Configuring Call Home for Cisco Integrated Services Routers

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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 use of Cisco Smart Call Home services for direct case generation with the Cisco Systems Technical Assistance Center (TAC).

This document describes how to configure the Call Home feature in Cisco IOS Release 15.2(2)T and later releases for the following Cisco integrated services routers:

- Cisco 819
- Cisco 861
- Cisco 881
- Cisco 887
- Cisco 888
- Cisco 891
- Cisco 892
- Cisco 1861E
- Cisco 1905
- Cisco 1906C
- Cisco 1921
- Cisco 1941
- Cisco 1941W
- Cisco 2901
- Cisco 2911
- Cisco 2921

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- Cisco 2951
- Cisco 3925
- Cisco 3925E
- Cisco 3945
- Cisco 3945E

Finding Feature Information

Your software release may not support all of the features documented in this module. For the latest feature information and caveats, see 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 for Call Home" section on page 52.

Use Cisco Feature Navigator to find information about platform support and Cisco IOS and Catalyst OS software image support. To access Cisco Feature Navigator, see http://www.cisco.com/go/cfn. A Cisco account is not required.

Contents

This document includes the following sections:

- Prerequisites for Call Home, page 2
- Information About Call Home, page 3
- How to Configure Call Home, page 5
- Displaying Call Home Configuration Information, page 31
- Default Settings, page 37
- Alert Group Trigger Events and Commands, page 38
- Message Contents, page 42
- Additional References, page 51
- Command Reference, page 51
- Feature Information for Call Home, page 52

Prerequisites for Call Home

Information to consider before you configure Call Home:

- Contact e-mail address (required for full registration with Smart Call Home, optional if Call Home is enabled in anonymous mode), phone number (optional), and street address information (optional) should be configured so that the receiver can determine the origin of messages received.
- At least one destination profile (predefined or user-defined) must be configured. The destination profile you use depends on whether the receiving entity is a pager, an e-mail address, or an automated service such as Cisco Smart Call Home.

  - If the destination profile uses e-mail message delivery, you must specify a Simple Mail Transfer Protocol (SMTP) server.
  - If the destination profile uses secure HTTP (HTTPS) before Cisco IOS Release 15.2(2)T, you must configure a trustpoint certificate authority (CA). For Cisco IOS Release 15.2(2)T and later releases, configuring the trustpoint CA is not required for HTTPS server connection.
- Router must have IP connectivity to an e-mail server or the destination HTTP server.
- If Cisco Smart Call Home is used, an active service contract must cover the device being configured.

Information About Call Home

The Call Home feature can deliver alert messages containing information on configuration, environmental conditions, inventory, syslog, snapshot, and crash events. It provides these alert messages as either e-mail-based or web-based messages. Multiple message formats are available, allowing for compatibility with pager services, standard e-mail, or XML-based automated parsing applications. This 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 is provided for sending alerts to the Cisco TAC (callhome@cisco.com). You can also define your own destination profiles.

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

This section contains the following subsections:

- Benefits of Using Call Home, page 3
- Obtaining Smart Call Home Services, page 4

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—Machine-readable format using XML and Adaptive Markup Language (AML) document type definitions (DTDs). The XML format enables communication with the Cisco TAC.
- Multiple concurrent message destinations
- Multiple message categories including configuration, environmental conditions, inventory, syslog, snapshot, 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 known issues, particularly online 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 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 detailed information on Smart Call Home, see www.cisco.com/go/smartcallhome/index.html.

Anonymous Reporting

Smart Call Home is a service capability included with many Cisco service contracts and is designed to assist customers resolve problems more quickly. In addition, the information gained from crash messages helps Cisco understand equipment and issues occurring in the field. 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 customer identity will remain anonymous, and no identifying information will be 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). Cisco maintains the privacy of all customers. For information about how Cisco treats personal information, see the Cisco Privacy Statement at http://www.cisco.com/web/siteassets/legal/privacy.html.

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

For more information about what is sent in these messages, see the "Alert Group Trigger Events and Commands" section on page 38.

How to Configure Call Home

The following section shows how you can configure Call Home using a single command:

- Configuring Smart Call Home (Single Command), page 5
- Configuring and Enabling Smart Call Home, page 7

The following sections show detailed or optional configurations:

- Enabling and Disabling Call Home, page 7
- Configuring Contact Information, page 8
- Configuring Destination Profiles, page 9
- Subscribing to Alert Groups, page 14
- Configuring General E-Mail Options, page 19
- Specifying Rate Limit for Sending Call Home Messages, page 21
- Specifying HTTP Proxy Server, page 22
- Enabling AAA Authorization to Run IOS Commands for Call Home Messages, page 23
- Configuring Syslog Throttling, page 24
- Configuring Call Home Data Privacy, page 25
- Sending Call Home Communications Manually, page 26

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:** `Router# configure terminal`	Enters configuration mode.
Step 2	**`call-home reporting`** {**`anonymous`** | **`contact-email-addr`** *`email-address`*} [**`http-proxy`** {*`ipv4-address`* | *`ipv6-address`* | *`name`*} **`port`** *`port-number`*] **Example:** `Router(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 full registration mode, a Full Inventory message for full registration mode is sent out. If Call Home is enabled in anonymous mode, an anonymous inventory message is sent out. For more information about what is sent in these messages, see the "Alert Group Trigger Events and Commands" section on page 38.

Configuring and Enabling Smart Call Home

For application and configuration information about the Cisco Smart Call Home service, see the "Getting Started" section of *Smart Call Home User Guide*.

The user guide includes configuration examples for sending Smart Call Home messages directly from your device or through a transport gateway (TG) aggregation point.

Note For security reasons, we recommend that you use the HTTPS transport options, due to the additional payload encryption that HTTPS offers. The Transport Gateway software is downloadable from Cisco.com and is available if you require an aggregation point or a proxy for connection to the Internet.

Cisco IOS Release 15.2(2)T and later releases support the trustpool feature (embedded CA certificates in IOS images). The trustpool feature simplifies configuration to enable Smart Call Home service on configured devices. It eliminates the requirement of manually configuring the trustpoint and provides automatic update of the CA certificate should it change in the future.

For releases earlier than Cisco IOS Release 15.2(2)T, see *Smart Call Home User Guide*.

Enabling and Disabling Call Home

To enable or disable the Call Home feature, perform 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 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 e-mail address (except if Call Home is enabled in anonymous mode). You can optionally include a phone number, street address, contract ID, customer ID, and site ID.

