call-home)# contact-email-addr username@example.com`	Assigns the customer's email address. Enter up to 200 characters in email address format with no spaces.
Step 4	**phone-number** +*phone-number* **Example:** `Router(cfg-call-home)# phone-number +1-222-333-4444`	(Optional) Assigns the customer's phone number. **Note** The number must start with a plus (**+**) prefix, and may contain only dashes (-) and numbers. Enter up to 16 characters. If you include spaces, you must enclose your entry within double quotation marks (" ").
Step 5	**street-address** *street-address* **Example:** `Router(cfg-call-home)# street-address "1234 Any Street, Any city, Any state, 12345"`	(Optional) Assigns the customer's street address where RMA equipment can be shipped. Enter up to 200 characters. If you include spaces, you must enclose your entry within double quotation marks (" ").
Step 6	**customer-id** *text* **Example:** `Router(cfg-call-home)# customer-id Customer1234`	(Optional) Identifies the customer ID. Enter up to 64 characters. If you include spaces, you must enclose your entry within double quotation marks (" ").
Step 7	**site-id** *text* **Example:** `Router(cfg-call-home)# site-id Site1ManhattanNY`	(Optional) Identifies the customer site ID. Enter up to 200 characters. If you include spaces, you must enclose your entry within double quotation marks (" ").
Step 8	**contract-id** *text* **Example:** `Router(cfg-call-home)# contract-id Company1234`	(Optional) Identifies the customer's contract ID for the router. Enter up to 64 characters. If you include spaces, you must enclose your entry within double quotation marks (" ").

Example

The following example shows the configuration of contact information:

```
Device# configure terminal

Enter configuration commands, one per line.  End with CNTL/Z.
```

```
Device(config)# call-home
Device(cfg-call-home)# contact-email-addr username@example.com
Device(cfg-call-home)# phone-number +1-222-333-4444
Device(cfg-call-home)# street-address "1234 Any Street, Any city, Any state, 12345"
Device(cfg-call-home)# customer-id Customer1234
Device(cfg-call-home)# site-id Site1ManhattanNY
Device(cfg-call-home)# contract-id Company1234
Device(cfg-call-home)# exit
```

Configuring a Destination Profile

A destination profile contains the required delivery information for an alert notification. You can configure multiple destination profiles of one or more type.

You can create and define a new destination profile or copy and use another destination profile. If you define a new destination profile, you must assign a profile name. If you define a new destination profile, you must assign a profile name.

If you use the Cisco Smart Call Home service, the destination profile must use the XML message format.

Note The Call Home feature provides a predefined profile named CiscoTAC-1 that is inactive by default. The CiscoTAC-1 profile is intended for use with the Smart Call Home service, which requires certain additional configuration steps to enable the service with the Call Home feature. For more information about this profile, see the Using the Predefined CiscoTAC-1 Destination Profile.

You can configure the following attributes for a destination profile:

- Profile name—String that uniquely identifies each user-defined destination profile. The profile name is limited to 31 characters and is not case-sensitive. You cannot use **all** as a profile name.
- Transport method—The transport mechanism, either e-mail or HTTP (including HTTPS), for delivery of alerts.
  - For user-defined destination profiles, e-mail is the default, and you can enable one or both transport mechanisms. If you disable both methods, e-mail is enabled.
  - For the predefined Cisco TAC profile, you can enable either transport mechanism, but not both.
- Destination address—The actual address related to the transport method by which the alert should be sent.

  In Call Home version 3, you can change the destination of the CiscoTAC-1 profile.

- Message formatting—The message format used for sending the alert. The format options for a user-defined destination profile are long-text, short-text, or XML. The default is XML. For the predefined Cisco TAC profile, only XML is allowed. If you use the Cisco Smart Call Home service, the destination profile must use the XML message format.
- Message size—The maximum destination message size. The valid range is 50 to 3,145,728 bytes and the default is 3,145,728 bytes.
- Reporting method—You can choose which data to report for a profile. You can report Smart Call Home data or Smart Licensing data for a profile. Only one active profile is allowed to report Smart Licensing data at a time.
- Anonymous reporting—You can choose for your customer identity to remain anonymous, and no identifying information is sent.
- Subscribing to interesting alert-groups—You can choose to subscribe to alert-groups highlighting your interests.

This section includes the following tasks:

Creating a New Destination Profile

To create and configure a new destination profile, complete the following steps:

SUMMARY STEPS

1. **configure terminal**
2. **call-home**
3. **profile** *name*
4. **destination transport-method email**
5. **destination address email** *email-address*
6. **destination preferred-msg-format** {**long-text** | **short-text** | **xml**}
7. **destination message-size** *bytes*
8. **active**
9. **exit**
10. **end**

DETAILED STEPS

	Command or Action	Purpose
Step 1	**configure terminal** **Example:** `Device# configure terminal`	Enters global configuration mode.
Step 2	**call-home** **Example:** `Device(config)# call-home`	Enters call home configuration mode.

	Command or Action	Purpose
Step 3	**profile** *name* **Example:** `Device(config-call-home)# profile profile1`	Enters call home destination profile configuration mode for the specified destination profile name. If the specified destination profile does not exist, it is created.
Step 4	**destination transport-method email** **Example:** `Device(cfg-call-home-profile)# destination transport-method email`	(Optional) Configures the message transport method for email. This is the default.
Step 5	**destination address email** *email-address* **Example:** `Device(cfg-call-home-profile)# destination address email myaddress@example.com`	(Required) Configures the destination e-mail address to which Call Home messages are sent.
Step 6	**destination preferred-msg-format** {**long-text** | **short-text** | **xml**} **Example:** `Device(cfg-call-home-profile)# destination preferred-msg-format xml`	(Optional) Configures a preferred message format. The default is XML.
Step 7	**destination message-size** *bytes* **Example:** `Device(cfg-call-home-profile)# destination message-size 3145728`	(Optional) Configures a maximum destination message size (from 50 to 3145728 bytes) for the destination profile. The default is 3145728 bytes.
Step 8	**active** **Example:** `Device(cfg-call-home-profile)# active`	(Optional) Enables the destination profile. By default, a user-defined profile is enabled when it is created.
Step 9	**exit** **Example:** `Device(cfg-call-home-profile)# exit`	Exits call home destination profile configuration mode and returns to call home configuration mode.
Step 10	**end** **Example:** `Device(cfg-call-home)# end`	Returns to privileged EXEC mode.

Setting Profiles to Anonymous Mode

To create a new destination profile by copying an existing profile, complete the following steps:

SUMMARY STEPS

1. **configure terminal**
2. **call-home**
3. **copy profile** *source-profile target-profile*

DETAILED STEPS

	Command or Action	Purpose
Step 1	**configure terminal** **Example:** `Device# configure terminal`	Enters global configuration mode.
Step 2	**call-home** **Example:** `Device(config)# call-home`	Enters call home configuration mode.
Step 3	**copy profile** *source-profile target-profile* **Example:** `Device(cfg-call-home)# copy profile profile1 profile2`	Creates a new destination profile with the same configuration settings as the existing destination profile, where:

Subscribing to Alert Groups

An alert group is a predefined subset of Call Home alerts supported in all routers. Different types of Call Home alerts are grouped into different alert groups depending on their type. The following alert groups are available:

- Configuration
- Environment
- Inventory
- Syslog
- Crash

The triggering events for each alert group are listed in the Alert Group Trigger Events and Commands, and the contents of the alert group messages are listed in the Message Contents.

You can select one or more alert groups to be received by a destination profile.

Note A Call Home alert is only sent to destination profiles that have subscribed to the alert group containing that Call Home alert. In addition, the alert group must be enabled.

Periodic Notification

When you subscribe a destination profile to either the Configuration or the Inventory alert group, you can choose to receive the alert group messages asynchronously or periodically at a specified time. The sending period can be one of the following:

- Daily—Specify the time of day to send, using an hour:minute format hh:mm, with a 24-hour clock (for example, 14:30).
- Weekly—Specify the day of the week and time of day in the format day hh:mm, where the day of the week is spelled out (for example, monday).
- Monthly—Specify the numeric date, from 1 to 31, and the time of day, in the format date hh:mm.

