



Call Home

Cisco's Call Home feature facilitates email and http/https notifications for critical system policies. It supports different message formats for compatibility with pager services or XML-based applications, enabling paging of support engineers, emailing Network Operations Centers, and generating Technical Assistance Center cases. Call Home delivers alerts with diagnostic and environmental information, offering customizable destination profiles and formats such as short text, full text, and XML machine-readable.

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Call Home Overview

Call Home provides an email and http/https-based notification for critical system policies. A range of message formats are available for compatibility with pager services or XML-based automated parsing applications. You can use this feature to page a network support engineer, email a Network Operations Center, or use Cisco Smart Call Home services to generate a case with the Technical Assistance Center. The Call Home feature can deliver alert messages containing information about diagnostics and environmental faults and events.

The Call Home feature can deliver alerts to multiple recipients, referred to as Call Home destination profiles. Each profile includes configurable message formats and content categories. A predefined destination is provided for sending alerts to the Cisco TAC, but you can also define your own destination profiles. When you configure Call Home to send messages, the appropriate CLI show command is executed and the command output is attached to the message. Call Home messages are delivered in the following formats:

- Short text format which provides a 1-2 line description of the fault that is suitable for pager or printed reports.
- Full text format which provides a fully formatted message with detailed information that is suitable for human reading.
- XML machine-readable format that uses Extensible Markup Language (XML) and Adaptive Messaging Language (AML) XML schema definition (XSD). The AML XSD is published on the Cisco.com. The XML format enables communication with the Cisco Systems Technical Assistance Center.

Destination Profiles

A destination profile includes the following information:

- One or more alert groups—The group of alerts that trigger a specific Call Home message if the alert occurs.
- One or more e-mail or http destinations—The list of recipients for the Call Home messages generated by alert groups assigned to this destination profile
- Message format—The format for the Call Home message (short text, full text, or XML)
- Message severity level—The Call Home severity level that the alert must meet before a Call Home message is sent to all e-mail and http url addresses in the destination profile. An alert isn't generated if the Call Home severity level of the alert is lower than the message severity level set for the destination profile.

You can also configure a destination profile to allow periodic inventory update messages by using the inventory alert group that sends out periodic messages daily, weekly, or monthly.

The following predefined destination profiles are supported:

- CiscoTAC-1—Supports the Cisco-TAC alert group in XML message format.

Call Home Alert Groups

An alert group is a predefined subset of alerts or events that Call Home detects and reports to one or more destinations. Alert groups allow you to select the set of alerts that you want to send to a predefined or custom destination profile. Alerts are sent to e-mail destinations in a destination profile only if that alert belongs to one of the alert groups associated with that destination profile and if the alert has a Call Home message severity at or above the message severity set in the destination profile.

The following table lists supported alert groups and the default CLI command output included in Call Home messages generated for the alert group.

Alert Group	Description	Executed Commands
Environmental	Events related to power, fan, and environment-sensing elements such as temperature alarms.	<ul style="list-style-type: none"> • show environment • show logging • show inventory • show environment trace • show diag
Inventory	Inventory status that is provided whenever a unit is cold booted, or when FRUs are inserted or removed. This alert is considered a noncritical event, and the information is used for status and entitlement.	<ul style="list-style-type: none"> • admin show platform • admin show version • admin show diag • admin show inventory oid

Syslog	Events generated by specific interesting syslog messages	<ul style="list-style-type: none"> • admin show version • admin show logging • admin show inventory
Configuration	User-generated request for configuration or configuration change event.	<ul style="list-style-type: none"> • show version • show running config all • show inventory • show configuration history last 30 • show configuration commit changes last 1
Snapshot	This alert group can be configured for periodic notifications	By default, this alert group has no commands to be run. You can add the required commands that need to be run.

Call Home maps the syslog severity level to the corresponding Call Home severity level for syslog port group messages.

Call Home Message Levels

Call Home allows you to filter messages based on their level of urgency. You can associate each destination profile (predefined and user-defined) with a Call Home message level threshold. The Call Home message level ranges from 0 (lowest level of urgency) to 9 (highest level of urgency). Call Home messages are generated if they have a severity level equal to or greater than the Call Home message level threshold for the destination profile.

Call Home messages that are sent for syslog alert groups have the syslog severity level mapped to the Call Home message level.



Note Call Home doesn't change the syslog message level in the message text.

The following table lists each Call Home message level keyword and the corresponding syslog level for the syslog port alert group.

Call Home 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 that indicate that immediate attention is 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.
1	Normal	Information (6)	Normal event signifying return to normal state.
0	Debugging	Debug (7)	Debugging messages.

Obtaining Smart Call Home

If you have a service contract directly with us, you can register your devices for the Smart Call Home service. Smart Call Home provides fast resolution of system problems by analyzing Call Home messages sent from your devices and providing background information and recommendations. For issues that can be identified as known, particularly GOLD diagnostics failures, Automatic Service Requests are generated with the Cisco-TAC.