To assign the contact information, perform 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 configuration mode.
Step 2	**`call-home`** **Example:** `Router(config)# call-home`	Enters the Call Home configuration submode.
Step 3	**`contact-email-addr`** *`email-address`* **Example:** `Router(cfg-call-home)# contact-email-addr username@example.com`	Designates your e-mail address. Enter up to 200 characters in e-mail address format with no spaces.
Step 4	**`phone-number +`***`phone-number`* **Example:** `Router(cfg-call-home)# phone-number +1-800-555-4567`	(Optional) Assigns your phone number. **Note** The number must begin with a plus (**+**) prefix and may contain only dashes (-) and numbers. Enter up to 17 characters. If you include spaces, you must enclose your entry in quotes (“”).
Step 5	**`street-address`** *`street-address`* **Example:** `Router(cfg-call-home)# street-address "1234 Picaboo Street, Any city, Any state, 12345"`	(Optional) Assigns your street address where RMA equipment can be shipped. Enter up to 200 characters. If you include spaces, you must enclose your entry in quotes (“”).

	Command or Action	Purpose
Step 6	**customer-id** *text* **Example:** `Router(cfg-call-home)# customer-id Customer1234`	(Optional) Identifies customer ID. Enter up to 64 characters. If you include spaces, you must enclose your entry in quotes (“”).
Step 7	**site-id** *text* **Example:** `Router(cfg-call-home)# site-id Site1ManhattanNY`	(Optional) Identifies customer site ID. Enter up to 200 characters. If you include spaces, you must enclose your entry in quotes (“”).
Step 8	**contract-id** *text* **Example:** `Router(cfg-call-home)# contract-id Company1234`	(Optional) Identifies your contract ID for the router. Enter up to 64 characters. If you include spaces, you must enclose your entry in quotes (“”).

Example

The following example shows the configuration of contact information:

```
Router# configure terminal
Enter configuration commands, one per line.  End with CNTL/Z.
Router(config)# call-home
Router(cfg-call-home)# contact-email-addr username@example.com
Router(cfg-call-home)# phone-number +1-800-555-4567
Router(cfg-call-home)# street-address “1234 Picaboo Street, Any city, Any state, 12345”
Router(cfg-call-home)# customer-id Customer1234
Router(cfg-call-home)# site-id Site1ManhattanNY
Router(cfg-call-home)# contract-id Company1234
Router(cfg-call-home)# exit
```

Configuring Destination Profiles

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

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

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

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—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 either 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 to which the alert should be sent.
- 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.
- Message size—The maximum destination message size. The valid range is 50 to 3,145,728 B. The default is 3,145,728 B.

This section contains the following subsections:

- Creating a New Destination Profile, page 10
- Copying a Destination Profile, page 12
- Setting TAC Profile to Anonymous Mode, page 13

Creating a New Destination Profile

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

SUMMARY STEPS

1. **configure terminal**
2. **call-home**
3. **profile** *name*
4. [**no**] **destination transport method** {**email** | **http**}
5. **destination address** {**email** *email-address* | **http** *url*}
6. **destination preferred-msg-format {long-text | short-text | xml}**
7. **destination message-size-limit** *bytes*
8. **active**
9. **exit**
10. **end**
11. **show call-home profile** {*name* | **all**}

DETAILED STEPS

	Command or Action	Purpose

Step 1	`configure terminal`
	
	Example:
	`Router# configure terminal`
		Enters configuration mode.

Step 2	`call-home`
	
	Example:
	`Router(config)# call-home`
		Enters the Call Home configuration submode.

	Command or Action	Purpose
Step 3	**profile** *name* **Example:** `Router(config-call-home)# profile profile1`	Enters the Call Home destination profile configuration submode for the specified destination profile. If the specified destination profile does not exist, it is created.
Step 4	[**no**] **destination transport-method** {**email** | **http**} **Example:** `Router(cfg-call-home-profile)# destination transport-method email`	(Optional) Enables the message transport method. The **no** option disables the method.
Step 5	**destination address** {**email** *email-address* | **http** *url*} **Example:** `Router(cfg-call-home-profile)# destination address email myaddress@example.com`	Configures the destination e-mail address or URL to which Call Home messages are sent. **Note** When entering a destination URL, include either **http://** or **https://**, depending on whether the server is a secure server. **Note** For Cisco IOS Release 15.2(2)T and later releases, configuring the trustpoint CA is not required.
Step 6	**destination preferred-msg-format** {**long-text** | **short-text** | **xml**} **Example:** `Router(cfg-call-home-profile)# destination preferred-msg-format xml`	(Optional) Configures a preferred message format. The default is XML.
Step 7	**destination message-size-limit** *bytes* **Example:** `Router(cfg-call-home-profile)# destination message-size-limit 3145728`	(Optional) Configures a maximum destination message size for the destination profile.
Step 8	**active** **Example:** `Router(cfg-call-home-profile)# active`	Enables the destination profile. By default, the profile is enabled when it is created.
Step 9	**exit** **Example:** `Router(cfg-call-home-profile)# exit`	Exits the Call Home destination profile configuration mode and returns to the Call Home configuration mode.
Step 10	**end** **Example:** `Router(cfg-call-home)# end`	Returns to privileged EXEC mode.
Step 11	**show call-home profile** {*name* | **all**} **Example:** `Router# show call-home profile profile1`	Displays the destination profile configuration for the specified profile or all configured profiles.

Copying a Destination Profile

To create a new destination profile by copying an existing profile, perform 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:** `Router# configure terminal`	Enters configuration mode.
Step 2	**`call-home`** **Example:** `Router(config)# call-home`	Enters the Call Home configuration submode.
Step 3	**`copy profile`** *`source-profile target-profile`* **Example:** `Router(cfg-call-home)# copy profile profile1 profile2`	Creates a new destination profile with the same configuration settings as the existing destination profile.

Setting TAC Profile to Anonymous Mode

To set an anonymous TAC profile, perform the following steps:

SUMMARY STEPS

1. **configure terminal**
2. **call-home**
3. **profile** *name*
4. **anonymous-reporting-only**

DETAILED STEPS

	Command or Action	Purpose
Step 1	**`configure terminal`** **Example:** `Router# configure terminal`	Enters configuration mode.
Step 2	**`call-home`** **Example:** `Router(config)# call-home`	Enters the Call Home configuration submode.
Step 3	**`profile`** *`name`* **Example:** `Router(cfg-call-home) profile CiscoTAC-1`	Enables TAC profile configuration mode.
Step 4	**`anonymous-reporting-only`** **Example:** `Router(cfg-call-home-profile)# anonymous-reporting-only`	Sets TAC profile to anonymous mode. **Note** By default, CiscoTAC-1 profile sends a full report of all types of events subscribed in the profile. When **anonymous-reporting-only** is set, only crash, inventory, and test messages will be sent.

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:

- Crash
- Configuration
- Environment
- Inventory
- Snapshot
- Syslog

This section contains the following subsections:

- Periodic Notification, page 17
- Message Severity Threshold, page 17
- Configuring Snapshot Command List, page 18

The triggering events for each alert group are listed in the "Alert Group Trigger Events and Commands" section on page 38, and the contents of the alert group messages are listed in the "Message Contents" section on page 42.