Message Severity Threshold

When you subscribe a destination profile to the Environment or Syslog alert group, you can set a threshold for the sending of alert group messages based on the message's level of severity. Any message with a severity lower than the specified threshold of the destination profile is not sent to the destination.

Note When syslog level is changed via IOS CLI, the new value is propagated to non-IOS processes as well, with the result that these processes no longer send syslog messages of lower priority to IOS to process, thus "saving" CPU cycles for IOS.

The table below lists the keywords used to configure the severity, which range from catastrophic (level 9, highest level of urgency) to debugging (level 0, lowest level of urgency). If no severity threshold is configured, the default is debugging (level 0). However, the default is not recommended due to the number of messages that will be triggered.

Note Call Home severity levels are not the same as system message logging severity levels.

Table 1: Severity and Syslog Level Mapping

Level	Keyword	Syslog Level	Description
9	**catastrophic**	N/A	Network-wide catastrophic failure.
8	**disaster**	N/A	Significant network impact.
7	**fatal**	Emergency (0)	System is unusable.
6	**critical**	Alert (1)	Critical conditions, immediate attention needed.
5	**major**	Critical (2)	Major conditions.
4	**minor**	Error (3)	Minor conditions.
3	**warning**	Warning (4)	Warning conditions.
2	**notification**	Notice (5)	Basic notification and informational messages. Possibly independently insignificant.

Level	Keyword	Syslog Level	Description
1	**normal**	Information (6)	Normal event signifying return to normal state.
0	**debugging**	Debug (7)	Debugging messages.

Configuring Snapshot Command List

To configure the snapshot command list, perform the following steps:

SUMMARY STEPS

1. **configure terminal**
2. **call-home**
3. [**no** | **default**] **alert-group-config snapshot**
4. [**no** | **default**] **add-command** *command string*
5. **end**

DETAILED STEPS

	Command or Action	Purpose
Step 1	**configure terminal** **Example:** `Device# configure terminal`	Enters global configuration mode.
Step 2	**call-home** **Example:** `Device(config)# call-home`	Enters Call Home configuration mode.
Step 3	[**no**	**default**] **alert-group-config snapshot** **Example:** `Device(cfg-call-home)# alert-group-config snapshot`	Enters snapshot configuration mode. The **no** or **default** command removes the snapshot command.
Step 4	[**no**	**default**] **add-command** *command string* **Example:** `Device(cfg-call-home-snapshot)# add-command "show version"`	Adds the command to the Snapshot alert group. The **no** or **default** command removes the corresponding command. • *command string*—Cisco IOS command. Maximum length is 128.
Step 5	**end** **Example:** `Device(cfg-call-home-snapshot)# exit`	Exits and saves the configuration.

Configuring General Email Options

Configuring the Mail Server

To use the email message transport, you must configure at least one Simple Mail Transfer Protocol (SMTP) email server address. You can specify up to four backup email servers, for a maximum of five total mail-server definitions.

Consider the following guidelines when configuring the mail server:

- Backup email servers can be defined by repeating the **mail-server** command using different priority numbers.
- The **mail-server priority** *number* parameter can be configured from 1 to 100. The server with the highest priority (lowest priority number) is tried first.

To configure general email options, perform the following steps:

SUMMARY STEPS

1. **configure terminal**
2. **call-home**
3. **mail-server** {*ipv4-address* | *name*} **priority** *number*
4. **sender from** *email-address*
5. **sender reply-to** *email-address*
6. **source-interface** *interface-name*
7. **source-ip-address** *ipv4/ipv6 address*
8. **vrf***vrf-name*

DETAILED STEPS

	Command or Action	Purpose
Step 1	**configure terminal** **Example:** `Device# configure terminal`	Enters global configuration mode.
Step 2	**call-home** **Example:** `Device(config)# call-home`	Enters call home configuration mode.
Step 3	**mail-server** {*ipv4-address* | *name*} **priority** *number* **Example:** `Device(cfg-call-home)# mail-server stmp.example.com priority 1`	Assigns an email server address and its relative priority among configured email servers. Provide either of the following: • The email server's IP address or • The email server's fully qualified domain name (FQDN) of 64 characters or less.

	Command or Action	Purpose
		Assign a priority number between 1 (highest priority) and 100 (lowest priority).
Step 4	**sender from** *email-address* **Example:** `Device(cfg-call-home)# sender from username@example.com`	(Optional) Assigns the email address that appears in the from field in Call Home email messages. If no address is specified, the contact email address is used.
Step 5	**sender reply-to** *email-address* **Example:** `Device(cfg-call-home)# sender reply-to username@example.com`	(Optional) Assigns the email address that appears in the reply-to field in Call Home email messages.
Step 6	**source-interface** *interface-name* **Example:** `Device(cfg-call-home)# source-interface loopback1`	Assigns the source interface name to send call-home messages. *interface-name*—Source interface name. Maximum length is 64. **Note** For HTTP messages, use the **ip http client source-interface** *interface-name* command in global configuration mode to configure the source interface name. This command allows all HTTP clients on the device to use the same source interface.
Step 7	**source-ip-address** *ipv4/ipv6 address* **Example:** `Device(cfg-call-home)# ip-address 209.165.200.226`	Assigns source IP address to send call-home messages. • *ipv4/ipv6 address*—Source IP (IPv4 or IPv6) address. Maximum length is 64.
Step 8	**vrf***vrf-name* **Example:** `Device(cfg-call-home)# vrf vpn1`	(Optional) Specifies the VRF instance to send call-home email messages. If no vrf is specified, the global routing table is used. **Note** For HTTP messages, if the source interface is associated with a VRF, use the **ip http client source-interface** *interface-name* command in global configuration mode. This command would specify the VRF instance that is used for all HTTP clients on the device.

Example: General email Options

The following example shows general email options:

```
Device# configure terminal
Enter configuration commands, one per line. End with CNTL/Z.
Device(config)# call-home
Device(cfg-call-home)# mail-server smtp.example.com priority 1
Device(cfg-call-home)# mail-server 192.168.0.1 priority 2
Device(cfg-call-home)# exit
```

Specifying HTTP Proxy Server

To specify an HTTP proxy server for sending Call Home HTTP(S) messages to a destination, perform the following steps:

SUMMARY STEPS

1. **configure terminal**
2. **call-home**
3. **http-proxy** {*ipv4-address* | *ipv6-address name*} *name*

DETAILED STEPS

	Command or Action	Purpose
Step 1	**configure terminal** **Example:** `Device# configure terminal`	Enters global configuration mode.
Step 2	**call-home** **Example:** `Device(config)# call-home`	Enters call home configuration mode.
Step 3	**http-proxy** {*ipv4-address* | *ipv6-address name*} *name* **Example:** `Device(config)# http-proxy 1.1.1.1 port 1`	Specifies the proxy server for the HTTP request.

Enabling AAA Authorization to Run Cisco IOS Commands for Call Home Messages

To enable AAA authorization to run Cisco IOS commands that enable the collection of output for a Call Home message, perform the following steps:

SUMMARY STEPS

1. **configure terminal**
2. **call-home**
3. **aaa-authorization**
4. **aaa-authorization** [**username** *username*]

DETAILED STEPS

	Command or Action	Purpose
Step 1	**configure terminal** **Example:** `Device# configure terminal`	Enters global configuration mode.
Step 2	**call-home** **Example:** `Device(config)# call-home`	Enters call home configuration mode.
Step 3	**aaa-authorization** **Example:** `Device(cfg-call-home)# aaa-authorization`	Enables AAA authorization. **Note** By default, AAA authorization is disabled for Call Home.
Step 4	**aaa-authorization** [**username** *username*] **Example:** `Device(cfg-call-home)# aaa-authorization username username`	Specifies the username for authorization. • **username** *user*—Default username is callhome. Maximum length is 64.

Configuring Syslog Throttling

To enable or disable Call Home syslog message throttling and avoid sending repetitive Call Home syslog messages, perform the following steps:

SUMMARY STEPS

1. **configure terminal**
2. **call-home**
3. [**no**] **syslog-throttling**

DETAILED STEPS

	Command or Action	Purpose
Step 1	**configure terminal** **Example:**	Enters global configuration mode.