Smart Call Home offers the following features:

- Continuous device health monitoring and real-time diagnostic alerts
- Analysis of Call Home messages from your device and, where appropriate, Automatic Service Request generation, routed to the appropriate TAC team, including detailed diagnostic information to speed problem resolution.
- Secure message transport directly from your device or through a downloadable Transport Gateway (TG) aggregation point. You can use a TG aggregation point in cases that require support for multiple devices or in cases where security requirements mandate that your devices may not be connected directly to the Internet.
- Web-based access to Call Home messages and recommendations, inventory, and configuration information for all Call Home devices. Provides access to associated field notices, security advisories, and end-of-life information

You need the following items to register:

- The SMARTnet contract number for your device
- Your e-mail address
- Your Cisco.com ID

For more information about Smart Call Home, see the Smart Call Home page at this URL:
https://supportforums.cisco.com/community/netpro/solutions/smart_services/smartcallhome

Anonymous Reporting

Smart Call Home is a service capability included with many Cisco service contracts and is designed to assist you in resolving problems more quickly. If you decide not to use Smart Call Home, you can still enable Anonymous Reporting to allow 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.

When Call Home is configured for anonymous reporting, only, inventory, and test messages are sent to Cisco. No identifying information is sent.



Note

When you enable Anonymous Reporting, you acknowledge your consent to transfer the specified data to Cisco or to vendors operating on behalf of Cisco (including countries outside the United States). We maintain the privacy of all customers. For information about how we treat personal information, see the Cisco Privacy Statement.

Configure Call Home

The tasks in this module describes how to configure the sending of Call Home messages.

Procedure

- Step 1** Each router must include a contact e-mail address. You can optionally include other identifying information for your system installation. Here, apart from customer email-id, contract-id, customer-id, customer phone number, customer address are configured.

```
Router#configure
Router(config)#call-home
Router(config-call-home)#contact-email-addr user1@cisco.com
Router(config-call-home)#contract-id Contract-identifier
Router(config-call-home)#customer-id Customer1
Router(config-call-home)#phone-number +405-123-4567
Router(config-call-home)#street-address "300 E. Tasman Dr. San Jose, CA 95134"
Router(config-call-home)#site-id SJ-RouterRoom1
```

If you include spaces in your entry, the entry must be quoted "".

You can use the **show call home** command to display information about the configured system contacts.

- Step 2** You must have at least one activated destination profile for Call Home messages to be sent. The CiscoTAC-1 profile exists by default but is not active. The range of Call Home messages size is from 50 to 3145728 characters.

```
Router#configure
Router(config)#call-home
Router(config-call-home)#profile my_profile
Router(config-call-home-profile)#destination address email support_me@cisco.com
Router(config-call-home-profile)#destination message-size-limit 1000
Router(config-call-home-profile)#destination preferred-msg-format xml
Router(config-call-home-profile)#destination transport-method email
Router(config-call-home-profile)#active
```

You can use the **show call-home profile** to verify that destination profile is activated.

- Step 3** An alert is sent only to destination profiles that have subscribed to the Call Home alert group. Before configuring alert-group with a destination profile, use the **show call-home alert-group** command to view available alert groups.

```
Router#configure
Router(config)#call-home
Router(config-call-home)#profile my_profile
Router(config-call-home-profile)#subscribe-to-alert-group environment severity major
Router(config-call-home-profile)#subscribe-to-alert-group inventory periodic monthly 1 10:00
Router(config-call-home-profile)#subscribe-to-alert-group syslog severity major pattern
Router(config-call-home-profile)#subscribe-to-alert-group snapshot severity major pattern
Router(config-call-home-profile)#subscribe-to-alert-group configuration severity major pattern
```

You can use the **show call-home profile** command to display information about destination profile.

- Step 4** Call Home messages are sent via email. You must configure your email server before Call Home messages can be sent. You can specify upto 5 mail servers with their priority. The mail server with the lower priority is tried first.

```
Router#configure
Router(config)#call-home
Router(config-call-home)#sender from my_email@cisco.com
Router(config-call-home)#mail-server 198.51.100.1 priority 1
Router(config-call-home)#rate-limit 4
```

You can use the **show call-home mail-server** status to display the status of the specified mail server.

- Step 5** Before enabling Call-Home, you must configure the source interface for http over IPv6. However, for http over IPv4, Call-Home works without the source interface. In the case of a dual-stack call-home configuration on the device, the IPv4 address is preferred over the IPv6 address. This may result in IPv6 resolution failure. Due to this limitation, the IPv6 device registration with the licensing server may only be done with a single mode, that is, IPv6 only configuration. Use the **http client source-interface ipv6** command to configure the source interface.