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.

To subscribe a destination profile to one or more alert groups, perform the following steps:

SUMMARY STEPS

1. **configure terminal**
2. **call-home**
3. **alert-group** {**all** | **configuration** | **environment** | **inventory** | **syslog** | **crash** | **snapshot**}
4. **profile** *name*
5. **subscribe-to-alert-group all**
6. **subscribe-to-alert-group configuration** [**periodic** {**daily** *hh:mm* | **monthly** *date hh:mm* | **weekly** *day hh:mm*}]
7. **subscribe-to-alert-group environment** [**severity** {**catastrophic** | **disaster** | **fatal** | **critical** | **major** | **minor** | **warning** | **notification** | **normal** | **debugging**}]
8. **subscribe-to-alert-group inventory** [**periodic** {**daily** *hh:mm* | **monthly** *date hh:mm* | **weekly** *day hh:mm*}]
9. **subscribe-to-alert-group syslog** [**severity** {**catastrophic** | **disaster** | **fatal** | **critical** | **major** | **minor** | **warning** | **notification** | **normal** | **debugging**}] [**pattern** *string*]
10. **subscribe-to-alert-group crash**

11. **subscribe-to-alert-group snapshot** [**periodic** {**daily** *hh:mm* | **hourly** *mm* | **interval** *mm* | **monthly** *date hh:mm* | **weekly** *day hh:mm*}]
12. **exit**

DETAILED STEPS

	Command or Action	Purpose
Step 1	**`configure terminal`** **Example:** `Router# configure terminal`	Enters configuration mode.
Step 2	**`call-home`** **Example:** `Router(config)# call-home`	Enters Call Home configuration submode.
Step 3	**`alert-group`** {**`all`** | **`configuration`** | **`environment`** | **`inventory`** | **`syslog`** | **`crash`** | **`snapshot`**} **Example:** `Router(cfg-call-home)# alert-group all`	Enables the specified alert group. Use the keyword **all** to enable all alert groups. By default, all alert groups are enabled.
Step 4	**`profile`** *name* **Example:** `Router(cfg-call-home)# profile profile1`	Enters the Call Home destination profile configuration submode for the specified destination profile.
Step 5	**`subscribe-to-alert-group all`** **Example:** `Router(cfg-call-home-profile)# subscribe-to-alert-group all`	Subscribes to all available alert groups using the lowest severity. You can subscribe to alert groups individually by specific type, as described in Step 6 through Step 11. **Note** This command subscribes to the syslog debug default severity. This causes a large number of syslog messages to generate. You should subscribe to alert groups individually, using appropriate severity levels and patterns when possible.
Step 6	**`subscribe-to-alert-group configuration`** [**`periodic`** {**`daily`** *hh:mm* | **`monthly`** *date hh:mm* | **`weekly`** *day hh:mm*}] **Example:** `Router(cfg-call-home-profile)# subscribe-to-alert-group configuration periodic daily 12:00`	Subscribes this destination profile to the Configuration alert group. The Configuration alert group can be configured for periodic notification, as described in the "Periodic Notification" section on page 17.

	Command or Action	Purpose
Step 7	**subscribe-to-alert-group environment** [**severity** {**catastrophic** | **disaster** | **fatal** | **critical** | **major** | **minor** | **warning** | **notification** | **normal** | **debugging**}] **Example:** `Router(cfg-call-home-profile)# subscribe-to-alert-group environment severity major`	Subscribes this destination profile to the Environment alert group. The Environment alert group can be configured to filter messages based on severity, as described in the "Message Severity Threshold" section on page 17.
Step 8	**subscribe-to-alert-group inventory** [**periodic** {**daily** *hh:mm* | **monthly** *date hh:mm* | **weekly** *day hh:mm*}] **Example:** `Router(cfg-call-home-profile)# subscribe-to-alert-group inventory periodic monthly 1 12:00`	Subscribes this destination profile to the Inventory alert group. The Inventory alert group can be configured for periodic notification, as described in the "Periodic Notification" section on page 17.
Step 9	**subscribe-to-alert-group syslog** [**severity** {**catastrophic** | **disaster** | **fatal** | **critical** | **major** | **minor** | **warning** | **notification** | **normal** | **debugging**}] [**pattern** *string*] **Example:** `Router(cfg-call-home-profile)# subscribe-to-alert-group syslog severity major`	Subscribes this destination profile to the Syslog alert group. The Syslog alert group can be configured to filter messages based on severity, as described in the "Message Severity Threshold" section on page 17. You can specify a text pattern to be matched within each syslog message. If you configure a pattern, a Syslog alert group message is sent only if it contains the specified pattern and meets the severity threshold. If the pattern contains spaces, you must enclose it in quotes (""). You can specify up to five patterns for each destination profile.
Step 10	**subscribe-to-alert-group crash** **Example:** `Router(cfg-call-home-profile)# [no | default] subscribe-to-alert-group crash`	Subscribes to the Crash alert group in user profile. By default, TAC profile subscribes to the Crash alert group and cannot be unsubscribed.
Step 11	**subscribe-to-alert-group snapshot** [**periodic** {**daily** *hh:mm* | **hourly** *mm* | **interval** *mm* | **monthly** *date hh:mm* | **weekly** *day hh:mm*}] **Example:** `Router(cfg-call-home-profile)# subscribe-to-alert-group snapshot periodic daily 12:00`	Subscribes this destination profile to the Snapshot alert group. The Snapshot alert group can be configured for periodic notification, as described in the "Periodic Notification" section on page 17. By default, the Snapshot alert group has no command to run. You can add commands into the alert group, as described in the "Configuring Snapshot Command List" section on page 18. In doing so, the output of the commands added in the Snapshot alert group will be included in the snapshot message.
Step 12	**exit** **Example:** `Router(cfg-call-home-profile)# exit`	Exits the Call Home destination profile configuration submode.

Periodic Notification

When you subscribe a destination profile to the Configuration, Inventory, or Snapshot 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—Specifies the time of day to send, using an hour:minute format *hh:mm*, with a 24-hour clock (for example, 14:30).
- Weekly—Specifies 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—Specifies the numeric date, from 1 to 31, and the time of day, in the format *date hh:mm*.
- Interval—Specifies the interval at which the periodic message is sent, from 1 to 60 minutes.
- Hourly—Specifies the minute of the hour at which the periodic message is sent, from 0 to 59 minutes.

Note Hourly and by interval periodic notifications are available for the Snapshot alert group only.

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 level of severity of the message. Any message with a value lower than the destination profile specified threshold is not sent to the destination.

The severity threshold is configured using the keywords in Table 1 and ranges from catastrophic (level 9, highest level of urgency) to debugging (level 0, lowest level of urgency). If no severity threshold is configured for the Syslog or Environment alert groups, the default is debugging (level 0). The Configuration and Inventory alert groups do not allow severity configuration; severity is always set as normal.