	Command or Action	Purpose
	`Device# configure terminal`	
Step 2	**call-home** **Example:** `Device(config)# call-home`	Enters call home configuration mode.
Step 3	[**no**] **syslog-throttling** **Example:** `Device(cfg-call-home)# syslog-throttling`	Enables or disables Call Home syslog message throttling and avoids sending repetitive Call Home syslog messages. By default, syslog message throttling is enabled.

Configuring Call Home Data Privacy

The **data-privacy** command scrubs data, such as IP addresses, from running configuration files to protect the privacy of customers. Enabling the **data-privacy** command can affect CPU utilization when scrubbing a large amount of data. Currently, **show** command output is not being scrubbed except for configuration messages in the **show running-config** all and show startup-config data.

SUMMARY STEPS

1. **configure terminal**
2. **call-home**
3. **data-privacy** {**level** {**normal** | **high**} | **hostname**}

DETAILED STEPS

	Command or Action	Purpose
Step 1	**configure terminal** **Example:** `Device# configure terminal`	Enters global configuration mode.
Step 2	**call-home** **Example:** `Device(config)# call-home`	Enters call home configuration mode.
Step 3	**data-privacy** {**level** {**normal**	**high**}	**hostname**} **Example:** `Device(cfg-call-home)# data-privacy level high`	Scrubs data from running configuration file to protect the privacy of the user. The default data-privacy level is normal. **Note** Enabling the data-privacy command can affect CPU utilization when scrubbing a large amount of data. • **normal**—Scrubs all normal-level commands.

	Command or Action	Purpose
		• **high**—Scrubs all normal-level commands plus the IP domain name and IP address commands. • **hostname**—Scrubs all high-level commands plus the hostname command. **Note** Scrubbing the hostname from configuration messages can cause Smart Call Home processing failure on some platforms.

Working With Destination Profiles

This section describes some of the tasks that you can complete with destination profiles:

Activating and Deactivating a Destination Profile

Except for the predefined CiscoTAC-1 profile, all Call Home destination profiles are automatically activated once you create them. If you do not want to use a profile right way, you can deactivate the profile. The CiscoTAC-1 profile is inactive by default and must be activated to be used.

To activate or deactivate a destination profile, complete the following steps:

SUMMARY STEPS

1. **configure terminal**
2. **call-home**
3. **profile** *name*
4. **active**
5. no active
6. **end**

DETAILED STEPS

	Command or Action	Purpose
Step 1	**configure terminal** **Example:** `Router# configure terminal`	Enters global configuration mode.
Step 2	**call-home** **Example:** `Router(config)# call-home`	Enters call home configuration mode.
Step 3	**profile** *name* **Example:** `Router(config-call-home)# profile test`	Enters call home destination profile configuration mode for the specified destination profile. If the specified destination profile does not exist, it is created.

	Command or Action	Purpose
Step 4	**active** **Example:** `Router(cfg-call-home-profile)# active`	Enables the destination profile. By default, a new profile is enabled when it is created.
Step 5	no active **Example:** `Router(cfg-call-home-profile)# no active`	Disables the destination profile.
Step 6	**end** **Example:** `Router(cfg-call-home)# end`	Exits call home destination profile configuration mode and returns to privileged EXEC mode.

Renaming a Destination Profile

To change the name of an existing profile, complete the following steps:

SUMMARY STEPS

1. **configure terminal**
2. **call-home**
3. **rename profile** *source-profile target-profile*

DETAILED STEPS

	Command or Action	Purpose
Step 1	**configure terminal** **Example:** `Router# configure terminal`	Enters global configuration mode.
Step 2	**call-home** **Example:** `Router(config)# call-home`	Enters call home configuration mode.
Step 3	**rename profile** *source-profile target-profile* **Example:** `Router(cfg-call-home)# rename profile2 testprofile`	Renames an existing source file, where: • *source-profile* —Specifies the existing name of the profile. • *target-profile* —Specifies a new name for the existing profile.

Using the Predefined CiscoTAC-1 Destination Profile

The CiscoTAC-1 profile is automatically configured in the Call Home feature for your use with the Cisco Smart Call Home service. This profile includes certain information, such as the destination e-mail address and HTTPS URL, and default alert groups for communication with the Smart Call Home service. Some of these attributes, such as the destination e-mail address, HTTPS URL, and message format cannot be modified.

You can use either email or http transport to communicate with the Smart Call Home service backend server. By default, the CiscoTAC-1 profile is inactive and uses email as the default transport method. To use email transport, you only need to enable the profile. However, to use this profile with the Cisco Smart Call Home service secure server (via HTTPS), you not only must enable the profile, but you must also change the transport method to HTTP as shown in the following example:

```
Router# configure terminal
Router(config)# call-home
Router(config-call-home)# profile CiscoTAC-1
Router(cfg-call-home-profile)# destination transport-method http
Router(cfg-call-home-profile)# active
```

For more information about additional requirements for Configuring the Smart Call Home service, see the How To Configure Call Home to Support the Smart Call Home Service section.

Verifying the Call Home Profile Configuration

To verify the profile configuration for Call Home, use the **show call-home profile** command. See Displaying Call Home Configuration Information for more information and examples.

Sending Call Home Communications Manually

You can manually send several types of Call Home communications. To send Call Home communications, complete the tasks in this section. This section contains the following subsections:

Sending a Call Home Test Message Manually

You can use the **call-home test** command to send a user-defined Call Home test message.

SUMMARY STEPS

1. **call-home test** [**"***test-message***"**] **profile** *name*

DETAILED STEPS

	Command or Action	Purpose
Step 1	**call-home test** [**"***test-message***"**] **profile** *name* **Example:** `Router# call-home test profile profile1`	Sends a test message to the specified destination profile. The user-defined test message text is optional, but must be enclosed in quotes (" ") if it contains spaces. If no user-defined message is configured, a default message is sent.

Sending Call Home Alert Group Messages Manually

You can use the **call-home send** command to manually send a specific alert group message.

Note the following guidelines when manually sending a Call Home alert group message:

- Configuration, , and inventory alert groups can be sent manually.
- When you manually trigger an alert group message and you specify a destination profile name, a message is sent to the destination profile regardless of the active status, subscription status, or severity setting of the profile.
- When you manually trigger a configuration or inventory alert group message and do not specify a destination profile name, a message is sent to all active profiles that have either a normal or periodic subscription to the specified alert group.
- When you manually trigger a diagnostic alert group message and do not specify a destination profile name, a message is sent to all active profiles that have a lower severity subscription than the severity of the diagnostic results of the specified slot.

To manually trigger Call Home alert group messages, complete the following steps:

SUMMARY STEPS

1. **call-home send alert-group configuration** [**profile** *name*]
2. **call-home send alert-group inventory** [**profile** *name*]

DETAILED STEPS

	Command or Action	Purpose
Step 1	**call-home send alert-group configuration** [**profile** *name*] **Example:** `Device# call-home send alert-group configuration profile CiscoTAC-1`	Sends a configuration alert group message to one destination profile if specified, or to all subscribed destination profiles.
Step 2	**call-home send alert-group inventory** [**profile** *name*] **Example:** `Device# call-home send alert-group inventory`	Sends an inventory alert group message to one destination profile if specified, or to all subscribed destination profiles.

Submitting Call Home Analysis and Report Requests

The **call-home request** command allows you to submit the system information to Cisco Systems. The report provides helpful analysis and information specific to your system. You can request various reports, including security alerts, known bugs, recommendations, and the command references.

Note the following guidelines when manually sending Call Home analysis and report requests:

- If a **profile** *name* is specified, the request is sent to the profile. If no profile is specified, the request is sent to the Cisco TAC profile. The Call-home request can have a recipient profile that is not enabled. The recipient profile specifies the email address where the transport gateway is configured. The recipient profile allows the request message to be forwarded to the Cisco TAC and you can receive the reply from the Smart Call Home service.

- The **ccoid** *user-id* is the registered identifier of the Smart Call Home user. If the *user-id* is specified, the response is sent to the email address of the registered user. If no *user-id* is specified, the response is sent to the contact email address of the device.
- Based on the keyword specifying the type of report that is requested, the following information is returned:
  - **config-sanity**—Information on the recommendations for the current running configuration.
  - **bugs-list**—Known bugs in the running version and in the currently applied features.
  - **command-reference**—Reference links to all commands in the running configuration.
  - **product-advisory**—Product Security Incident Response Team (PSIRT) notices. The PSIRT includes End of Life (EOL) or End of Sales (EOS) notices, or field notices (FN) that may affect devices in your network.