- Step 6** By default the sending of Call Home messages is disabled. Perform this task to enable the sending of Call Home messages. Ensure that you've enabled destination profile for any Call Home messages before enabling the sending of Call Home messages.

```
Router#configure
Router(config)#call-home
Router(config-call-home)#service active
```

Configure Call Home Features

Configure Smart Call Home (Single Command)

This task enables all call home basic configurations using a single command.

Procedure

Configure all call home basic configurations using the **call-home reporting** command.

```
Router#configure
Router(config)#call-home reporting contact-email email@company.com
```

Configure Call Home Data Privacy

This task enables you to scrub data from the call-home message to protect the privacy of the user. The default data-privacy level is normal.

- **Normal** - scrubs all normal level commands, such as password/ username/ ip/ destination.failure.
- **High** - scrubs all normal level commands plus the IP domain name and IP address commands.
- **Hostname** - scrubbing the hostname from call-home messages may cause Smart Call Home processing failure.



Note Enabling the data-privacy command can affect CPU utilization when scrubbing a large amount of data.

Procedure

Configure data privacy to scrub data from the call-home messages using the **data-privacy** command.

```
Router#configure
Router(config)#call-home
Router(config-call-home)#data-privacy level high
Router(config-call-home)#commit
```

Configure Call Home Syslog Throttling

This task enables or disables the call home syslog message throttling and avoid sending repetitive call home syslog messages. By default, syslog message throttling is enabled.

Procedure

Use **syslog-throttling** to enable or disable call home syslog message throttling.

```
Router#configure
Router(config)#call-home
Router(config-call-home)#syslog-throttling
Router(config-call-home)#commit
```

Enable AAA Authorization for Call Home Messages

This task helps you enable AAA Authorization for call home messages.

Procedure

Enable AAA Authorization for call home messages using the **aaa-authorization** command.

```
Router#configure
Router(config)#call-home
Router(config-call-home)#aaa-authorization username u1
Router(config-call-home)#commit
```

Manually Send Call Home Alert Group Messages

Manually triggering Call Home alert group messages is subjected to the following guidelines:

- Only the snapshot, configuration, and inventory alert groups can be sent manually. Syslog alert groups can't be sent manually.
- When you manually trigger a snapshot, configuration, or inventory alert group message and you specify a destination profile name, a message is sent to the destination profile regardless of the profile's active status, subscription status, or severity setting.
- When you manually trigger a snapshot, configuration, or inventory alert group message and don't 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.

Procedure

Configure manually triggering of call home alert group messages using the **call-home send** command. In the following example, snapshot, configuration, and inventory alert group messages are sent to one destination profile. You can also send call home alert group messages to all the profiles, if specified.

```
Router#call-home send alert-group snapshot profile p1
Router#call-home send alert-group configuration profile p1
Router#call-home send alert-group inventory profile p1
Router#commit
```

Manually Send Command Output Message for a Command List

Manually sending command output message for a command list is subjected to the following guidelines:

- The specified command or list of 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.

Procedure

Use the **call-home send** command to execute a command or a list of commands and send the command output through the HTTP or email protocol.

```
Router#call-home send "show version;show running-config;show inventory" email support@example.com  
msg-format xml
```

Configure an HTTP Proxy Server for Call Home

This task enables you to configure HTTP Proxy Server for call home. You can configure HTTP Proxy Server in the range of 1 to 65535.

Procedure

Configure port for the HTTP Proxy Server for call home using the **http-proxy** command.

```
Router#configure  
Router(config)#call-home  
Router(config)#http-proxy p1 port 100  
Router(config)#commit
```

Configure Snapshot Alert Group on Call Home

This task enables you to configure snapshot alert group on Call Home.

Procedure

Configure a command to the snapshot alert group using the **alert-group-configuration snapshot** command. In the following example, **show ver** command is added.

```
Router#configure
Router(config-call-home)#alert-group-configuration snapshot
Router(config-call-home-snapshot)#add-command "show ver"
Router(config-call-home-snapshot)#commit
```

Configure Anonymous Reporting on Call Home

This task enables you to configure anonymous reporting on call home. When **anonymous-reporting-only** is set, only inventory and test messages are sent.

Procedure

Configure an anonymous mode profile by using the **anonymous-reporting-only** command.

```
Router#configure
Router(config)#call-home
Router(config-call-home)#profile ciscotac
Router(config-call-home-profile)#anonymous-reporting-only
Router(config-call-home-profile)#commit
```

Configure Call Home to use VRF

This task enables you to configure call home for the specified VRF. VRF works only for the http transport method. It does not work for the email transport method.

Procedure

Configure call home to for the specified vrf by using the **vrf** command.

```
Router#configure
Router(config)#call-home
Router(config)#vrf v1
Router(config)#commit
```

Configure Call Home to use Source Interface

This task enables you to configure call home to use source interface. Source-interface supports email and HTTP messages.

Procedure

Configure call-home to use source interface using the **source-interface** command.

```
Router#configure  
Router(config)#call-home  
Router(config)#source-interface tengige 192.0.2.1  
Router(config)#commit
```