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**	—	Network-wide catastrophic failure.
8	**disaster**	—	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.
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. **exit**

DETAILED STEPS

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

Configuring General E-Mail Options

To use the e-mail message transport, you must configure at least one Simple Mail Transfer Protocol (SMTP) e-mail server address. You can configure the from and reply-to e-mail addresses, and you can specify up to four backup e-mail servers.

Note the following guidelines when configuring general e-mail options:

- Backup e-mail 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 e-mail options, perform the following steps:

SUMMARY STEPS

1. **configure terminal**
2. **call-home**
3. **mail-server** {[*ipv4-address* | *ipv6-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:** `Router# configure terminal`	Enters configuration mode.
Step 2	**`call-home`** **Example:** `Router(config)# call-home`	Enters Call Home configuration submode.
Step 3	**`mail-server`** {[*`ipv4-address`* | *`ipv6-address`*] | *`name`*} **`priority`** *`number`* **Example:** `Router(cfg-call-home)# mail-server stmp.example.com priority 1`	Assigns an e-mail server address and its relative priority among configured e-mail servers. Provide either of these: • The e-mail server's IP address or • The e-mail server's fully qualified domain *name* (FQDN) of 64 characters or less. Assign a priority *number* between 1 (highest priority) and 100 (lowest priority).

	Command or Action	Purpose
Step 4	**sender from** *email-address* **Example:** `Router(cfg-call-home)# sender from username@example.com`	(Optional) Assigns the e-mail address that appears in the from field in Call Home e-mail messages. If no address is specified, the contact e-mail address is used.
Step 5	**sender reply-to** *email-address* **Example:** `Router(cfg-call-home)# sender reply-to username@example.com`	(Optional) Assigns the e-mail address that appears in the reply-to field in Call Home e-mail messages.
Step 6	**source-interface** *interface-name* **Example:** `Router(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 allows all HTTP clients on the device to use the same source interface.
Step 7	**source-ip-address** *ipv4/ipv6 address* **Example:** `Router(cfg-call-home)# source-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:** `Router(cfg-call-home)# vrf vpn1`	(Optional) Specifies the VRF instance to send call-home e-mail 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 to specify the VRF instance that will be used for all HTTP clients on the device.

Example

The following example shows the configuration of general e-mail parameters, including a primary and secondary e-mail server:

```
Router# configure terminal
Enter configuration commands, one per line. End with CNTL/Z.
Router(config)# call-home
Router(cfg-call-home)# mail-server smtp.example.com priority 1
Router(cfg-call-home)# mail-server 192.168.0.1 priority 2
Router(cfg-call-home)# sender from username@example.com
Router(cfg-call-home)# sender reply-to username@example.com
Router(cfg-call-home)# source-interface america
Router(cfg-call-home)# source-ip-address 209.165.200.231
Router(cfg-call-home)# vrf vpn2
Router(cfg-call-home)# exit
Router(config)#
```

Specifying Rate Limit for Sending Call Home Messages

To specify the rate limit for sending Call Home messages, perform the following steps:

SUMMARY STEPS

1. **configure terminal**
2. **call-home**
3. **rate-limit** *number*

DETAILED STEPS

	Command or Action	Purpose
Step 1	**`configure terminal`** **Example:** `Router# configure terminal`	Enters configuration mode.
Step 2	**`call-home`** **Example:** `Router(config)# call-home`	Enters Call Home configuration submode.
Step 3	**`rate-limit`** *number* **Example:** `Router(cfg-call-home)# rate-limit 40`	Specifies a limit on the number of messages sent per minute. • *number*—Range is 1 to 60. The default is 20.

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*} **port** *port-number*

DETAILED STEPS

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

Enabling AAA Authorization to Run IOS Commands for Call Home Messages

To enable AAA authorization to run 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:** `Router# configure terminal`	Enters configuration mode.
Step 2	**`call-home`** **Example:** `Router(config)# call-home`	Enters Call Home configuration submode.
Step 3	**`aaa-authorization`** **Example:** `Router(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:** `Router(cfg-call-home)# aaa-authorization username user`	Specifies the username for authorization. • **username** *username*—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:** `Router# configure terminal`	Enters configuration mode.
Step 2	**`call-home`** **Example:** `Router(config)# call-home`	Enters Call Home configuration submode.
Step 3	**`[no] syslog-throttling`** **Example:** `Router(cfg-call-home)# syslog-throttling`	Enables or disables call-home syslog message throttling and avoid 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:** `Router# configure terminal`	Enters configuration mode.
Step 2	**`call-home`** **Example:** `Router(config)# call-home`	Enters the Call Home configuration submode.
Step 3	**`data-privacy`** {**`level`** {**`normal`** | **`high`**} | **`hostname`**} **Example:** `Router(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. • **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.

Sending Call Home Communications Manually

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

- Sending a Call Home Test Message Manually, page 26
- Sending Call Home Alert Group Messages Manually, page 27
- Submitting Call Home Analysis and Report Requests, page 28
- Manually Sending Command Output Message for One Command or a Command List, page 29

Sending a Call Home Test Message Manually

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

To manually send a Call Home test message, perform the following step:

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:

- Only the snapshot, configuration, and inventory alert groups can 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 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.

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

SUMMARY STEPS

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

DETAILED STEPS

	Command or Action	Purpose
Step 1	**call-home send alert-group snapshot** [**profile** *name*] **Example:** `Router# call-home send alert-group snapshot profile profile1`	Sends a snapshot alert group message to one destination profile if specifed or to all subscribed destination profiles.
Step 2	**call-home send alert-group configuration** [**profile** *name*] **Example:** `Router# call-home send alert-group configuration profile profile1`	Sends a configuration alert group message to one destination profile if specified or to all subscribed destination profiles.
Step 3	**call-home send alert-group inventory** [**profile** *name*] **Example:** `Router# call-home send alert-group inventory profile profile1`	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

You can use the **call-home request** command to submit information about your system to Cisco to receive helpful analysis and report information specific to your system. You can request a variety of reports, including security alerts, known bugs, best practices, and 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 recipient profile does not need to be enabled for the call-home request. The profile should specify the e-mail address where the transport gateway is configured so that the request message can be forwarded to the Cisco TAC and the user 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 e-mail address of the registered user. If no *user-id* is specified, the response is sent to the contact e-mail address of the device.
- Based on the keyword specifying the type of report requested, the following information is returned:
  - **config-sanity**—Information on best practices as related to 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, 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, perform the following steps:

SUMMARY STEPS

1. **call-home request output-analysis** *"show-command"* [**profile** *name*] [**ccoid** *user-id*]
2. **call-home request** {**config-sanity** | **bugs-list** | **command-reference** | **product-advisory**} [**profile** *name*] [**ccoid** *user-id*]

DETAILED STEPS

	Command or Action	Purpose
Step 1	**call-home request output-analysis** *"show-command"* [**profile** *name*] [**ccoid** *user-id*] **Example:** `Router# 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**} [**profile** *name*] [**ccoid** *user-id*] **Example:** `Router# call-home request config-sanity profile TG`	Sends the output of a predetermined set of commands such as the **show running-config all**, **show version** or **show module** commands, for analysis. In addition, the **call home request product-advisory** subcommand includes all inventory alert group commands. The keyword specified after **request** 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 an IOS command or a list of IOS commands and send the command output through HTTP or e-mail protocol.