To submit a request for analysis and report information from the Cisco Output Interpreter tool, complete the following steps:

SUMMARY STEPS

1. **call-home request output-analysis "***show-command***"**
2. **call-home request** {**config-sanity** | **bugs-list** | **command-reference** | **product-advisory**}

DETAILED STEPS

	Command or Action	Purpose

Step 1	**call-home request output-analysis "***show-command***"**
	Example:
	`[profile name] [ccoid user-id]`
	Example:
	`Device# call-home request output-analysis "show diag" profile TG`
		Sends the output of the specified **show** command for analysis. The **show** command must be contained in quotes (").

Step 2	**call-home request** {**config-sanity**	**bugs-list**	**command-reference**	**product-advisory**}
				Example:
				`[profile name] [ccoid user-id]`
				Example:
				`Device# call-home request config-sanity profile TG`
					Sends the output of a predetermined set of commands, such as the **show running-config all** and **show version** commands, for analysis. In addition, the **call home request product-advisory** subcommand includes all inventory alert group commands. The keyword that is specified after the **call-home request** command specifies the type of report requested.

Example

The following example shows a request for analysis of a user-specified **show** command:

```
Router# call-home request output-analysis "show diag" profile TG
```

Manually Sending Command Output Message for One Command or a Command List

You can use the **call-home send** command to execute a CLI command and e-mail the command output to Cisco or to an e-mail address that you specify.

Note the following guidelines when sending the output of a command:

- The specified IOS command or list of IOS commands can be any run command, including commands for all modules. The command must be contained in quotes (“”).
- If the email option is selected using the “email” keyword and an email address is specified, the command output is sent to that address. If neither the email nor the HTTP option is specified, the output is sent in long-text format with the specified service request number to the Cisco TAC (attach@cisco.com).
- If neither the “email” nor the “http” keyword is specified, the service request number is required for both long-text and XML message formats and is provided in the subject line of the email.
- If the HTTP option is specified, the CiscoTac-1 profile destination HTTP or HTTPS URL is used as the destination. The destination email address can be specified so that Smart Call Home can forward the message to the email address. The user must specify either the destination email address or an SR number but they can also specify both.

To execute a command and send the command output, complete the following step:

SUMMARY STEPS

1. **call-home send** {*cli command* | *cli list*} [**email** *email* **msg-format** {**long-text** | **xml**} | **http** {**destination-email-address***email*}][**tac-service-request SR#**

DETAILED STEPS

	Command or Action	Purpose
Step 1	**call-home send** {*cli command* | *cli list*} [**email** *email* **msg-format** {**long-text** | **xml**} | **http** {**destination-email-address***email*}][**tac-service-request SR#** **Example:** `Router# call-home send “show version;show running-config show inventory” emailsupport@example.com msg-format xml`	Executes the CLI or CLI list and sends output via email or HTTP. • {*cli command* | *cli list*}—Specifies the IOS command or list of IOS commands (separated by ‘;’). It can be any run command, including commands for all modules. The commands must be contained in quotes (“”). • **email** *email* **msg-format** {**long-text** | **xml**—If the email option is selected, the command output will be sent to the specified email address in long-text or XML format with the service request number in the subject. The email address, the service request number, or both must be specified. The service request number is required if the email address is not specified (default is attach@cisco.com for long-text format and callhome@cisco.com for XML format). • **http** {**destination-email-address***email*—If the http option is selected, the command output will be sent to

	Command or Action	Purpose
		Smart Call Home backend server (URL specified in TAC profile) in XML format. **destination-email-address***email* can be specified so that the backend server can forward the message to the email address. The email address, the service request number, or both must be specified. • **tac-service-request SR#**—Specifies the service request number. The service request number is required if the email address is not specified.

Example

The following example shows how to send the output of a CLI command to a user-specified email address:

Device# **call-home send "show diag" email support@example.com**

The following example shows the command output sent in long-text format to attach@cisco.com, with the SR number specified:

Device# **call-home send "show version"**; **"show run tac-service-request 123456**

The following example shows the command output sent in XML message format to callhome@cisco.com:

Device# **call-home send "show diag" email callhome@example.com msg-format xml**

Configuring Call Home

The Call Home feature provides e-mail-based and web-based notification of critical system events. A versatile range of message formats are available for optimal compatibility with pager services, standard e-mail, or XML-based automated parsing applications. Common uses of this feature may include direct paging of a network support engineer, e-mail notification to a Network Operations Center, XML delivery to a support website, and utilization of Cisco Smart Call Home services for direct case generation with the Cisco Systems Technical Assistance Center (TAC).

How To Configure Call Home to Support the Smart Call Home Service

This section provides an overview of the minimum steps required to configure the Call Home feature on a Cisco device, and other required supporting configuration to communicate securely with the Smart Call Home service using HTTPS:

Prerequisites

Before you configure and use the Smart Call Home Service, be sure that you have completed the following prerequisites:

- Verify that you have an active Cisco Systems service contract for the device being configured.
- Verify that you have IP connectivity to the Cisco HTTPS server.
- Obtain the latest Cisco Systems server security certificate. In Cisco IOS XE Release 2.6.0, the following shows the latest text for the Cisco Systems server security certificate:

```
MIIDAjCCAmsCEH3Z/gfPqB63EHln+6eJNMYwDQYJKoZIhvcNAQEFBQAwgcExCzAJ
```

```
BgNVBAYTAlVTMRcwFQYDVQQKEw5WZXJpU2lnbiwgSW5jLjE8MDoGA1UECxMzQ2xh
c3MgMyBQdWJsaWMgUHJpbWFyeSBDZXJ0aWZpY2F0aW9uIEF1dGhvcml0eSAtIEcy
MTowOAYDVQQLEzEoYykgMTk5OCBWZXJpU2lnbiwgSW5jLiAtIEZvciBhdXRob3Jp
emVkIHVzZSBvbmx5MR8wHQYDVQQLExZWZXJpU2lnbiBUcnVzdCBOZXR3b3JrMB4X
DTk4MDUxODAwMDAwMFoXDTI4MDgwMTIzNTk1OVowgcExCzAJBgNVBAYTAlVTMRcw
FQYDVQQKEw5WZXJpU2lnbiwgSW5jLjE8MDoGA1UECxMzQ2xhc3MgMyBQdWJsaWMg
UHJpbWFyeSBDZXJ0aWZpY2F0aW9uIEF1dGhvcml0eSAtIEcyMTowOAYDVQQLEzEo
YykgMTk5OCBWZXJpU2lnbiwgSW5jLiAtIEZvciBhdXRob3JpemVkIHVzZSBvbmx5
MR8wHQYDVQQLExZWZXJpU2lnbiBUcnVzdCBOZXR3b3JrMIGfMA0GCSqGSIb3DQEB
AQUAA4GNADCBiQKBgQDMXtERXVxp0KvTuWpMmR9ZmDCOFoUgRm1HP9SFIIThbbP4
pO0M8RcPO/mn+SXXwc+EY/J8Y8+iR/LGWzOOZEAEaMGAuWQcRXfH2G71lSk8UOg0
13gfqLptQ5GVj0VXXn7F+8qkBOvqlzdUMG+7AUcyM83cV5tkaWH4mx0ciU9cZwID
AQABMA0GCSqGSIb3DQEBBQUAA4GBAFFNzb5cy5gZnBWyATl4Lk0PZ3BwmcYQWpSk
U01UbSuvDV1Ai2TT1+7eVmGSX6bEHRBhNtMsJzzoKQm5EWR0zLVznxxIqbxhAe7i
F6YM40AIOw7n60RzKprxaZLvcRTDOaxxp5EJb+RxBrO6WVcmeQD2+A2iMzAo1KpY
oJ2daZH9
```

Declare and Authenticate a CA Trustpoint

To establish communication with the Cisco HTTPS server for Smart Call Home service, you must declare and authenticate the Cisco server security certificate.