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 e-mail option is selected using the “email” keyword and an e-mail address is specified, the command output is sent to that address. If neither the e-mail 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 e-mail.
- If the HTTP option is specified, the CiscoTac-1 profile destination HTTP or HTTPS URL is used as the destination. The destination e-mail address can be specified so that Smart Call Home can forward the message to the e-mail address. The user must specify either the destination e-mail address or an SR number but they can also specify both.

To execute a command and send the command output, perform 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" email support@example.com msg-format xml`	Executes the CLI or CLI list and sends output via e-mail 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 e-mail address in long-text or XML format with the service request number in the subject. The e-mail address, the service request number, or both must be specified. The service request number is required if the e-mail 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 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 e-mail address. The e-mail 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 e-mail address is not specified.

Example

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

```
Router# 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:

```
Router# 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:

```
Router# call-home send "show version; show run" email callhome@cisco.com msg-format xml
```

The following example shows the command output sent in XML message format to the Cisco TAC backend server, with the SR number specified:

```
Router# call-home send "show version; show run" http tac-service-request 123456
```

The following example shows the command output sent to the Cisco TAC backend server through the HTTP protocol and forwarded to a user-specified email address:

```
Router# call-home send "show version; show run" http destination-email-address
user@company.com
```

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, perform the following:

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** [**detail** | **profile** *profile_name*]

DETAILED STEPS

	Command or Action	Purpose
Step 1	**show call-home** **Example:** Router# show call-home	Displays the Call Home configuration in summary.
Step 2	**show call-home detail** **Example:** Router# show call-home detail	Displays the Call Home configuration in detail.
Step 3	**show call-home alert-group** **Example:** Router# show call-home alert-group	Displays the available alert groups and their status.
Step 4	**show call-home mail-server status** **Example:** Router# show call-home mail-server status	Checks and displays the availability of the configured e-mail server(s).

	Command or Action	Purpose
Step 5	**show call-home profile** {**all** | *name*} **Example:** `Router# 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** [**detail** | **profile** *profile_name*] **Example:** `Router# show call-home statistics`	Displays the statistics of Call Home events.

Examples

Examples 1 to 7 show the sample output when using different options of the **show call-home** command.

Example 1 Call Home Information in Summary

```
Router# show call-home
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: GigabitEthernet0/0
    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
    environment              Enable  environmental info
    inventory                Enable  inventory info
    snapshot                 Enable  snapshot info
    syslog                   Enable  syslog info
```

```
Profiles:
    Profile Name: campus-noc
    Profile Name: CiscoTAC-1
Router#
```

Example 2 Call Home Information in Detail

```
Router# 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: GigabitEthernet0/0
    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
    environment              Enable  environmental 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
    environment               debug
    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
    environment               minor

    Syslog-Pattern            Severity
    ------------------------  ------------
    .*CALL_LOOP.*             debug
Router#
```

Example 3 Available Call Home Alert Groups

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

Example 4 E-Mail Server Status Information

```
Router# 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]
Router#
```

Example 5 Information for All Destination Profiles

```
Router# 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
    environment               debug
    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
    environment               minor

    Syslog-Pattern            Severity
    ------------------------  ------------
    .*CALL_LOOP.*             debug
Router#
```

Example 6 Information for a User-Defined Destination Profile

```
Router# 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
    environment               debug
    inventory                 normal

    Syslog-Pattern            Severity
    ------------------------  ------------
    .*CALL_LOOP.*             debug

Router#
```

Example 7 Call Home Statistics

```
Router# show call-home statistics
Message Types    Total                 Email                 HTTP
-------------   -------------------- -------------------- ------------------
Total Success   3                    3                    0
    Config      3                    3                    0
    Crash       0                    0                    0
    Environment 0                    0                    0
    Inventory   0                    0                    0
    Snapshot    0                    0                    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
    Crash       0                    0                    0
    Environment 0                    0                    0
    Inventory   0                    0                    0
    Snapshot    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
    Crash       0                    0                    0
    Environment 0                    0                    0
    Inventory   0                    0                    0
    Snapshot    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
    Crash       0                    0                    0
    Environment 0                    0                    0
    Inventory   0                    0                    0
    Snapshot    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: 2011-09-26 23:26:50 GMT-08:00
Router#
```

Default Settings

Table 2 lists the default Call Home settings.

Table 2 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	Debug
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 commands to execute when an event occurs. The command output is included in the transmitted message. Table 3 lists the trigger events included in each alert group, including the severity level of each event and the executed commands for the alert group.

Table 3 Call Home Alert Groups, Events, and Actions

Alert Group	Call Home Trigger Event	Syslog Event	Severity	Description and Commands Executed
Crash	SYSTEM_ CRASH	—	—	Events related to system crash. Commands executed: **show version** **show logging** **show region** **show diag** **show inventory** **show stack** **more crashinfo** (this command shows the crashinfo file content)
—	DSP_ MODULE_ CRASH	—	—	Crash events that occur on the PVDM3 DSP module. Commands executed: **show inventory** **show version** **show logging** **show voice dsp group all** **show voice dsp detailed** **show voice call summary** **show voice port summary** **show dspfarm all** **show diag**
—	TRACEBACK	—	—	Detects software traceback events. Commands executed: **show version** **show logging** **show region** **show stack**
Configuration	—	—	—	User-generated request for configuration or configuration change event. Commands executed: **show diag** **show inventory** **show running-config all** **show startup-config** **show version**

Table 3 Call Home Alert Groups, Events, and Actions (continued)

Alert Group	Call Home Trigger Event	Syslog Event	Severity	Description and Commands Executed
Environmental	—	—	—	Events related to power, fan, and environment sensing elements such as temperature alarms. Commands executed: **show diag** **show environment** **show environment all** **show inventory** **show logging**
—	—	SHUT	0	Environmental Monitor initiated shutdown.
—	—	ENVCRIT	2	Temperature or voltage measurement exceeded critical threshold.
—	—	BLOWER	3	Required number of fan trays is not present.
—	—	ENVWARN	4	Temperature or voltage measurement exceeded warning threshold.
—	—	RPSFAIL	4	Power supply may have a failed channel.
—	ENVM	PSCHANGE	6	Power supply name change.
—	—	PSLEV	6	Power supply state change.
—	—	PSOK	6	Power supply now appears to be working correctly.