SUMMARY STEPS

1. **configure terminal**
2. **crypto pki trustpoint** *name*
3. **enrollment terminal**
4. **exit**
5. **crypto pki authenticate** *name*
6. At the prompt, paste the security certificate text.
7. **quit**
8. **yes**
9. **end**
10. copy running-config startup-config

DETAILED STEPS

	Command or Action	Purpose
Step 1	**configure terminal** **Example:** `Router# configure terminal`	Enters global configuration mode.
Step 2	**crypto pki trustpoint** *name* **Example:** `Router(config)# crypto pki trustpoint cisco`	Declares a CA trustpoint on your router and enters CA trustpoint configuration mode.
Step 3	**enrollment terminal** **Example:** `Router(ca-trustpoint)# enrollment terminal`	Specifies a manual cut-and-paste method of certificate enrollment.

	Command or Action	Purpose
Step 4	**exit** **Example:** `Router(ca-trustpoint)# exit`	Exits CA trustpoint configuration mode and returns to global configuration mode.
Step 5	**crypto pki authenticate** *name* **Example:** `Router(config)# crypto pki authenticate cisco`	Authenticates the named CA. **Note** The CA name should match the *name* specified in the **crypto pki trustpoint** command.

Step 6	At the prompt, paste the security certificate text.
	Example:
	`Enter the base 64 encoded CA certificate.`
	Example:
	`End with a blank line or the word "quit" on a line by itself`
	Example:
	`<Paste certificate text here>`
		Specifies the security certificate text.

Step 7	**quit** **Example:** `quit`	Specifies the end of the security certificate text.
Step 8	**yes** **Example:** `% Do you accept this certificate? [yes/no]: yes`	Confirms acceptance of the entered security certificate.
Step 9	**end** **Example:** `Router# end`	Exits global configuration mode and returns to privileged EXEC mode.
Step 10	copy running-config startup-config **Example:** `Router# copy running-config startup-config`	Saves the configuration to NVRAM.

Example: Declaring and authenticating the Cisco server security certificate

The following example shows the configuration for declaring and authenticating the Cisco server security certificate:

```
Router# configure terminal
Router(config)# crypto pki trustpoint cisco
Router(ca-trustpoint)# enrollment terminal
Router(ca-trustpoint)# exit
Router(config)# crypto pki authenticate cisco
Enter the base 64 encoded CA certificate.
End with a blank line or the word "quit" on a line by itself
MIIDAjCCAmsCEH3Z/gfPqB63EHln+6eJNMYwDQYJKoZIhvcNAQEFBQAwgcExCzAJ
BgNVBAYTAlVTMRcwFQYDVQQKEw5WZXJpU2lnbiwgSW5jLjE8MDoGA1UECxMzQ2xh
c3MgMyBQdWJsaWMgUHJpbWFyeSBDZXJ0aWZpY2F0aW9uIEF1dGhvcml0eSAtIEcy
MTowOAYDVQQLEzEoYykgMTk5OCBWZXJpU2lnbiwgSW5jLiAtIEZvciBhdXRob3Jp
emVkIHVzZSBvbmx5MR8wHQYDVQQLExZWZXJpU2lnbiBUcnVzdCBOZXR3b3JrMB4X
DTk4MDUxODAwMDAwMFoXDTI4MDgwMTIzNTk1OVowgcExCzAJBgNVBAYTAlVTMRcw
FQYDVQQKEw5WZXJpU2lnbiwgSW5jLjE8MDoGA1UECxMzQ2xhc3MgMyBQdWJsaWMg
UHJpbWFyeSBDZXJ0aWZpY2F0aW9uIEF1dGhvcml0eSAtIEcyMTowOAYDVQQLEzEo
YykgMTk5OCBWZXJpU2lnbiwgSW5jLiAtIEZvciBhdXRob3JpemVkIHVzZSBvbmx5
MR8wHQYDVQQLExZWZXJpU2lnbiBUcnVzdCBOZXR3b3JrMIGfMA0GCSqGSIb3DQEB
AQUAA4GNADCBiQKBgQDMXtERXVxp0KvTuWpMmR9ZmDCOFoUgRm1HP9SFIIThbbP4
pO0M8RcPO/mn+SXXwc+EY/J8Y8+iR/LGWzOOZEAEaMGAuWQcRXfH2G71lSk8UOg0
13gfqLptQ5GVj0VXXn7F+8qkBOvqlzdUMG+7AUcyM83cV5tkaWH4mx0ciU9cZwID
AQABMA0GCSqGSIb3DQEBBQUAA4GBAFFNzb5cy5gZnBWyATl4Lk0PZ3BwmcYQWpSk
U01UbSuvDV1Ai2TT1+7eVmGSX6bEHRBhNtMsJzzoKQm5EWR0zLVznxxIqbxhAe7i
F6YM40AIOw7n60RzKprxaZLvcRTDOaxxp5EJb+RxBrO6WVcmeQD2+A2iMzAo1KpY
oJ2daZH9
quit
Certificate has the following attributes:
       Fingerprint MD5: A2339B4C 747873D4 6CE7C1F3 8DCB5CE9
      Fingerprint SHA1: 85371CA6 E550143D CE280347 1BDE3A09 E8F8770F
% Do you accept this certificate? [yes/no]: yes
Trustpoint CA certificate accepted.
% Certificate successfully imported
Router(config)# end
Router# copy running-config startup-config
```

Start Smart Call Home Registration

To start the Smart Call Home registration process, manually send an inventory alert-group message to the CiscoTAC-1 profile.

SUMMARY STEPS

1. **call-home send alert-group inventory profile CiscoTAC-1**

DETAILED STEPS

	Command or Action	Purpose
Step 1	**call-home send alert-group inventory profile CiscoTAC-1** **Example:** `Device# call-home send alert-group inventory profile CiscoTAC-1`	Sends an inventory alert group message to the CiscoTAC-1 destination profile.

What To Do Next

To receive an email from Cisco Systems and follow the instructions to complete the device registration in the Smart Call Home web application:

- Launch the Smart Call Home web application at the following URL:

https://tools.cisco.com/sch/

- Accept the Legal Agreement.
- Confirm device registration for Call Home devices with pending registration.

For more information about using the Smart Call Home web application, see *Smart Call Home User Guide* . This user guide also includes configuration examples for sending Smart Call Home messages directly from your device or through a transport gateway (TG) aggregation point. You can use a TG aggregation point in cases requiring support for multiple devices or in cases where security requirements mandate that your devices must not be connected directly to the Internet.

Displaying Call Home Configuration Information

You can use variations of the **show call-home** command to display Call Home configuration information.

To display the configured Call Home information, use one or more of the following commands:

SUMMARY STEPS

1. **show call-home**
2. **show call-home detail**
3. **show call-home alert-group**
4. **show call-home mail-server status**
5. **show call-home profile** {**all** | *name*}
6. **show call-home statistics**

DETAILED STEPS

	Command or Action	Purpose
Step 1	**show call-home** **Example:** `Device# show call-home`	Displays the Call Home configuration in summary.
Step 2	**show call-home detail** **Example:** `Device# show call-home detail`	Displays the Call Home configuration in detail.
Step 3	**show call-home alert-group** **Example:** `Device# show call-home alert-group`	Displays the available alert groups and their status.

	Command or Action	Purpose
Step 4	**show call-home mail-server status** **Example:** `Device# show call-home mail-server status`	Checks and displays the availability of the configured e-mail server(s).
Step 5	**show call-home profile** {**all** | *name*} **Example:** `Device# show call-home profile all`	Displays the configuration of the specified destination profile. Use the **all** keyword to display the configuration of all destination profiles.
Step 6	**show call-home statistics** **Example:** `Device# show call-home statistics`	Displays the statistics of Call Home events.

Configuration Examples for Call Home

The following examples show the sample output when using different options of the **show call-home** command.

Example: Call Home Information in Summary

```
Device# show call-home
Current call home settings:
    call home feature : disable
    call home message's from address: username@example.com
    call home message's reply-to address: username@example.com
    vrf for call-home messages: Mgmt-intf
    contact person's email address: username@example.com
    contact person's phone number: +14085551234
    street address: 1234 Any Street Any city Any state 12345
    customer ID: customer@example.com
    contract ID: 123456789
    site ID: example.com
    Mail-server[1]: Address: smtp.example.com Priority: 1
    Mail-server[2]: Address: 192.168.0.1 Priority: 2
    Rate-limit: 20 message(s) per minute
Available alert groups:
    Keyword                  State   Description
    ------------------------ ------- --------------------------------
    configuration            Enable  configuration info
    diagnostic               Enable  diagnostic info
    environment              Enable  environmental info
    inventory                Enable  inventory info
    syslog                   Enable  syslog info
Profiles:
    Profile Name: campus-noc
    Profile Name: CiscoTAC-1
```

Example: Configured Call Home Information in Detail

```
Device# show call-home detail
```

```
Current call home settings:
   call home feature: enable
   call home message's from address: router@example.com
   call home message's reply-to address: support@example.com
   vrf for call-home messages: Not yet set up
   contact person's email address: technical@example.com
   contact person's phone number: +1-408-555-1234
   street address: 1234 Picaboo Street, Any city, Any state, 12345
   customer ID: ExampleCorp
   contract ID: X123456789
   site ID: SantaClara
   source ip address: Not yet set up
   source interface: GigabitEthernet1
   Mail-server[1]: Address: 192.168.2.1 Priority: 1
   Mail-server[2]: Address: 223.255.254.254 Priority: 2
   http proxy: 192.168.1.1:80
   aaa-authorization: disable
   aaa-authorization username: callhome (default)
   data-privacy: normal
   syslog throttling: enable
   Rate-limit: 20 message(s) per minute
   Snapshot command[0]: show version
   Snapshot command[1]: show clock
Available alert groups:
   Keyword State Description
   ----------------------- ------- --------------------------------
   configuration Enable configuration info
   crash Enable crash and traceback info
   inventory Enable inventory info
   snapshot Enable snapshot info
   syslog Enable syslog info
Profiles:
   Profile Name: campus-noc
   Profile status: ACTIVE
   Preferred Message Format: xml
   Message Size Limit: 3145728 Bytes
Transport Method: email
   Email address(es): noc@example.com
   HTTP address(es): Not yet set up
   Alert-group Severity
   ----------------------- ------------
   configuration           normal
   crash                   normal
   inventory               normal
   Syslog-Pattern          Severity
   ----------------------- ------------
   .*CALL_LOOP.* debug
Profile Name: CiscoTAC-1
   Profile status: INACTIVE
   Profile mode: Full Reporting
   Preferred Message Format: xml
   Message Size Limit: 3145728 Bytes
   Transport Method: email
   Email address(es): callhome@cisco.com
   HTTP address(es): https://tools.cisco.com/its/service/oddce/services/DDCEService
   Periodic configuration info message is scheduled every 14 day of the month at 11:12
   Periodic inventory info message is scheduled every 14 day of the month at 10:57
   Alert-group Severity
   ----------------------- ------------
   crash                   normal
   Syslog-Pattern          Severity
   ----------------------- ------------
   .*CALL_LOOP.*           debug
```

Example: Available Call Home Alert Groups

```
Device# show call-home alert-group
Available alert groups:
   Keyword State Description
   ------------------------ ------- ------------------------------
   configuration Enable configuration info
   crash Enable crash and traceback info
   inventory Enable inventory info
   snapshot Enable snapshot info
   syslog Enable syslog info
```

Example: Email Server Status Information

```
Device# show call-home mail-server status
Please wait. Checking for mail server status ...
     Mail-server[1]: Address: 192.168.2.1 Priority: 1 [Not Available]
     Mail-server[2]: Address: 223.255.254.254 Priority: 2 [Available]
```

Examples: Information for All Destination Profiles

```
Device# show call-home profile all
     Profile Name: campus-noc
     Profile status: ACTIVE
     Preferred Message Format: xml
     Message Size Limit: 3145728 Bytes
     Transport Method: email
     Email address(es): noc@example.com
     HTTP address(es): Not yet set up
     Alert-group Severity
     ------------------------ ------------
     configuration               normal
     crash                       normal
     inventory                   normal
     Syslog-Pattern              Severity
     ------------------------ ------------
     .*CALL_LOOP.* debug
Profile Name: CiscoTAC-1
     Profile status: INACTIVE
     Profile mode: Full Reporting
     Preferred Message Format: xml
     Message Size Limit: 3145728 Bytes
     Transport Method: email
     Email address(es): callhome@cisco.com
     HTTP address(es): https://tools.cisco.com/its/service/oddce/services/DDCEService

     Periodic configuration info message is scheduled every 14 day of the month at 11:12

     Periodic inventory info message is scheduled every 14 day of the month at 10:57
     Alert-group                 Severity
     ------------------------ ------------
     crash                       normal
     Syslog-Pattern              Severity
     ------------------------ ------------
     .*CALL_LOOP.*               debug
```

Example: Information for a User-Defined Destination Profile

```
Device# show call-home profile campus-noc
Profile Name: campus-noc
    Profile status: ACTIVE
    Preferred Message Format: xml
    Message Size Limit: 3145728 Bytes
    Transport Method: email
    Email address(es): noc@example.com
    HTTP address(es): Not yet set up
    Alert-group               Severity
    ------------------------ ------------
    configuration             normal
    crash                     normal
    inventory                 normal
    Syslog-Pattern            Severity
    ------------------------ ------------
    .*CALL_LOOP.*             debug
```

Example: Call Home Statistics

```
Device# show call-home statistics
Message Types   Total                Email                HTTP
-------------   -------------------- -------------------- ------------------
Total Success   3                    3                    0
    Config      3                    3                    0
    Diagnostic  0                    0                    0
    Environment 0                    0                    0
    Inventory   2                    2                    0
    SysLog      0                    0                    0
    Test        0                    0                    0
    Request     0                    0                    0
    Send-CLI    0                    0                    0
Total In-Queue  0                    0                    0
    Config      0                    0                    0
    Diagnostic  0                    0                    0
    Environment 0                    0                    0
    Inventory   0                    0                    0
    SysLog      0                    0                    0
    Test        0                    0                    0
    Request     0                    0                    0
    Send-CLI    0                    0                    0
Total Failed    0                    0                    0
    Config      0                    0                    0
    Diagnostic  0                    0                    0
    Environment 0                    0                    0
    Inventory   0                    0                    0
    SysLog      0                    0                    0
    Test        0                    0                    0
    Request     0                    0                    0
    Send-CLI    0                    0                    0
Total Ratelimit
      -dropped  0                    0                    0
    Config      0                    0                    0
    Diagnostic  0                    0                    0
    Environment 0                    0                    0
    Inventory   0                    0                    0
    SysLog      0                    0                    0
    Test        0                    0                    0
    Request     0                    0                    0
```

```
    Send-CLI     0                    0                    0
Last call-home message sent time: 2010-01-11 18:32:32 GMT+00:00
```

Default Settings

Lists of default Call Home settings.

Parameters	Default
Call Home feature status	Disabled
User-defined profile status	Active
Predefined Cisco TAC profile status	Inactive
Transport method	E-mail
Message format type	XML
Destination message size for a message sent in long text, short text, or XML format	3,145,728
Alert group status	Enabled
Call Home message severity threshold	0 (debugging)
Message rate limit for messages per minute	20
AAA Authorization	Disabled
Call Home syslog message throttling	Enabled
Data privacy level	Normal

Alert Group Trigger Events and Commands

Call Home trigger events are grouped into alert groups, with each alert group assigned CLI commands to execute when an event occurs. The CLI command output is included in the transmitted message. Table 2: Call Home Alert Groups, Events, and Actions , on page 35 lists the trigger events included in each alert group, including the severity level of each event and the executed CLI commands for the alert group.