Table 3 Call Home Alert Groups, Events, and Actions (continued)

Alert Group	Call Home Trigger Event	Syslog Event	Severity	Description and Commands Executed
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. Commands executed for all Inventory messages sent in anonymous mode and for Delta Inventory message sent in full registration mode: **show diag** **show version** **show inventory oid** **show environment all** **show ip traffic** **show license udi** **show license all** Commands executed for Full Inventory message sent in full registration mode: **show diag** **show version** **show inventory oid** **show environment all** **show license udi** **show license all** **show interfaces** **show file systems** **show flash: all** **show data-corruption** **show memory statistics** **show process memory sorted** **show process cpu sorted** **show process cpu history** **show license detail** **show license statistics** **show buffers** **show ip route** **show ip traffic** **show access-list** **show ip protocols** **show ip arp** **show cdp neighbors**
—	HARDWARE_ REMOVAL	REMCARD	6	Card removed from slot %d, interfaces disabled.
—	HARDWARE_ INSERTION	INSCARD	6	Card inserted in slot %d, interfaces administratively shut down.
Snapshot	—	—	—	Any IOS command configured under the Snapshot alert group configuration mode.

Table 3 Call Home Alert Groups, Events, and Actions (continued)

Alert Group	Call Home Trigger Event	Syslog Event	Severity	Description and Commands Executed
Syslog	—	—	—	Event logged to syslog. Commands executed: **show inventory** **show logging**
—	SYSLOG	LOG_EMERG	0	System is unusable.
—	SYSLOG	LOG_ALERT	1	Action must be taken immediately.
—	SYSLOG	LOG_CRIT	2	Critical conditions.
—	SYSLOG	LOG_ERR	3	Error conditions.
—	SYSLOG	LOG_WARNING	4	Warning conditions.
—	SYSLOG	LOG_NOTICE	5	Normal but signification condition.
—	SYSLOG	LOG_INFO	6	Informational.
—	SYSLOG	LOG_DEBUG	7	Debug-level messages.
Test	—	TEST	—	User-generated test message. Commands executed: **show diag** **show inventory** **show version**

Message Contents

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

- Table 4 shows the content fields of a short text message.
- Table 5 shows 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.
- Table 6 shows the inserted fields specific to a particular alert group message.
- Table 7 shows 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).
- Table 8 shows the inserted content fields for an inventory message.

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

- Sample Syslog Alert Notification in Long-Text Format, page 46
- Sample Syslog Alert Notification in XML Format, page 48

Table 4 Format for a Short Text Message

Data Item	Description
Device identification	Configured device name
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 5 Common Fields for All Long Text and XML Messages

Data Item (Plain Text and XML)	Description (Plain Text and XML)	Call-Home Message 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 on page 38.	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".	For long-text message only
Severity level	Severity level of message (see Table 1).	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@serial*. • *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: CISCO3845@C@12345678	CallHome/CustomerData/ ContractData/DeviceId
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 Cisco-supplied site ID or other data meaningful to alternate support service.	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@serial*. • *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: CISCO3845@C@12345678	For long text message only

Table 5 Common Fields for All Long Text and XML Messages (continued)

Data Item (Plain Text and XML)	Description (Plain Text and XML)	Call-Home Message Tag (XML 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
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”

Table 6 Inserted Fields Specific to a Particular Alert Group Message

The following fields may be repeated if multiple commands are executed for this alert group.		
Command output name	Exact name of the issued 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 (see Table 3).	/mml/attachments/attachment/atdata

Table 7 Inserted Fields for a Reactive or Proactive Event Message

Data Item (Plain Text and XML)	Description (Plain Text and XML)	Call-Home Message 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
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 8 Inserted Fields for an Inventory Event Message

Data Item (Plain Text and XML)	Description (Plain Text and XML)	Call-Home Message 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 Long-Text Format