Table 2: Call Home Alert Groups, Events, and Actions

Alert Group	Call Home Trigger Event	Syslog Event	Severity	Description and CLI Commands Executed
Crash	SYSTEM_CRASH	—	—	Events related to system crash. Commands executed: **show version show logging show region show stack**
—	TRACEBACK	—	—	Detects software traceback events. Commands executed: **show version show logging show region show stack**

Alert Group	Call Home Trigger Event	Syslog Event	Severity	Description and CLI Commands Executed
Configuration	—	—	—	User-generated request for configuration. (Sent to TAC.) CLI commands executed: **show platform show inventory show running-config all show startup-config show version**
Environmental	—	—	—	Events related to power, fan, and environment sensing elements, such as temperature alarms. (Sent to TAC.) CLI commands executed: **show platform show environment show inventory show logging**
Inventory	—	—	—	Inventory status should be provided whenever a unit is cold-booted, or when FRUs are inserted or removed. This is considered a noncritical event, and the information is used for status and entitlement. (Sent to TAC.) CLI commands executed: **show diag all eeprom detail | include MAC show license all show platform show platform hardware qfp active infrastructure chipset 0 capabilities show platform software vnic-if interface-mapping show version**
Syslog	—	—	—	Event logged to syslog. CLI commands executed: **show logging**

Message Contents

The following tables display the content formats of alert group messages:

- The **Format for a Short Text Message** table describes the content fields of a short text message.
- The **Common Fields for All Long Text and XML Messages** table describes the content fields that are common to all long text and XML messages. The fields specific to a particular alert group message are inserted at a point between the common fields. The insertion point is identified in the table.
- The **Inserted Fields for a Reactive or Proactive Event Message** table describes the inserted content fields for reactive messages (system failures that require a TAC case) and proactive messages (issues that might result in degraded system performance).
- The **Inserted Fields for an Inventory Event Message** table describes the inserted content fields for an inventory message.

This section also includes the following subsections that provide sample messages:

Table 3: Format for a Short Text Message

Data Item	Description
Device identification	Configured device name

Data Item	Description
Date/time stamp	Time stamp of the triggering event
Error isolation message	Plain English description of triggering event
Alarm urgency level	Error level such as that applied to a system message

Table 4: Common Fields for All Long Text and XML Messages

Data Item (Plain Text and XML)	Description (Plain Text and XML)	MML Tag (XML Only)
Time stamp	Date and time stamp of event in ISO time notation: *YYYY-MM-DD HH:MM:SS GMT+HH:MM*.	CallHome/EventTime
Message name	Name of message. Specific event names are listed in the **Alert Group Trigger Events and Commands** section.	For short text message only
Message type	Specifically “Call Home”.	CallHome/Event/Type
Message subtype	Specific type of message: full, delta, test	CallHome/Event/SubType
Message group	Specifically “reactive”. Optional, because default is “reactive”.	Not applicable. For long-text message only
Severity level	Severity level of message.	Body/Block/Severity
Source ID	Product type for routing through the workflow engine. This is typically the product family name.	For long-text message only
Device ID	Unique device identifier (UDI) for end device generating message. This field should be empty if the message is nonspecific to a fabric switch. The format is *type@Sid@seria* l. • *type* is the product model number from backplane IDPROM. • **@** is a separator character. • *Sid* is C, identifying the serial ID as a chassis serial number. • *serial* is the number identified by the Sid field. Example: ASR1006@C@FOX105101DH	CallHome/CustomerData/ ContractData/DeviceId

Data Item (Plain Text and XML)	Description (Plain Text and XML)	MML Tag (XML Only)
Customer ID	Optional user-configurable field used for contract information or other ID by any support service.	CallHome/CustomerData/ ContractData/CustomerId
Contract ID	Optional user-configurable field used for contract information or other ID by any support service.	CallHome/CustomerData/ ContractData/ContractId
Site ID	Optional user-configurable field used for site IDs supplied by Cisco Systems or other data meaningful to alternate support services.	CallHome/CustomerData/ ContractData/SiteId
Server ID	If the message is generated from the fabric switch, this is the unique device identifier (UDI) of the switch. The format is *type***@***Sid***@***seria* l. • *type* is the product model number from backplane IDPROM. • **@** is a separator character. • *Sid* is C, identifying the serial ID as a chassis serial number. • *serial* is the number identified by the Sid field. Example: ASR1006@C@FOX105101DH	For long text message only
Message description	Short text describing the error.	CallHome/MessageDescription
Device name	Node that experienced the event. This is the host name of the device.	CallHome/CustomerData/ SystemInfo/NameName
Contact name	Name of person to contact for issues associated with the node experiencing the event.	CallHome/CustomerData/ SystemInfo/Contact
Contact e-mail	E-mail address of person identified as contact for this unit.	CallHome/CustomerData/ SystemInfo/ContactEmail
Contact phone number	Phone number of the person identified as the contact for this unit.	CallHome/CustomerData/ SystemInfo/ContactPhoneNumber
Street address	Optional field containing street address for RMA part shipments associated with this unit.	CallHome/CustomerData/ SystemInfo/StreetAddress

Data Item (Plain Text and XML)	Description (Plain Text and XML)	MML Tag (XML Only)	
Model name	Model name of the router. This is the "specific model as part of a product family name.	CallHome/Device/Cisco_Chassis/ Model	
Serial number	Chassis serial number of the unit.	CallHome/Device/Cisco_Chassis/ SerialNumber	
Chassis part number	Top assembly number of the chassis.	CallHome/Device/Cisco_Chassis/ AdditionalInformation/AD@name= "PartNumber"	
System object ID	System Object ID that uniquely identifies the system.	CallHome/Device/Cisco_Chassis/ AdditionalInformation/AD@name= "sysObjectID"	
System description	System description for the managed element.	CallHome/Device/Cisco_Chassis/ AdditionalInformation/AD@name= "sysDescr"	
Fields specific to a particular alert group message are inserted here.	The following fields may be repeated if multiple CLI commands are executed for this alert group.		
	Command output name	The exact name of the issued CLI command.	/aml/Attachments/Attachment/Name
	Attachment type	Attachment type. Usually "inline".	/aml/Attachments/Attachment@type
	MIME type	Normally "text" or "plain" or encoding type.	/aml/Attachments/Attachment/ Data@encoding
	Command output text	Output of command automatically executed.	/mml/attachments/attachment/atdata

Table 5: Inserted Fields for a Reactive or Proactive Event Message

Data Item (Plain Text and XML)	Description (Plain Text and XML)	MML Tag (XML Only)
Chassis hardware version	Hardware version of chassis.	CallHome/Device/Cisco_Chassis/ HardwareVersion
Supervisor module software version	Top-level software version.	CallHome/Device/Cisco_Chassis/ AdditionalInformation/AD@name= "SoftwareVersion"
Affected FRU name	Name of the affected FRU generating the event message.	CallHome/Device/Cisco_Chassis/ Cisco_Card/Model

Data Item (Plain Text and XML)	Description (Plain Text and XML)	MML Tag (XML Only)
Affected FRU serial number	Serial number of affected FRU.	CallHome/Device/Cisco_Chassis/ Cisco_Card/SerialNumber
Affected FRU part number	Part number of affected FRU.	CallHome/Device/Cisco_Chassis/ Cisco_Card/PartNumber
FRU slot	Slot number of FRU generating the event message.	CallHome/Device/Cisco_Chassis/ Cisco_Card/LocationWithinContainer
FRU hardware version	Hardware version of affected FRU.	CallHome/Device/Cisco_Chassis/ Cisco_Card/HardwareVersion
FRU software version	Software version(s) running on affected FRU.	CallHome/Device/Cisco_Chassis/ Cisco_Card/SoftwareIdentity/ VersionString

Table 6: Inserted Fields for an Inventory Event Message

Data Item (Plain Text and XML)	Description (Plain Text and XML)	MML Tag (XML Only)
Chassis hardware version	Hardware version of chassis.	CallHome/Device/Cisco_Chassis/ HardwareVersion
Supervisor module software version	Top-level software version.	CallHome/Device/Cisco_Chassis/ AdditionalInformation/AD@name= “SoftwareVersion”
FRU name	Name of the affected FRU generating the event message.	CallHome/Device/Cisco_Chassis/ Cisco_Card/Model
FRU s/n	Serial number of FRU.	CallHome/Device/Cisco_Chassis/ Cisco_Card/SerialNumber
FRU part number	Part number of FRU.	CallHome/Device/Cisco_Chassis/ Cisco_Card/PartNumber
FRU slot	Slot number of FRU.	CallHome/Device/Cisco_Chassis/ Cisco_Card/LocationWithinContainer
FRU hardware version	Hardware version of FRU.	CallHome/Device/Cisco_Chassis/ CiscoCard/HardwareVersion
FRU software version	Software version(s) running on FRU.	CallHome/Device/Cisco_Chassis/ Cisco_Card/SoftwareIdentity/ VersionString