The following example shows a Syslog alert notification in long-text format:

```
TimeStamp : 2009-07-18 16:06 GMT+00:00
Message Name : syslog
Message Type : Call Home
Message Group : reactive
Severity Level : 2
Device ID : CISCO3845@C@FHK0847F2HE
Customer ID : ExampleCorp
Contract ID : X1234
Site ID : ACD
Server ID : CISCO3845@C@FHK0847F2HE
Event Description : *Jul 18 16:06:08.775: %CLEAR-5-COUNTERS: Clear counter on all
interfaces by console
System Name : Router
Contact Email : abc@example.com
Contact Phone : +1-408-123-4567
Street Address : 1234 Any street, Any City, Any State 12345
Affected Chassis : CISCO3845
Affected Chassis Serial Number : FHK0847F2HE
Affected Chassis Part No : 73-8799-04
Affected Chassis Hardware Version : 1.0
Supervisor Software Version : 12.4(24.6.6)PIA12
Command Output Name : show logging
Attachment Type : command output
MIME Type : text/plain
Command Output Text :
Syslog logging: enabled (0 messages dropped, 4 messages rate-limited,
                0 flushes, 0 overruns, xml disabled, filtering disabled)

No Active Message Discriminator.



No Inactive Message Discriminator.


    Console logging: level debugging, 32 messages logged, xml disabled,
                     filtering disabled
    Monitor logging: level debugging, 0 messages logged, xml disabled,
                     filtering disabled
    Buffer logging:  level debugging, 32 messages logged, xml disabled,
                     filtering disabled
    Logging Exception size (4096 bytes)
    Count and timestamp logging messages: disabled
    Persistent logging: disabled

No active filter modules.

ESM: 0 messages dropped

    Trap logging: level informational, 35 message lines logged

Log Buffer (100000 bytes):

*Jul 18 16:04:29.803: %VPN_HW-6-INFO_LOC: Crypto engine: onboard 0  State changed to:
Initialized
*Jul 18 16:04:29.807: %VPN_HW-6-INFO_LOC: Crypto engine: onboard 0  State changed to:
Enabled
*Jul 18 16:04:31.255: %LINK-5-CHANGED: Interface GigabitEthernet0/0, changed state to
reset
```

```
*Jul 18 16:04:31.255: %LINK-5-CHANGED: Interface GigabitEthernet0/1, changed state to
reset
*Jul 18 16:04:31.255: %LINEPROTO-5-UPDOWN: Line protocol on Interface VoIP-Null0, changed
state to up
*Jul 18 16:04:31.259: %LINK-3-UPDOWN: Interface FastEthernet1/0, changed state to up
*Jul 18 16:04:31.259: %LINK-3-UPDOWN: Interface FastEthernet1/1, changed state to up
*Jul 18 16:04:31.259: %LINEPROTO-5-UPDOWN: Line protocol on Interface Onboard VPN, changed
state to up
*Jul 18 16:04:32.355: %LINEPROTO-5-UPDOWN: Line protocol on Interface GigabitEthernet0/0,
changed state to up
*Jul 18 16:04:32.355: %LINEPROTO-5-UPDOWN: Line protocol on Interface GigabitEthernet0/1,
changed state to up
*Jul 18 16:04:32.355: %LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet1/0,
changed state to down
*Jul 18 16:04:32.355: %LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet1/1,
changed state to down
*Jul 18 16:04:33.259: %LINK-3-UPDOWN: Interface GigabitEthernet0/0, changed state to up
*Jul 18 16:04:33.259: %LINK-3-UPDOWN: Interface GigabitEthernet0/1, changed state to up
*Jul 18 16:04:33.463: %SYS-5-CONFIG_I: Configured from memory by console
*Jul 18 16:04:33.979: %SYS-5-RESTART: System restarted --
Cisco IOS Software, 3800 Software (C3845-ADVENTERPRISEK9-M), Version 12.4(24.6.6)PIA12
EARLY DEPLOYMENT ENGINEERING WEEKLY BUILD, synced to V124_24_6_PI11I
Copyright (c) 1986-2009 by Cisco Systems, Inc.
Compiled Thu 16-Jul-09 04:49 by abc
*Jul 18 16:04:33.983: %SNMP-5-COLDSTART: SNMP agent on host Router is undergoing a cold
start
*Jul 18 16:04:34.139: %SYS-6-BOOTTIME: Time taken to reboot after reload =  134 seconds
*Jul 18 16:04:34.303: %CRYPTO-6-ISAKMP_ON_OFF: ISAKMP is OFF
*Jul 18 16:04:34.303: %CRYPTO-6-GDOI_ON_OFF: GDOI is OFF
*Jul 18 16:04:34.303: %CRYPTO-6-ISAKMP_ON_OFF: ISAKMP is OFF
*Jul 18 16:04:34.303: %CRYPTO-6-GDOI_ON_OFF: GDOI is OFF
*Jul 18 16:04:35.427: %LINK-5-CHANGED: Interface FastEthernet1/0, changed state to
administratively down
*Jul 18 16:04:35.435: %LINK-5-CHANGED: Interface FastEthernet1/1, changed state to
administratively down
*Jul 18 16:04:35.799: %LINK-5-CHANGED: Interface GigabitEthernet0/0, changed state to
reset
*Jul 18 16:04:35.895: %LINK-5-CHANGED: Interface GigabitEthernet0/1, changed state to
reset
*Jul 18 16:04:36.799: %LINEPROTO-5-UPDOWN: Line protocol on Interface GigabitEthernet0/0,
changed state to down
*Jul 18 16:04:36.895: %LINEPROTO-5-UPDOWN: Line protocol on Interface GigabitEthernet0/1,
changed state to down
*Jul 18 16:04:39.511: %LINK-3-UPDOWN: Interface GigabitEthernet0/0, changed state to up
*Jul 18 16:04:39.511: %LINK-3-UPDOWN: Interface GigabitEthernet0/1, changed state to up
*Jul 18 16:04:40.771: %LINEPROTO-5-UPDOWN: Line protocol on Interface GigabitEthernet0/0,
changed state to up
*Jul 18 16:04:40.771: %LINEPROTO-5-UPDOWN: Line protocol on Interface GigabitEthernet0/1,
changed state to up
Router#
Command Output Name : show inventory
Attachment Type : command output
MIME Type : text/plain
Command Output Text : NAME: "3845 chassis", DESCR: "3845 chassis"
PID: CISCO3845         , VID: V01 , SN: FHK0847F2HE

NAME: "c3845 Motherboard with Gigabit Ethernet on Slot 0", DESCR: "c3845 Motherboard with
Gigabit Ethernet"
PID: CISCO3845-MB      , VID: V01 , SN: FOC08441SRV

NAME: "WAN Interface Card - T1E1 or ATM (With GSHDSL-F module) on Slot 0 SubSlot 0",
DESCR: "WAN Interface Card - T1E1 or ATM (With GSHDSL-F module)"
PID:                   , VID:    , SN: FOC07511QGM
```

```
NAME: "FastEthernet/WAN on Slot 1", DESCR: "FastEthernet/WAN"
PID: NM-2FE2W=         , VID: 1.0, SN: JAD063904TQ


Router#
```

Sample Syslog Alert Notification in XML Format

The following example shows a 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>M4:FTX1217A18E:4E71C47C</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>2011-09-15 17:25:16 GMT+08:00</aml-block:CreationDate>
<aml-block:Builder>
<aml-block:Name></aml-block:Name>
<aml-block:Version>2.0</aml-block:Version>
</aml-block:Builder>
<aml-block:BlockGroup>
<aml-block:GroupId>G5:FTX1217A18E:4E71C47C</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>2011-09-15 17:25:15 GMT+08:00</ch:EventTime>
<ch:MessageDescription>*Sep 15 17:25:15.307 CST: %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>Cisco 2800 Series Routers</ch:Series>
</ch:Event>
<ch:CustomerData>
<ch:UserData>
<ch:Email>abc@example.com</ch:Email>
</ch:UserData>
<ch:ContractData>
<ch:CustomerId>ExampleCorp</ch:CustomerId>
<ch:SiteId>ACD</ch:SiteId>
<ch:ContractId>X1234</ch:ContractId>
<ch:DeviceId>CISCO2821@C@FTX1217A18E</ch:DeviceId>
```

```
</ch:ContractData>
<ch:SystemInfo>
<ch:Name>Router</ch:Name>
<ch:Contact></ch:Contact>
<ch:ContactEmail>abc@example.com</ch:ContactEmail>
<ch:ContactPhoneNumber>+1-408-123-4567</ch:ContactPhoneNumber>
<ch:StreetAddress>1234 Any street, Any City, Any State 12345</ch:StreetAddress>
</ch:SystemInfo>
<ch:CCOID></ch:CCOID>
</ch:CustomerData>
<ch:Device>
<rme:Chassis xmlns:rme="http://www.cisco.com/rme/4.0">
<rme:Model>CISCO2821</rme:Model>
<rme:HardwareVersion>1.0</rme:HardwareVersion>
<rme:SerialNumber>FTX1217A18E</rme:SerialNumber>
<rme:AdditionalInformation>
<rme:AD name="PartNumber" value="73-8853-05" />
<rme:AD name="SoftwareVersion" value="15.2(20110913:032356)143" />
<rme:AD name="SystemObjectId" value="1.3.6.1.4.1.9.1.577" />
<rme:AD name="SystemDescription" value="Cisco IOS Software, 2800 Software
(C2800NM-ADVENTERPRISEK9-M), Experimental Version 15.2(20110913:032356)
Copyright (c) 1986-2011 by Cisco Systems, Inc.
Compiled Tue 13-Sep-11 23:56 by abc" />
<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, 3 messages rate-limited, 0 flushes, 0
overruns, xml disabled, filtering disabled)

No Active Message Discriminator.



No Inactive Message Discriminator.


   Console logging: disabled
   Monitor logging: level debugging, 0 messages logged, xml disabled,
                    filtering disabled
   Buffer logging:  level debugging, 33 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, 36 message lines logged
       Logging Source-Interface:       VRF Name:

Log Buffer (256000 bytes):

*Sep 15 09:03:11.355: %GT96K_FEWAN-1-UNKNOWN_WIC: slot 0, wic card has an unknown id 64
*Sep 15 09:03:28.311: %VPN_HW-6-INFO_LOC: Crypto engine: onboard 0  State changed to:
Initialized
```

```
*Sep 15 09:03:28.315: %VPN_HW-6-INFO_LOC: Crypto engine: onboard 0  State changed to:
Enabled
*Sep 15 09:03:30.515: %LINEPROTO-5-UPDOWN: Line protocol on Interface VoIP-Null0, changed
state to up
*Sep 15 09:03:30.515: %LINK-3-UPDOWN: Interface GigabitEthernet0/0, changed state to up
*Sep 15 09:03:30.515: %LINK-3-UPDOWN: Interface GigabitEthernet0/1, changed state to up
*Sep 15 09:03:31.515: %LINEPROTO-5-UPDOWN: Line protocol on Interface GigabitEthernet0/0,
changed state to up
*Sep 15 09:03:31.515: %LINEPROTO-5-UPDOWN: Line protocol on Interface GigabitEthernet0/1,
changed state to up
*Sep 15 17:03:33.131 CST: %SYS-6-CLOCKUPDATE: System clock has been updated from 09:03:33
UTC Thu Sep 15 2011 to 17:03:33 CST Thu Sep 15 2011, configured from console by console.
*Sep 15 17:03:33.547 CST: %SYS-5-CONFIG_I: Configured from memory by console
*Sep 15 17:03:34.531 CST: %LINEPROTO-5-UPDOWN: Line protocol on Interface Loopback3,
changed state to up
*Sep 15 17:03:34.531 CST: %LINEPROTO-5-UPDOWN: Line protocol on Interface Loopback6,
changed state to up
*Sep 15 17:03:34.531 CST: %LINEPROTO-5-UPDOWN: Line protocol on Interface Loopback88,
changed state to up
*Sep 15 17:03:34.531 CST: %LINEPROTO-5-UPDOWN: Line protocol on Interface Loopback998,
changed state to up
*Sep 15 17:03:34.531 CST: %LINEPROTO-5-UPDOWN: Line protocol on Interface Loopback999,
changed state to up
*Sep 15 17:03:35.403 CST: %LINK-5-CHANGED: Interface Loopback100, changed state to
administratively down
*Sep 15 17:03:35.519 CST: %LINK-5-CHANGED: Interface GigabitEthernet0/1, changed state to
administratively down
*Sep 15 17:03:36.519 CST: %LINEPROTO-5-UPDOWN: Line protocol on Interface
GigabitEthernet0/1, changed state to down
*Sep 15 17:03:38.495 CST: %SYS-5-RESTART: System restarted --
Cisco IOS Software, 2800 Software (C2800NM-ADVENTERPRISEK9-M), Experimental Version
15.2(20110913:032356)
Copyright (c) 1986-2011 by Cisco Systems, Inc.
Compiled Tue 13-Sep-11 23:56 by abc
*Sep 15 17:03:38.495 CST: %SNMP-5-COLDSTART: SNMP agent on host Router is undergoing a
cold start
*Sep 15 17:03:38.707 CST: %SYS-6-BOOTTIME: Time taken to reboot after reload =  225
seconds
*Sep 15 17:03:38.951 CST: %CRYPTO-6-ISAKMP_ON_OFF: ISAKMP is OFF
*Sep 15 17:03:38.951 CST: %CRYPTO-6-GDOI_ON_OFF: GDOI is OFF
*Sep 15 17:03:38.951 CST: %CRYPTO-6-ISAKMP_ON_OFF: ISAKMP is OFF
*Sep 15 17:03:38.951 CST: %CRYPTO-6-GDOI_ON_OFF: GDOI is OFF
*Sep 15 17:12:02.219 CST: %SYS-5-CONFIG_I: Configured from console by console
*Sep 15 17:12:07.843 CST: %CLEAR-5-COUNTERS: Clear counter on all interfaces by console
*Sep 15 17:13:07.555 CST: %SYS-5-CONFIG_I: Configured from console by console
*Sep 15 17:13:14.583 CST: %CLEAR-5-COUNTERS: Clear counter on all interfaces by console
*Sep 15 17:21:43.987 CST: %CLEAR-5-COUNTERS: Clear counter on all interfaces by console
*Sep 15 17:23:37.947 CST: %SYS-5-CONFIG_I: Configured from console by console
*Sep 15 17:23:43.567 CST: %CLEAR-5-COUNTERS: Clear counter on all interfaces by console
*Sep 15 17:24:42.603 CST: %SYS-5-CONFIG_I: Configured from console by console
Router#]]></aml-block:Data>
</aml-block:Attachment>
<aml-block:Attachment type="inline">
<aml-block:Name>show inventory</aml-block:Name>
<aml-block:Data encoding="plain">
<![CDATA[show inventory
NAME: "2821 chassis", DESCR: "2821 chassis"
PID: CISCO2821         , VID: V04 , SN: FTX1217A18E


Router#]]></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	Document Title
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 proactive diagnostics and real-time alerts.	*Smart Call Home User Guide*

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/techsupport

Command Reference

For information about all Cisco IOS commands, use the Command Lookup Tool at http://tools.cisco.com/Support/CLILookup or the *Cisco IOS Master Command List, All Releases*, at http://www.cisco.com/en/US/docs/ios/mcl/allreleasemcl/all_book.html.

Feature Information for Call Home

Table 9 lists the release history for this feature for Cisco integated services routers.

Not all commands may be available in your Cisco IOS software release. For release information about a specific command, see the command reference documentation.

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

Note Table 9 lists only the Cisco IOS software release that introduced support for a given feature in a given Cisco IOS software release train. Unless noted otherwise, subsequent releases of that Cisco IOS software release train also support that feature.

Table 9 Feature Information for Call Home

Feature Name	Releases	Feature Information
Call Home	Cisco IOS Release 15.1(1)T	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. In Cisco IOS Release 15.1(1)T, support for this feature was added for Cisco integrated services routers.
Call Home Enhancements	Cisco IOS Release 15.2(2)T	Call Home enhancements allow crash and traceback reporting. The following features are also supported: • Snapshot alert group support • Call-home syslog message throttling • Configurable AAA authorization • HTTP proxy server support • Anonymous reporting • Data privacy setting • HTTP retry with downloadable certification bundle from Cisco.com • IPv6 support