Sample Syslog Alert Notification in XML Format

The following example shows a sample syslog alert notification in XML format:

```
<?xml version="1.0" encoding="UTF-8"?>
<soap-env:Envelope xmlns:soap-env="http://www.w3.org/2003/05/soap-envelope">
<soap-env:Header>
<aml-session:Session xmlns:aml-session="http://www.cisco.com/2004/01/aml-session"
soap-env:mustUnderstand="true"
```

```
soap-env:role="http://www.w3.org/2003/05/soap-envelope/role/next">
<aml-session:To>http://tools.cisco.com/neddce/services/DDCEService</aml-session:To>
<aml-session:Path>
<aml-session:Via>http://www.cisco.com/appliance/uri</aml-session:Via>
</aml-session:Path>
<aml-session:From>http://www.cisco.com/appliance/uri</aml-session:From>
<aml-session:MessageId>M8:9S1NMSF22DW:51AEAC68</aml-session:MessageId>
</aml-session:Session>
</soap-env:Header>
<soap-env:Body>
<aml-block:Block xmlns:aml-block="http://www.cisco.com/2004/01/aml-block">
<aml-block:Header>
<aml-block:Type>http://www.cisco.com/2005/05/callhome/syslog</aml-block:Type>
<aml-block:CreationDate>2013-06-05 03:11:36 GMT+00:00</aml-block:CreationDate>
<aml-block:Builder>
<aml-block:Name>CSR1000v</aml-block:Name>
<aml-block:Version>2.0</aml-block:Version>
</aml-block:Builder>
<aml-block:BlockGroup>
<aml-block:GroupId>G9:9S1NMSF22DW:51AEAC68</aml-block:GroupId>
<aml-block:Number>0</aml-block:Number>
<aml-block:IsLast>true</aml-block:IsLast>
<aml-block:IsPrimary>true</aml-block:IsPrimary>
<aml-block:WaitForPrimary>false</aml-block:WaitForPrimary>
</aml-block:BlockGroup>
<aml-block:Severity>2</aml-block:Severity>
</aml-block:Header>
<aml-block:Content>
<ch:CallHome xmlns:ch="http://www.cisco.com/2005/05/callhome" version="1.0">
<ch:EventTime>2013-06-05 03:11:36 GMT+00:00</ch:EventTime> <ch:MessageDescription>*Jun 5
03:11:36.041: %CLEAR-5-COUNTERS: Clear counter on all interfaces by
console</ch:MessageDescription> <ch:Event> <ch:Type>syslog</ch:Type>
<ch:SubType></ch:SubType> <ch:Brand>Cisco Systems</ch:Brand> <ch:Series>CSR1000v Cloud
Services Router</ch:Series> </ch:Event> <ch:CustomerData> <ch:UserData>
<ch:Email>weijuhua@cisco.com</ch:Email>
</ch:UserData>
<ch:ContractData>
<ch:CustomerId></ch:CustomerId>
<ch:SiteId></ch:SiteId>
<ch:ContractId></ch:ContractId>
<ch:DeviceId>CSR1000V@C@9S1NMSF22DW</ch:DeviceId>
</ch:ContractData>
<ch:SystemInfo>
<ch:Name>qiang-vm</ch:Name>
<ch:Contact></ch:Contact>
<ch:ContactEmail>weijuhua@cisco.com</ch:ContactEmail>
<ch:ContactPhoneNumber></ch:ContactPhoneNumber>
<ch:StreetAddress></ch:StreetAddress>
</ch:SystemInfo>
<ch:CCOID></ch:CCOID>
<ch:IdToken></ch:IdToken>
</ch:CustomerData>
<ch:Device>
<rme:Chassis xmlns:rme="http://www.cisco.com/rme/4.0">
<rme:Model>CSR1000V</rme:Model>
<rme:HardwareVersion></rme:HardwareVersion>
<rme:SerialNumber>9S1NMSF22DW</rme:SerialNumber>
<rme:AdditionalInformation>
<rme:AD name="PartNumber" value="" />
<rme:AD name="SoftwareVersion" value="15.4(20130604:093915)" /> <rme:AD
name="SystemObjectId" value="1.3.6.1.4.1.9.1.1537" /> <rme:AD name="SystemDescription"
value="Cisco IOS Software, CSR1000V Software (X86_64_LINUX_IOSD-ADVENTERPRISEK9-M),
Experimental Version 15.4(20130604:093915) [mcp_dev-qiazhou-ultra_ut 100] Copyright (c)
1986-2013 by Cisco Systems, Inc.
```

```
Compiled Tue 04-Jun-13 02:39 by jsmith" /> <rme:AD name="ServiceNumber" value="" />
<rme:AD name="ForwardAddress" value="" /> </rme:AdditionalInformation> </rme:Chassis>
</ch:Device> </ch:CallHome> </aml-block:Content> <aml-block:Attachments>
<aml-block:Attachment type="inline"> <aml-block:Name>show logging</aml-block:Name>
<aml-block:Data encoding="plain"> <![CDATA[show logging Syslog logging: enabled (0
messages dropped, 1 messages rate-limited, 0 flushes, 0 overruns, xml disabled, filtering
disabled)
No Active Message Discriminator.
No Inactive Message Discriminator.
Console logging: level debugging, 391 messages logged, xml disabled,
filtering disabled
Monitor logging: level debugging, 0 messages logged, xml disabled,
filtering disabled
Buffer logging: level debugging, 391 messages logged, xml disabled,
filtering disabled
Exception Logging: size (4096 bytes)
Count and timestamp logging messages: disabled
Persistent logging: disabled
No active filter modules.
Trap logging: level informational, 56 message lines logged
Logging Source-Interface: VRF Name:
Log Buffer (4096 bytes):
*Jun 5 03:11:18.295: %SYS-5-CONFIG_I: Configured from console by console
qiang-vm#]]></aml-block:Data> </aml-block:Attachment> </aml-block:Attachments>
</aml-block:Block> </soap-env:Body> </soap-env:Envelope>
```

Additional References

The following sections provide references related to the Call Home feature.

Related Documents

Related Topic	Title
Cisco IOS XE commands	Cisco IOS Master Commands List, All Releases
Explains how the Smart Call Home service offers web-based access to important information on select Cisco devices and offers higher network availability, and increased operational efficiency by providing real-time alerts.	Smart Call Home User Guide
Smart Call Home site page on Cisco.com for access to all related product information.	Cisco Smart Call Home site
Public Key Infrastructure (PKI) and Certificate Authority configuration in Cisco IOS XE software	Cisco IOS XE Security Configuration Guide: Secure Connectivity

Standards

Standard	Title
No new or modified standards are supported by this feature, and support for existing standards has not been modified by this feature.	—

MIBs

MIB	MIBs Link
CISCO-CALLHOME-MIB	To locate and download MIBs for selected platforms, Cisco IOS XE software releases, and feature sets, use Cisco MIB Locator found at the following URL: http://www.cisco.com/go/mibs

RFCs

RFC	Title
No new or modified RFCs are supported by this feature, and support for existing RFCs has not been modified by this feature.	—

Technical Assistance

Description	Link
The Cisco Support website provides extensive online resources, including documentation and tools for troubleshooting and resolving technical issues with Cisco products and technologies. To receive security and technical information about your products, you can subscribe to various services, such as the Product Alert Tool (accessed from Field Notices), the Cisco Technical Services Newsletter, and Really Simple Syndication (RSS) Feeds. Access to most tools on the Cisco Support website requires a Cisco.com user ID and password.	http://www.cisco.com/cisco/web/support/index.html

Feature Information for Call Home

Use Cisco Feature Navigator to find information about platform support and software image support. Cisco Feature Navigator enables you to determine which Cisco IOS XE software images support a specific software release, feature set, or platform. To access Cisco Feature Navigator, go to http://www.cisco.com/go/cfn . An account on Cisco.com is not required.

Note The Feature Information table below lists only the Cisco IOS XE software release that introduced support for a given feature in a given Cisco IOS XE software release train. Unless noted otherwise, subsequent releases of that Cisco IOS XE software release train also support that feature.

Table 7: Feature Information for Call Home

Feature Name	Releases	Feature Information
Call Home	Cisco IOS XE Release 3.13S	The Call Home feature provides e-mail-based and web-based notification of critical system events. A versatile range of message formats are available for optimal compatibility with pager services, standard e-mail, or XML-based automated parsing applications. The following commands were introduced or modified: