Configuring Call Home

Call Home provides email-based notification of critical system events. A versatile range of message formats are available for optimal compatibility with pager services, standard email, or XML-based automated parsing applications.

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Note Cisco Autonotify is upgraded to a new capability called Smart Call Home. Smart Call Home has significant functionality improvement over Autonotify and is available across the Cisco product range. For detailed information on Smart Call Home, see the Smart Call Home page at this location: http://www.cisco.com/go/smartcall/ .

This chapter includes the following sections:

Information About Call Home

The Call Home feature provides message throttling capabilities. Periodic inventory messages, port syslog messages, and RMON alert messages are added to the list of deliverable Call Home messages. If required you can also use the Cisco Fabric Services application to distribute the Call Home configuration to all other switches in the fabric.

The Call Home service provides email-based notification of critical system events. A versatile range of message formats are available for optimal compatibility with pager services, standard email, or XML-based automated parsing applications.

Common features may include the following:

- Paging the network support engineer

- Emailing the Network Operations Center

- Raising a direct case with the Technical Assistance Center

The Call Home functionality is available directly through the Cisco MDS 9000 Series switches and the Cisco Nexus 5000 Series switches. It provides multiple Call Home messages, each with separate potential destinations. You can define your own destination profiles in addition to predefined profiles; you can configure up to 50 email addresses for each destination profile. Flexible message delivery and format options make it easy to integrate specific support requirements.

The Call Home feature offers the following advantages:

- Fixed set of predefined alerts for trigger events on the switch.

- Automatic execution and attachment of relevant command output.

Call Home Features

The Call Home functionality is available directly through the Cisco MDS 9000 Series switches and the Cisco Nexus 5000 Series switches. It provides multiple Call Home profiles (also referred to as *Call Home destination profiles*), each with separate potential destinations. You can define your own destination profiles in addition to predefined profiles.

The Call Home function can even leverage support from Cisco Systems or another support partner. Flexible message delivery and format options make it easy to integrate specific support requirements.

The Call Home feature offers the following advantages:

- Fixed set of predefined alerts and trigger events on the switch.

- Automatic execution and attachment of relevant command output.

- Multiple message format options:

    - Short Text—Suitable for pagers or printed reports.

    - Plain Text—Full formatted message information suitable for human reading.

    - XML—Matching readable format using Extensible Markup Language (XML) and document type definitions (DTDs) named Messaging Markup Language (MML). The MML DTD is published on the Cisco.com website at http://www.cisco.com/. The XML format enables communication with the Cisco Systems Technical Assistance Center.

- Multiple concurrent message destinations. You can configure up to 50 email destination addresses for each destination profile.

- Multiple message categories including system, environment, switching module hardware, supervisor module, hardware, inventory, syslog, RMON, and test.

- Secure messages 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 requires that your devices not be connected directly to the Internet.

Note   Beginning from the Cisco MDS Release 7.3(0)D1(1), all the alerts are classified under the type, Environment and sub type, Minor.

- SUP_FAILURE, POWER_SUPPY_FAILURE, LINECARD_FAILURE alerts are classified under the type, Environment and sub type, Major.

About Smart Call Home

Smart Call Home is a component of Cisco SMARTnet Service that offers proactive diagnostics, real-time alerts, and personalized web-based reports on select Cisco devices.

Smart Call Home provides fast resolution of system problems by analyzing Call Home messages sent from your devices and providing a direct notification path to Cisco customer support.

Smart Call Home offers the following features:

- Continuous device health monitoring and real-time diagnostics alerts.

- Analysis of Call Home messages from your device and where appropriate, automatic service request generation, routed to the appropriate TAC team, including detailed diagnostic information to speed problem resolution.

- Web-based access to Call Home messages and recommendations, inventory and configuration information for all Call Home devices. Provides access to associated Field Notices, Security Advisories and End-of-Life Information

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Table 1: Benefits of Smart Call Home Compared to Autonotify , on page 3 lists the benefits of Smart Call Home.

Table 1: Benefits of Smart Call Home Compared to Autonotify

Feature	Smart Call Home	Autonotify
Low touch registration	The registration process is considerably streamlined. Customers no longer need to know their device serial number or contract information. They can register devices without manual intervention from Cisco by sending a message from those devices. The procedures are outlined at www.cisco.com/go/smartcall.	Requires the customer to request Cisco to add each specific serial number to the database.
Recommendations	Smart Call Home provides recommendations for known issues including those for which SRs are raised and for which SRs are not appropriate but for which customers might want to still take action on.	Autonotify raises SRs for a set of failure scenarios but no recommendations are provided for these.
Device report	Device report includes full inventory and configuration details. Once available, the information in these reports will be mapped to field notices, PSIRTs, EoX notices, configuration best practices and bugs.	No.

Feature	Smart Call Home	Autonotify
History report	The history report is available to look up any message and its contents, including show commands, message processing, analysis results, recommendations and service request numbers for all messages sent over the past three months.	A basic version is available that does not include contents of message.
Network summary report	A report that provides a summary of the make-up of devices and modules in the customer network (for those devices registered with Smart Call home).	No.
Cisco device support	Device Support will be extended across the Cisco product range. See the supported products table at www.cisco.com/go/smartcall.	Deprecated in favor of Smart Call Home in October 2008.

Obtaining Smart Call Home

If you have a service contract directly with Cisco Systems, you can receive automatic case generation from the Technical Assistance Center by registering with the Smart Call Home service.

You need the following items to register:

- The SMARTnet contract number for your switch.

- Your email address

- Your Cisco.com ID

For detailed information on Smart Call Home, including quick start configuration and registration steps, see the Smart Call Home page at this location:

http://www.cisco.com/go/smartcall/

Call Home Destination Profiles

A destination profile contains the required delivery information for an alert notification. Destination profiles are typically configured by the network administrator.

Using alert groups you can select the set of Call Home alerts to be received by a destination profile (predefined or user defined). Alert groups are predefined subsets of Call Home alerts supported in all switches in the Cisco MDS 9000 Series and the Cisco Nexus 5000 Series. Different types of Call Home alerts are grouped into different alert groups depending on their type. You can associate one or more alert groups to each profile as required by your network.

Call Home Alert Groups

An alert group is a predefined subset of Call Home alerts supported in all switches in the Cisco MDS 9000 Series and Cisco Nexus 5000 Series. Alert groups allow you to select the set of Call Home alerts to be received by a destination profile (predefined or user-defined). A Call Home alert is sent to email destinations in a destination profile only if that Call Home alert belongs to one of the alert groups associated with that destination profile.

Using the predefined Call Home alert groups you can generate notification messages when certain events occur on the switch. You can customize predefined alert groups to execute additional **show** commands when specific events occur and to notify you of output other than from the predefined **show** commands.

Customized Alert Group Messages

An alert group is a predefined subset of Call Home alerts supported in all switches in the Cisco MDS 9000 Series and Cisco Nexus 5000 Series switches. Alert groups allow you to select the set of Call Home alerts to be received by a destination profile (predefined or user-defined). The predefined Call Home alert groups generate notification messages when certain events occur on the switch. You can customize predefined alert groups to execute additional show commands when specific events occur.

The output from these additional **show** commands is included in the notification message along with the output of the predefined **show** commands.

Call Home Message Level Feature

The Call Home message level feature allows you to filter messages based on their level of urgency. Each destination profile (predefined and user-defined) is associated with a Call Home message level threshold. Any message with a value lower than the urgency threshold is not sent. Call Home severity levels are not the same as system message logging severity levels.

Syslog-Based Alerts

You can configure the switch to send certain syslog messages as Call Home messages. The messages are sent based on the mapping between the destination profile and the alert group mapping, and on the severity level of the generated syslog message.

To receive a syslog-based Call Home alert, you must associate a destination profile with the syslog alert groups (currently there is only one syslog alert group—syslog-group-port) and configure the appropriate message level.

The syslog-group-port alert group selects syslog messages for the port facility. The Call Home application maps the syslog severity level to the corresponding Call Home severity level (see Table 2: Event Triggers , on page 8). For example, if you select level 5 for the Call Home message level, syslog messages at levels 0, 1, and 2 are included in the Call Home log.

Whenever a syslog message is generated, the Call Home application sends a Call Home message depending on the mapping between the destination profile and the alert group mapping and based on the severity level of the generated syslog message. To receive a syslog-based Call Home alert, you must associate a destination profile with the syslog alert groups (currently there is only one syslog alert group—syslog-group-port) and configure the appropriate message level (see Table 2: Event Triggers , on page 8).

Note   Call Home does not change the syslog message level in the message text. The syslog message texts in the Call Home log appear as they are described in the *Cisco MDS 9000 Series System Messages* Reference.

RMON-Based Alerts

You can configure the switch to send Call Home notifications corresponding to RMON alert triggers. All RMON-based Call Home messages have their message level set to NOTIFY (2). The RMON alert group is defined for all RMON-based Call Home alerts. To receive an RMON-based Call Home alert, you must associate a destination profile with the RMON alert group.

General EMail Options Using HTTPS Support

The HTTPS support for Call Home provides a transport method called HTTP. HTTPS support is used for a secure communication, and HTTP is used for nonsecure communication. You can configure an HTTP URL for the Call Home destination profile as a destination. The URL link can be from a secure server or nonsecure server. For a destination profile configured with the HTTP URL, the Call Home message is posted to the HTTP URL link.

Note The Call Home HTTP configuration can be distributed over CFS on the switches running NX-OS Release 4.2(1) and later. The Call Home HTTP configuration cannot be distributed to switches that support the nondistributable HTTP configuration. Switches running lower versions than NX-OS Release 4.2(1) and later will ignore the HTTP configuration.

Multiple SMTP Server Support

Cisco MDS NX-OS and Cisco NX-OS 5000 Series switches support multiple SMTP servers for Call Home. Each SMTP server has a priority configured between 1 and 100, with 1 being the highest priority and 100 being the lowest. If the priority is not specified, a default value of 50 is used.

You can configure up to five SMTP servers for Call Home. The servers are contacted based on their priority. The highest priority server is contacted first. If the message fails to be sent, the next server in the list is contacted until the limit is exhausted. If two servers have equal priority, the one that was configured earlier is contacted.

If a high-priority SMTP server fails, the other servers will be contacted. A time delay may occur while sending a message. The delay is minimal if the attempt to send the message through the first SMTP server is successful. The delay may increase depending on the number of unsuccessful attempts with different SMTP servers.

Note The new configuration process is not related to the old configuration. However, if the SMTP servers are configured using both the old and new schemes, the older configuration is of the highest priority.

Multiple SMTP servers can be configured on any MDS 9000 Series switch, Cisco Nexus 5000 Series switches, and Cisco Nexus 7000 Series switches running Release 5.0(1a) or later.

The new configuration will only be distributed to switches that have multiple SMTP servers. The older switches in the fabric will ignore the new configuration received over CFS.

In a mixed fabric that has CFS enabled, the switches running NX-OS Release 5.0 can configure new functionalities and distribute the new configuration to other switches with Release 5.0 in the fabric over CFS. However, if an existing switch running NX-OS Release 4.x upgrades to Release 5.0, the new configurations

will not be distributed to that switch as a CFS merge is not triggered on an upgrade. There are two options to upgrade:

- Apply new configuration only when all the switches in the fabric support them (Recommended option)

- Do an empty commit from an existing NX-OS Release 5.0 switch which has the new configuration

Periodic Inventory Notification

You can configure the switch to periodically send a message with an inventory of all software services currently enabled and running on the switch along with hardware inventory information. The inventory is modified each time the switch is restarted nondisruptively.

Duplicate Message Throttle

You can configure a throttling mechanism to limit the number of Call Home messages received for the same event. If the same message is sent multiple times from the switch within a short period of time, you may be swamped with a large number of duplicate messages.

Call Home Configuration Distribution

You can enable fabric distribution for all Cisco MDS 9000 Series switches and Cisco Nexus 5000 Series switches in the fabric. When you perform Call Home configurations, and distribution is enabled, that configuration is distributed to all the switches in the fabric. However, the switch priority and the Syscontact names are not distributed.

You automatically acquire a fabric-wide lock when you enter the first configuration command operation after you enable distribution in a switch. The Call Home application uses the effective and pending database model to store or commit the configuration changes. When you commit the configuration changes, the effective database is overwritten by the configuration changes in the pending database and all the switches in the fabric receive the same configuration. After making the configuration changes, you can choose to discard the changes by terminating the changes instead of committing them. In either case, the lock is released. See Using the CFS Infrastructure for more information on the CFS application.

Note The switch priority and the Syscontact name are not distributed.

Fabric Lock Override

If you have performed a Call Home task and have forgotten to release the lock by either committing or discarding the changes, an administrator can release the lock from any switch in the fabric. If the administrator performs this task, your changes to the pending database are discarded and the fabric lock is released.

Tip The changes are only available in the volatile directory and are subject to being discarded if the switch is restarted.

Clearing Call Home Name Server Database

When the Call Home name server database is full, a new entry cannot be added. The device is not allowed to come online. To clear the name server database, increase the database size or perform a cleanup by removing unused devices. A total of 20,000 name server entries are supported.

EMC Email Home Delayed Traps

DCNM-SAN can be configured to generate EMC Email Home XML email messages. In SAN-OS Release 3.x or earlier, DCNM-SAN listens to interface traps and generates EMC Email Home email messages. Link traps are generated when an interface goes to down from up or vice versa. For example, if there is a scheduled server reboot, the link goes down and DCNM-SAN generates an email notification.

Cisco NX-OS Release 4.1(3) provides the ability to generate a delayed trap so that the number of generated email messages is reduced. This method filters server reboots and avoids generating unnecessary EMC Email Home email messages. In NX-OS Release 4.1(3), users have the ability to select the current existing feature or this new delayed trap feature.

Event Triggers

This section discusses Call Home trigger events. Trigger events are divided into categories, with each category assigned CLI commands to execute when the event occurs. The command output is included in the transmitted message. Table 2: Event Triggers , on page 8 lists the trigger events.

Table 2: Event Triggers

Event	Alert Group	Event Name	Description	Call Home Message Level
Call Home	System and CISCO_TAC	SW_CRASH	A software process has crashed with a stateless restart, indicating an interruption of a service.	5
Call Home	System and CISCO_TAC	CRASH_PROC	A software process has crashed with a stateless restart, indicating an interruption of a service.	5
Call Home	System and CISCO_TAC	SW_SYSTEM_INCONSISTENT	Inconsistency detected in software or file system.	5
Call Home	Environmental and CISCO_TAC	TEMPERATURE_ALARM	Thermal sensor indicates temperature reached operating threshold.	6
	Environmental and CISCO_TAC	POWER_SUPPLY_FAILURE	Power supply failed.	6
	Environmental and CISCO_TAC	FAN_FAILURE	Cooling fan has failed.	5

Event	Alert Group	Event Name	Description	Call Home Message Level
Call Home	Line Card Hardware and CISCO_TAC	LINECARD_FAILURE	Line card hardware operation failed.	7
	Line Card Hardware and CISCO_TAC	POWER_UP_DIAGNOSTICS_FAILURE	Line card hardware failed power-up diagnostics.	7
Call Home	Line Card Hardware and CISCO_TAC	PORT_FAILURE	Hardware failure of interface port(s).	6
Call Home	Line Card Hardware, Supervisor Hardware, and CISCO_TAC	BOOTFLASH_FAILURE	Failure of boot compact flash card.	6
Call Home	Supervisor Hardware and CISCO_TAC	NVRAM_FAILURE	Hardware failure of NVRAM on supervisor hardware.	6
Call Home	Supervisor Hardware and CISCO_TAC	FREEDISK_FAILURE	Free disk space is below a threshold on supervisor hardware.	6
Call Home	Supervisor Hardware and CISCO_TAC	SUP_FAILURE	Supervisor hardware operation failed. **Note** When the active supervisor is removed, a switch over occurs. A call home notification for this event will not be sent.	7
		POWER_UP_DIAGNOSTICS_FAILURE	Supervisor hardware failed power-up diagnostics.	7
Call Home	Supervisor Hardware and CISCO_TAC	INBAND_FAILURE	Failure of in-band communications path.	7
Call Home	Supervisor Hardware and CISCO_TAC	EOBC_FAILURE	Ethernet out-of-band channel communications failure.	6
Call Home	Supervisor Hardware and CISCO_TAC	MGMT_PORT_FAILURE	Hardware failure of management Ethernet port.	5
	License	LICENSE_VIOLATION	Feature in use is not licensed, and are turned off after grace period expiration.	6

Event	Alert Group	Event Name	Description	Call Home Message Level
Inventory	Inventory and CISCO_TAC	COLD_BOOT	Switch is powered up and reset to a cold boot sequence.	2
		HARDWARE_INSERTION	New piece of hardware inserted into the chassis.	2
		HARDWARE_REMOVAL	Hardware removed from the chassis.	2
Test	Test and CISCO_TAC	TEST	User generated test.	2
Port syslog	Syslog-group-port	SYSLOG_ALERT	Syslog messages corresponding to the port facility.	2
RMON	RMON	RMON_ALERT	RMON alert trigger messages.	2

Call Home Message Levels

Table 3: Event Categories and Executed Commands

Event Category	Description	Executed Commands
System show module show version show tech-support platform show tech-support sysmgr show hardware show sprom all	Events generated by failure of a software system that is critical to unit operation.	**show tech-supportshow system redundancy status**
Environmental show module show version show environment show logging logfile | tail -n 200	Events related to power, fan, and environment sensing elements such as temperature alarms.	**show moduleshow environment**

Event Category	Description	Executed Commands
Line Card Hardware show module show version show tech-support platform show tech-support sysmgr show hardware show sprom all	Events related to standard or intelligent line card hardware.	**show tech-support**
Supervisor Hardware show module show version show tech-support platform show tech-support sysmgr show hardware show sprom all	Events related to supervisor modules.	**show tech-support**
Inventory show module show version show hardware show inventory show system uptime show sprom all show license usage	Inventory status is 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.	**show version**
Test show module show version	User generated test message.	**show version**

Call Home messages (sent for syslog alert groups) have the syslog severity level mapped to the Call Home message level (see the Syslog-Based Alerts, on page 5).

This section discusses the severity levels for a Call Home message when using one or more switches in the Cisco MDS 9000 Series and the Cisco Nexus 5000 Series. Call Home message levels are preassigned per event type.

Severity levels range from 0 to 9, with 9 having the highest urgency. Each syslog level has keywords and a corresponding syslog level as listed in Table 4: Severity and Syslog Level Mapping , on page 12.

Note Call Home does not change the syslog message level in the message text. The syslog message texts in the Call Home log appear as they are described in the *Cisco MDS 9000 Series System Messages* Reference.

Note Call Home severity levels are not the same as system message logging severity levels (see the *Cisco MDS 9000 Series System Messages* Reference).

Table 4: Severity and Syslog Level Mapping

Call Home Level	Keyword Used	Syslog Level	Description
Catastrophic (9)	**Catastrophic**	N/A	Network wide catastrophic failure.
Disaster (8)	**Disaster**	N/A	Significant network impact.
Fatal (7)	**Fatal**	Emergency (0)	System is unusable.
Critical (6)	**Critical**	Alert (1)	Critical conditions, immediate attention needed.
Major (5)	**Major**	Critical (2)	Major conditions.
Minor (4)	**Minor**	Error (3)	Minor conditions.
Warning (3)	**Warning**	Warning (4)	Warning conditions.
Notify (2)	**Notification**	Notice (5)	Basic notification and informational messages. Possibly independently insignificant.
Normal (1)	**Normal**	Information (6)	Normal event signifying return to normal state.
Debug (0)	**Debugging**	Debug (7)	Debugging messages.

Message Contents

The following contact information can be configured on the switch:

- Name of the contact person
- Phone number of the contact person
- Email address of the contact person
- Mailing address to which replacement parts must be shipped, if required
- Site ID of the network where the site is deployed
- Contract ID to identify the service contract of the customer with the service provider

Table 5: Short Text Messages , on page 13 describes the short text formatting option for all message types.

Table 5: Short Text Messages

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 system message

Table 6: Reactive Event Message Format , on page 13, Table 7: Inventory Event Message Format , on page 16, and Table 8: User-Generated Test Message Format , on page 18 display the information contained in plain text and XML messages.

Table 6: Reactive Event Message Format

Data Item (Plain text and XML)	Description(Plain text and XML)	XML Tag (XML only)
Time stamp	Date and time stamp of event in ISO time notation: *YYYY-MM-DD*T*HH:MM:SS*. **Note** The time zone or daylight savings time (DST) offset from UTC has already been added or subtracted. T is the hardcoded limiter for the time.	/mml/header/time - ch:EventTime
Message name	Name of message. Specific event names are listed in the Event Triggers, on page 8.	/mml/header/name
Message type	Specifically "Call Home."	/mml/header/type - ch:Type
Message group	Specifically "reactive."	/mml/header/group
Severity level	Severity level of message (see Table 4: Severity and Syslog Level Mapping , on page 12).	/mml/header/level - aml-block:Severity
Source ID	Product type for routing.	/mml/header/source - ch:Series

Data Item (Plain text and XML)	Description(Plain text and XML)	XML Tag (XML only)
Device ID	Unique device identifier (UDI) for end device generating message. This field should empty if the message is non-specific to a fabric switch. Format is *type@Sid@serial*, where: • *type* is the product model number from backplane SEEPROM. • @ 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: DS-C9509@C@12345678	/mml/ header/deviceId
Customer ID	Optional user-configurable field used for contract info or other ID by any support service.	/mml/header/customerID - ch:CustomerId
Contract ID	Optional user-configurable field used for contract info or other ID by any support service.	/mml/header/contractId - ch:ContractId>
Site ID	Optional user-configurable field used for Cisco-supplied site ID or other data meaningful to alternate support service.	/mml/header/siterId - ch:SiteId
Server ID	If the message is generated from the fabric switch, it is the unique device identifier (UDI) of the switch. Format is *type@Sid@serial*, where: • *type* is the product model number from backplane SEEPROM. • @ 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: DS-C9509@C@12345678	/mml/header/serverId - -blank-
Message description	Short text describing the error.	/mml/body/msgDesc - ch:MessageDescription
Device name	Node that experienced the event. This is the host name of the device.	/mml/body/sysName - ch:SystemInfo/Name
Contact name	Name of person to contact for issues associated with the node experiencing the event.	/mml/body/sysContact - ch:SystemInfo/Contact

Data Item (Plain text and XML)	Description(Plain text and XML)	XML Tag (XML only)
Contact email	Email address of person identified as contact for this unit.	/mml/body/sysContacte-mail - ch:SystemInfo/Contact email
Contact phone number	Phone number of the person identified as the contact for this unit.	/mml/body/sysContactPhoneNumber - ch:SystemInfo/ContactPhoneNumber
Street address	Optional field containing street address for RMA part shipments associated with this unit.	/mml/body/sysStreetAddress - ch:SystemInfo/StreetAddress
Model name	Model name of the switch. This is the specific model as part of a product Series name.	/mml/body/chassis/name - rme:Chassis/Model
Serial number	Chassis serial number of the unit.	/mml/body/chassis/serialNo - rme:Chassis/SerialNumber
Chassis part number	Top assembly number of the chassis.	/mml/body/fru/partNo - rme:chassis/Card/PartNumber
Chassis hardware version	Hardware version of chassis.	/mml/body/chassis/hwVersion - rme:Chassis/HardwareVersion
Supervisor module software version	Top level software version.	/mml/body/fru/swVersion - rme:chassis/Card/SoftwareIdentity
Affected FRU name	Name of the affected FRU generating the event message.	/mml/body/fru/name - rme:chassis/Card/Model
Affected FRU serial number	Serial number of affected FRU.	/mml/body/fru/serialNo - rme:chassis/Card/SerialNumber
Affected FRU part number	Part number of affected FRU.	/mml/body/fru/partNo - rme:chassis/Card/PartNumber
FRU slot	Slot number of FRU generating the event message.	/mml/body/fru/slot - rme:chassis/Card/LocationWithinContainer
FRU hardware version	Hardware version of affected FRU.	/mml/body/fru/hwVersion - rme:chassis/Card/SoftwareIdentity
FRU software version	Software version(s) running on affected FRU.	/mml/body/fru/swVersion - rme:chassis/Card/SoftwareIdentity
Command output name	The exact name of the issued command.	/mml/attachments/attachment/name - aml-block:Attachment/Name
Attachment type	Specifically command output.	/mml/attachments/attachment/type - aml-block:Attachment type
MIME type	Normally text or plain or encoding type.	/mml/attachments/attachment/mime - aml-block:Attachment/Data encoding

Data Item (Plain text and XML)	Description(Plain text and XML)	XML Tag (XML only)
Command output text	Output of command automatically executed Table 3: Event Categories and Executed Commands , on page 10).	/mml/attachments/attachment/atdata - aml-block:Attachment/Data

Table 7: Inventory Event Message Format

Data Item(Plain text and XML)	Description(Plain text and XML)	XML Tag(XML only)
Time stamp	Date and time stamp of event in ISO time notation: *YYYY-MM-DD*T*HH:MM:SS*. **Note** The time zone or daylight savings time (DST) offset from UTC has already been added or subtracted. T is the hardcoded limiter for the time.	/mml/header/time - ch:EventTime
Message name	Name of message. Specifically "Inventory Update" Specific event names are listed in the Event Triggers, on page 8.	/mml/header/name
Message type	Specifically "Inventory Update."	/mml/header/type - ch-inv:Type
Message group	Specifically "proactive."	/mml/header/group
Severity level	Severity level of inventory event is level 2 (see Table 4: Severity and Syslog Level Mapping , on page 12).	/mml/header/level - aml-block:Severity
Source ID	Product type for routing at Cisco. Specifically "MDS 9000."	/mml/header/source - ch-inv:Series
Device ID	Unique Device Identifier (UDI) for end device generating message. This field should empty if the message is non-specific to a fabric switch. Format is *type@Sid@serial*, where: • *type* is the product model number from backplane SEEPROM. • @ 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: DS-C9509@C@12345678	/mml/ header /deviceId
Customer ID	Optional user-configurable field used for contact info or other ID by any support service.	/mml/header/customerID - ch-inv:CustomerId

Data Item(Plain text and XML)	Description(Plain text and XML)	XML Tag(XML only)
Contract ID	Optional user-configurable field used for contact info or other ID by any support service.	/mml/header/contractId - ch-inv:ContractId>
Site ID	Optional user-configurable field, can be used for Cisco-supplied site ID or other data meaningful to alternate support service.	/mml/header/siterId - ch-inv:SiteId

Server ID	If the message is generated from the fabric switch, it is the Unique device identifier (UDI) of the switch.
	
	Format is *type@Sid@seria* l, where:
	
	  • *type* is the product model number from backplane SEEPROM.
	
	  • @ 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: DS-C9509@C@12345678
		/mml/header/serverId - -blank-

Message description	Short text describing the error.	/mml/body/msgDesc - ch-inv:MessageDescription
Device name	Node that experienced the event.	/mml/body/sysName - ch-inv:SystemInfo/Name
Contact name	Name of person to contact for issues associated with the node experiencing the event.	/mml/body/sysContact - ch-inv:SystemInfo/Contact
Contact email	Email address of person identified as contact for this unit.	/mml/body/sysContacte-mail - ch-inv:SystemInfo/Contact email
Contact phone number	Phone number of the person identified as the contact for this unit.	/mml/body/sysContactPhoneNumber - ch-inv:SystemInfo/ContactPhoneNumber
Street address	Optional field containing street address for RMA part shipments associated with this unit.	/mml/body/sysStreetAddress - ch-inv:SystemInfo/StreetAddress
Model name	Model name of the unit. This is the specific model as part of a product Series name.	/mml/body/chassis/name - rme:Chassis/Model
Serial number	Chassis serial number of the unit.	/mml/body/chassis/serialNo - rme:Chassis/SerialNumber
Chassis part number	Top assembly number of the chassis.	/mml/body/fru/partNo - rme:chassis/Card/PartNumber
Chassis hardware version	Hardware version of chassis.	/mml/body/fru/hwVersion - rme:chassis/Card/SoftwareIdentity

Data Item(Plain text and XML)	Description(Plain text and XML)	XML Tag(XML only)
Supervisor module software version	Top level software version.	/mml/body/fru/swVersion - rme:chassis/Card/SoftwareIdentity
FRU name	Name of the affected FRU generating the event message.	/mml/body/fru/name - rme:chassis/Card/Model
FRU s/n	Serial number of FRU.	/mml/body/fru/serialNo - rme:chassis/Card/SerialNumber
FRU part number	Part number of FRU.	/mml/body/fru/partNo - rme:chassis/Card/PartNumber
FRU slot	Slot number of FRU.	/mml/body/fru/slot - rme:chassis/Card/LocationWithinContainer
FRU hardware version	Hardware version of FRU.	/mml/body/fru/hwVersion - rme:chassis/Card/SoftwareIdentity
FRU software version	Software version(s) running on FRU.	/mml/body/fru/swVersion - rme:chassis/Card/SoftwareIdentity
Command output name	The exact name of the issued command.	/mml/attachments/attachment/name - aml-block:Attachment/Name
Attachment type	Specifically command output.	/mml/attachments/attachment/type - aml-block:Attachment type
MIME type	Normally text or plain or encoding type.	/mml/attachments/attachment/mime - aml-block:Attachment/Data encoding
Command output text	Output of command automatically executed after event categories (see Event Triggers, on page 8).	/mml/attachments/attachment/atdata - aml-block:Attachment/Data

Table 8: User-Generated Test Message Format

Data Item (Plain text and XML)	Description(Plain text and XML)	XML Tag(XML only)
Time stamp	Date and time stamp of event in ISO time notation: *YYYY-MM-DD*T*HH:MM:SS*. **Note** The time zone or daylight savings time (DST) offset from UTC has already been added or subtracted. T is the hardcoded limiter for the time.	/mml/header/time - ch:EventTime
Message name	Name of message. Specifically test message for test type message. Specific event names listed in the Event Triggers, on page 8).	/mml/header/name
Message type	Specifically "Test Call Home."	/mml/header/type - ch:Type

Data Item (Plain text and XML)	Description(Plain text and XML)	XML Tag(XML only)
Message group	This field should be ignored by the receiving Call Home processing application, but may be populated with either "proactive" or "reactive."	/mml/header/group
Severity level	Severity level of message, test Call Home message (see Table 4: Severity and Syslog Level Mapping , on page 12).	/mml/header/level - aml-block:Severity
Source ID	Product type for routing.	/mml/header/source - ch:Series
Device ID	Unique device identifier (UDI) for end device generating message. This field should empty if the message is nonspecific to a fabric switch. Format is $type@Sid@serial$, where: • *type* is the product model number from backplane SEEPROM. • *@* 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: DS-C9509@C@12345678	/mml/ header /deviceId
Customer ID	Optional user-configurable field used for contract info or other ID by any support service.	/mml/header/customerID - ch:CustomerId
Contract ID	Optional user-configurable field used for contract info or other ID by any support service.	/mml/header/contractId - ch:ContractId
Site ID	Optional user-configurable field used for Cisco-supplied site ID or other data meaningful to alternate support service.	/mml/header/siterId - ch:SiteId
Server ID	If the message is generated from the fabric switch, it is the Unique device identifier (UDI) of the switch. Format is $type@Sid@serial$, where: • *type* is the product model number from backplane SEEPROM. • *@* 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: "DS-C9509@C@12345678	/mml/header/serverId - -blank-
Message description	Short text describing the error.	/mml/body/msgDesc - ch:MessageDescription

Data Item (Plain text and XML)	Description(Plain text and XML)	XML Tag(XML only)
Device name	Switch that experienced the event.	/mml/body/sysName - ch:SystemInfo/Name
Contact name	Name of person to contact for issues associated with the node experiencing the event.	/mml/body/sysContact - ch:SystemInfo/Contact
Contact email	Email address of person identified as contact for this unit.	/mml/body/sysContacte-mail - ch:SystemInfo/Contact email
Contact phone number	Phone number of the person identified as the contact for this unit.	/mml/body/sysContactPhoneNumber - ch:SystemInfo/ContactPhoneNumber
Street address	Optional field containing street address for RMA part shipments associated with this unit.	/mml/body/sysStreetAddress - ch:SystemInfo/StreetAddress
Model name	Model name of the switch. This is the specific model as part of a product Series name.	/mml/body/chassis/name - rme:Chassis/Model
Serial number	Chassis serial number of the unit.	/mml/body/chassis/serialNo - rme:Chassis/SerialNumber
Chassis part number	Top assembly number of the chassis. For example, 800-xxx-xxxx.	/mml/body/fru/partNo - rme:chassis/Card/PartNumber
Command output text	Output of command automatically executed after event categories listed in Table 3: Event Categories and Executed Commands , on page 10.	/mml/attachments/attachment/atdata - aml-block:Attachment/Data
MIME type	Normally text or plain or encoding type.	/mml/attachments/attachment/mime - aml-block:Attachment/Data encoding
Attachment type	Specifically command output.	/mml/attachments/attachment/type - aml-block:Attachment type
Command output name	The exact name of the issued command.	/mml/attachments/attachment/name - aml-block:Attachment/Name

Guidelines and Limitations

Call Home Database Merger Guidelines

When merging two Call Home databases, follow these guidelines:

- Be aware that the merged database contains the following information:

  - A superset of all the destination profiles from the dominant and subordinate switches that take part in the merge protocol.

• The email addresses and alert groups for the destination profiles.

• Other configuration information (for example, message throttling, periodic inventory) from the switch that existed in the dominant switch before the merge.

See the CFS Merge Support for detailed concepts.

Call Home Configuration Guidelines

When configuring Call Home, follow these guidelines:

• An email server and at least one destination profile (predefined or user-defined) must be configured. The destination profiles used depends on whether the receiving entity is a pager, email, or automated service such as Cisco Smart Call Home.

• Switches can forward events (SNMP traps/informs) up to 10 destinations.

• The contact name (SNMP server contact), phone, and street address information must be configured before Call Home is enabled. This configuration is required to determine the origin of messages received.

• The Cisco MDS 9000 Series switch and the Cisco Nexus 5000 Series switch must have IP connectivity to an email server.

• If Cisco Smart Call Home is used, an active service contract must cover the device being configured.

Default Settings

Table 9: Default Call Home Default Settings , on page 21 lists the default Call Home settings.

Table 9: Default Call Home Default Settings

Parameters	Default
Destination message size for a message sent in full text format.	500,000
Destination message size for a message sent in XML format.	500,000
Destination message size for a message sent in short text format.	4000
DNS or IP address of the SMTP server to reach the server if no port is specified.	25
Alert group association with profile.	All
Format type.	XML
Call Home message level.	0 (zero)
HTTP proxy server use.	Disabled and no proxy server configured.
HTTP proxy server message size for full text destination.	1 MB

Parameters	Default
HTTP proxy server message size for XML.	1 MB

Configuring Call Home

Task Flow for Configuring Call Home

Follow these steps to configure Call Home:

Procedure

Step 1	Configure contact information.
Step 2	Enable or disable Call Home.
Step 3	Configure destination profiles.
Step 4	Associate one or more alert groups to each profile as required by your network. Customize the alert groups, if desired.
Step 5	Configure email options.
Step 6	Test Call Home messages.

Configuring Contact Information

Switch priority is specific to each switch in the fabric. This priority is used by the operations personnel or TAC support personnel to decide which Call Home message they should respond to first. You can prioritize Call Home alerts of the same severity from each switch.

To assign the contact information, follow these steps:

Before you begin

Each switch must include email, phone, and street address information. You can optionally include the contract ID, customer ID, site ID, and switch priority information.

Procedure

Step 1 Enter configuration mode:

switch# **configure terminal**

Step 2 Configure the SNMP contact name:

switch(config)# **snmp-server contact personname@companyname.com**

Step 3 Enter the Call Home configuration submode:

switch(config)# **callhome**

switch(config-callhome)#

Step 4 Assign the customer's email address. Up to 128 alphanumeric characters are accepted in email address format:

switch(config-callhome)# **email-contact username@company.com**

Note You can use any valid email address. You cannot use spaces.

Step 5 Assign the customer's phone number. Up to 20 alphanumeric characters are accepted in international format:

switch(config-callhome)# **phone-contact +1-800-123-4567**

Note You cannot use spaces. Be sure to use the + prefix before the number.

Step 6 Assign the customer's street address where the equipment is located. Up to 256 alphanumeric characters are accepted in free format:

switch(config-callhome)# **streetaddress 1234 Picaboo Street, Any city, Any state, 12345**

Step 7 Assign the switch priority, with 0 being the highest priority and 7 the lowest:

switch(config-callhome)# **switch-priority 0**

Tip Use this field to create a hierarchical management structure.

Step 8 (Optional) Identify the customer ID:

switch(config-callhome)# **customer-id Customer1234**

Up to 256 alphanumeric characters are accepted in free format.

Step 9 (Optional) Identify the customer site ID:

switch(config-callhome)# **site-id Site1ManhattanNY**

Up to 256 alphanumeric characters are accepted in free format.

Step 10 Assign the customer ID for the switch:

switch(config-callhome)# **contract-id Company1234**

Up to 64 alphanumeric characters are accepted in free format.

Configuring Contact Information Using DCNM-SAN

To assign the contact information using DCNM-SAN, follow these steps:

Procedure

Step 1 Expand **Events** and select **Call Home** from the Physical Attributes pane.

You see the Call Home tabs in the Information pane.

Step 2   In Device Manager, click **Admin** > **Events** > **Call Home**.

Step 3   Click the **General** tab, then assign contact information and enable the Call Home feature. Call Home is not enabled by default. You must enter an email address that identifies the source of Call Home notifications.

Step 4   Click the **Destination(s)** tab to configure the destination email addresses for Call Home notifications. You can identify one or more email addresses that will receive Call Home notifications.

Note   Switches can forward events (SNMP traps/informs) up to 10 destinations.

a.   Click the **Create** tab to create a new destination. You will see the create destination window.

b.   Enter the profile name, ID, and type of destination. You can select email or http in the Type field.

If you select email, you can enter the email address in the EmailAddress field. The HttpUrl field is disabled.

If you select http, you can enter the HTTP URL in the HttpUrl field. The EmailAddress field is disabled.

c.   Click **Create** to complete the destination profile creation.

Step 5   Click the **e-mail Setup** tab to identify the SMTP server. Identify a message server to which your switch has access. This message server will forward the Call Home notifications to the destinations.

Step 6   In DCNM-SAN, click the **Apply Changes** icon. In Device Manager, click **Apply**.

Enabling Call Home Function

Once you have configured the contact information, you must enable the Call Home function.

To enable the Call Home function, follow these steps:

Procedure

Step 1   Enter configuration mode:

switch# **configure terminal**

Step 2   Enter Call Home configuration submode:

switch(config)# **callhome**

Step 3   Enable the Call Home function:

switch(config-callhome)# **enable**

Call Home enabled successfully

Step 4   (Optional) Disable the Call Home function:

switch(config-callhome)# **disable**

Note   Even if Call Home is disabled, basic information for each Call Home event is sent.

When you disable the Call Home function, all input events are ignored.

Enabling Call Home Function Using DCNM-SAN

To enable the Call Home function using DCNM-SAN, follow these steps:

Procedure

Step 1	Select a switch in the Fabric pane.
Step 2	Expand **Events** and select **Call Home** in the Physical Attributes pane.
	You see the Call Home information in the Information pane.
Step 3	Click the **Control** tab.
Step 4	Select a switch in the information pane.
Step 5	Check the **Duplicate Message Throttle** check box.
Step 6	Click the **Apply Changes** icon.

Configuring a Destination Profile

A destination profile contains the required delivery information for an alert notification. Destination profiles are typically configured by the network administrator. You can configure the following attributes for a destination profile:

- Profile name—A string that uniquely identifies each user-defined destination profile and is limited to 32 alphanumeric characters. The format options for a user-defined destination profile are full-txt, short-txt, or XML (default).

- Destination address—The actual address, pertinent to the transport mechanism, to which the alert should be sent.

- Message formatting—The message format used for sending the alert (full text, short text, or XML).

Note If you use the Cisco Smart Call Home service, the XML destination profile is required.

To configure predefined destination profile messaging options, follow these steps:

Note Steps 3, 4, and 5 in this procedure can be skipped or configured in any order.

Before you begin

At least one destination profile is required. You can configure multiple destination profiles of one or more types. You can use one of the predefined destination profiles or define a desired profile. If you define a new profile, you must assign a profile name.

Procedure

Step 1 Enter configuration mode:

switch# **configure terminal**

Step 2 Enter the Call Home configuration submode:

switch(config)# **callhome**

switch(config-callhome)#

Step 3 Configure an email address or maximum destination message size for the predefined full-txt-destination profile:

switch(config-callhome)# **destination-profile full-txt-destination** {**email-addr** *email-address* | **message-size** *msg-size-in-bytes*}

The email addresses in this destination profile receives messages in full-txt format. The full-text format provides the complete, detailed explanation of the failure.

> **Tip** Use a standard email address that does not have any text size restrictions.

The valid range is 0 to 1,000,000 bytes and the default is 500,000. A value of 0 implies that a message of any size can be sent.

> **Note** The maximum size of each individual attachment inside the message is 250,000 bytes. If any attachment is more than this maximum size, then the output captured in the attachment will be truncated.

Step 4 Configure an email address or maximum destination message size for the predefined short-txt-destination profile:

switch(config-callhome)# **destination-profile short-txt-destination** {**email-addr** *email-address* | **message-size** *msg-size-in-bytes*}

The email addresses in this destination profile receive messages in short-txt format. This format provides the basic explanation of the failure in the Call Home message.

> **Tip** Use a pager-related email address for this option.

The valid range is 0 to 1,000,000 bytes and the default is 4000. A value of 0 implies that a message of any size can be sent.

> **Note** The maximum size of each individual attachment inside the message is 250,000 bytes. If any attachment is more than this maximum size, then the output captured in the attachment will be truncated.

Step 5 Configure an email address or maximum destination message size for the predefined XML-destination profile:

switch(config-callhome)# **destination-profile XML-destination** {**email-addr** *email-address* | **message-size** *msg-size-in-bytes*}

The email addresses in this destination-profile receives messages in XML format. This format provides information that is compatible with Cisco Systems TAC support.

Tip   Do not add a pager-related email address to this destination profile because of the large message size.

The valid range is 0 to 1,000,000 bytes and the default is 500,000. A value of 0 implies that a message of any size can be sent.

Note   The maximum size of each individual attachment inside the message is 250,000 bytes. If any attachment is more than this maximum size, then the output captured in the attachment will be truncated.

Configuring a Predefined Destination Profile Using DCNM-SAN

To configure predefined destination profile messaging options using DCNM-SAN, follow these steps:

Procedure

Step 1   Expand **Events** and select **Call Home** in the Physical Attributes pane.

The **Destination** tab is disabled until you click the **Profiles** tab. The profiles have to be loaded for the destination tab to be populated.

Step 2   Click the **Profiles** tab in the Information pane.

You see the Call Home profiles for multiple switches.

Step 3   Set the profile name, message format, message size, and severity level.

Step 4   Click in the Alert Groups column and select or remove an alert group.

Step 5   Click **Apply Changes** icon to create this profile on the selected switches.

Configuring a New Destination Profile

To configure a new destination-profile (and related parameters), follow these steps:

Note   Steps 4, 5, and 6 in this procedure can be skipped or configured in any order.

Procedure

Step 1   Enter configuration mode:

switch# **configure terminal**

Step 2   Enter the Call Home configuration submode:

switch(config)# **callhome**

Step 3   Configure a new destination profile called test:

switch(config-callhome)# **destination-profile test**

Step 4 Configure the email address for the user-defined destination profile (test) sent in default XML format:

switch(config-callhome)# **destination-profile test e-mail-addr** *email-address*

Step 5 Configure a maximum message size for the destination email addresses in the user-defined destination profile (test) sent in default XML format:

switch(config-callhome)# **destination-profile test message-size** *msg-size*

The valid range is 0 to 1,000,000 bytes and the default is 500,000. A value of 0 implies that a message of any size can be sent.

Step 6 Configure message-format for the user-defined destination profile (test) to be full text or short text format:

switch(config-callhome)# **destination-profile test format** {**full-txt** | **short-txt**}

Configuring a New Destination Profile Using DCNM-SAN

To configure a new destination-profile (and related parameters) using DCNM-SAN, follow these steps:

Procedure

Step 1 Expand **Events** and select **Call Home** in the Physical Attributes pane.

Note The **Destination** tab is disabled until you click the **Profiles** tab. The profiles have to be loaded for the destination tab to be populated.

Step 2 Click the **Profiles** tab in the Information pane.

You see Call Home profiles for multiple switches.

Step 3 Click the **Create Row** icon to add a new profile.

Step 4 Set the profile name, message format, size, and severity level.

Step 5 Click an alert group and select each group that you want sent in this profile.

Step 6 Click a transport method. You can select **email**, **http** or **emailandhttp**.

Step 7 Click **Create** to create this profile on the selected switches.

Associating an Alert Group with a Destination Profile

Different types of Call Home alerts are grouped into different alert groups depending on their type. You can associate one or more alert groups to each profile as required by your network.

The alert group feature allows you to select the set of Call Home alerts to be received by a destination profile (either predefined or user-defined). You can associate multiple alert groups with a destination profile.

To associate an alert group with a destination profile, follow these steps:

Before you begin

A Call Home alert is sent to email destinations in a destination profile only if that Call Home alert belongs to one of the alert groups associated with that destination profile.

Procedure

Step 1	Enter configuration mode: switch# **configure terminal**
Step 2	Enter the Call Home configuration submode: switch(config)# **callhome** switch(config-callhome)#
Step 3	(Optional) Configure user-defined destination profile (test1) or predefined short-text destination profile to receive all user-generated Call Home test notifications: switch(config-callhome)# **destination-profile** {*test1* | **short-txt-destination**} **alert-group** *test*
Step 4	(Optional) Configure user-defined destination profile (test1) to receive Call Home notifications for all events or predefined short-text destination profile to receive Call Home notifications for default events: switch(config-callhome)# **destination-profile** {*test1* | **short-txt-destination**} **alert-group all**
Step 5	(Optional) Configure user-defined destination profile (test1) or predefined short-text destination profile to receive Call Home notifications for events that are meant only for Cisco TAC or the auto-notify service: switch(config-callhome)# **destination-profile** {*test1* | **xml-destination**} **alert-group Cisco-TAC**
Step 6	(Optional) Configure user-defined destination profile (test1) or predefined short-text destination profile to receive Call Home notifications for software crash events: switch(config-callhome)# **destination-profile** {*test1* | **xml-destination**} **alert-group Crash**
Step 7	(Optional) Configure user-defined destination profile (test1) or predefined short-text destination profile to receive Call Home notifications for power, fan, and temperature-related events: switch(config-callhome)# **destination-profile** {*test1* | **short-txt-destination**} **alert-group environmental**
Step 8	(Optional) Configure user-defined destination profile (test1) or predefined short-text destination profile to receive Call Home notifications for inventory status events: switch(config-callhome)# **destination-profile** {*test1* | **short-txt-destination**} **alert-group inventory**
Step 9	(Optional) Configure user-defined destination profile (test1) or predefined short-text destination profile to receive Call Home notifications for licensing events: switch(config-callhome)# **destination-profile** {*test1* | **short-txt-destination**} **alert-group License**
Step 10	(Optional) Configure user-defined destination profile (test1) or predefined short-text destination profile to receive Call Home notifications for module-related events: switch(config-callhome)# **destination-profile** {*test1* | **short-txt-destination**} **alert-group linecard-hardware**

Step 11 (Optional) Configure user-defined destination profile (test1) or predefined short-text destination profile to receive Call Home notifications for supervisor-related events:

switch(config-callhome)# **destination-profile** {*test1* | **short-txt-destination**} **alert-group supervisor-hardware**

Step 12 (Optional) Configure user-defined destination profile (test1) or predefined short-text destination profile to receive Call Home notifications for software-related events:

switch(config-callhome)# **destination-profile** {*test1* | **short-txt-destination**} **alert-group system**

Associating Alert Group Using DCNM-SAN

To associate an alert group with a destination profile using DCNM-SAN, follow these steps:

Procedure

Step 1 Expand **Events** and select **Call Home** in the Physical Attributes pane.

Step 2 Click the **Profiles** tab in the Information pane.

You see the Call Home profiles for multiple switches.

Step 3 Click the **Alert Groups** column in the row for the profile you want to associate.

You see the alert groups drop-down menu.

Step 4 Click an alert group to select it for association.

Step 5 You see a check next to that alert group.

To deselect it and remove the check, click it again.

Step 6 Click the **Apply Changes** icon.

Customizing Alert Group Messages

To assign show commands to be executed when an alert is sent, you must associate the commands with the alert group. When an alert is sent, Call Home associates the alert group with an alert type and attaches the output of the show commands to the alert message.

> **Note** Make sure the destination profiles for a non-Cisco-TAC alert group, with a predefined show command, and the Cisco-TAC alert group are not the same.

To customize Call Home alert group messages, follow these steps:

Before you begin

- You can assign a maximum of five user-defined show commands to an alert group. Only show commands can be assigned to an alert group.

- Customized show commands are only supported for full text and XML alert groups. Short text alert groups (short-txt-destination) do not support customized show commands because they only allow 128 bytes of text.

Procedure

Step 1	Enter configuration mode:
	switch# **configure terminal**
Step 2	Enter the Call Home configuration submode:
	switch(config)# **callhome**
	switch(config-callhome)#
Step 3	Configure a user-defined **show** command for an alert group license:
	switch(config-callhome)# **alert-group license user-def-cmd show license usage**
	Note Only valid **show** commands are accepted.
Step 4	(Optional) Remove the user-defined **show** command from the alert group:
	switch(config-callhome)# **no alert-group license user-def-cmd show license usage**

Customizing Alert Group Messages Using DCNM-SAN

To customize Call Home alert group messages using DCNM-SAN, follow these steps:

Procedure

Step 1	Expand **Events** and select **Call Home** in the Physical Attributes pane.
Step 2	Click the **User Defined Command** tab in the Information pane.
	You see the User Defined Command information.
Step 3	Click the **Create Row** icon.
Step 4	Check the check boxes in front of the switches from which you want to receive alerts.
Step 5	Select the alert grouptype from the Alert Group Type drop-down list.
Step 6	Select the ID (1-5) of the CLI command. The ID is used to keep track of the messages.
Step 7	Enter the CLI **show** command in the **CLI Command** field.
Step 8	Click **Create**.
Step 9	Repeat Step 3 through Step 7 for each command you want to associate with the profile.

Step 10   Click **Close** to close the dialog box.

Setting the Call Home Message Levels

To set the message level for each destination profile for Call Home, follow these steps:

Before you begin

The urgency level ranges from 0 (lowest level of urgency) to 9 (highest level of urgency), and the default is 0 (all messages are sent).

Procedure

Step 1   Enter configuration mode:

switch# **configure terminal**

Step 2   Enter the Call Home configuration submode:

switch(config)# **callhome**

Step 3   (Optional) Configure the message level urgency as 5 (level) and above for the user-defined profile (test1):

switch(config-callhome)# **destination-profile** *test* **message-level** *level*

Step 4   Remove a previously configured urgency level and reverts it to the default of 0 (all messages are sent):

switch(config-callhome)# **no destination-profile** *oldtest* **message-level** *level*

Configuring the Syslog-Based Alerts

To configure the syslog-group-port alert group, follow these steps:

Procedure

Step 1   Enter configuration mode:

switch# **configure terminal**

Step 2   Enter the Call Home configuration submode:

switch(config)# **callhome**

switch(config-callhome)#

Step 3   Configure the predefined destination profile (short-txt-destination) to receive Call Home Notifications corresponding to syslog messages for the port facility:

switch(config-callhome)# **destination-profile short-txt-destination alert-group syslog-group-port**

Step 4 (Optional) Configure the predefined destination-profile (short-txt-destination) to send a Call Home message for syslog messages whose severity levels map to Call Home severity level of 5 or greater:

switch(config-callhome)# **destination-profile** *short-txt-destination* **message-level** *level*

The default is message level 0 (all syslog messages).

Configuring the Syslog-Based Alerts Using DCNM-SAN

To configure the syslog-group-port alert group using DCNM-SAN, follow these steps:

Procedure

Step 1 Select a switch in the Fabric pane.

Step 2 Expand **Events** and select **Call Home** in the Physical Attributes pane.

You see the Call Home information in the Information pane.

Step 3 Click the **Profiles** tab.

You see the Call Home profiles.

Step 4 Click the **Create Row** icon.

You see the Create Call Home Profile dialog box.

Step 5 Select the switches for which you want to send alerts.

Step 6 Enter the name of the profile in the Name field.

Step 7 Choose the message format, message size, and message severity level.

Step 8 Check the **syslogGroupPort** check box in the AlertGroups section.

Step 9 Click **Create** to create the profile for the syslog-based alerts.

Step 10 Close the dialog box.

Configuring RMON Alerts

To configure RMON alert groups, follow these steps:

Procedure

Step 1 Enter configuration mode:

switch# **config t**

Step 2 Enter Call Home configuration submode:

switch(config)# **callhome**

Step 3 (Optional) Configure a destination message profile (rmon_group) to send Call Home notifications for configured RMON messages:

switch(config-callhome)# **destination-profile**

Configuring RMON Alerts Using DCNM-SAN

To configure RMON alert groups using DCNM-SAN, follow these steps:

Procedure

Step 1	Select a switch in the Fabric pane.
Step 2	Expand **Events** and select **Call Home** in the Physical Attributes pane.
	You will see the Call Home information in the Information pane.
Step 3	Click the **Profiles** tab.
	You will see the Call Home profiles.
Step 4	Select the **Create Row** icon.
	You will see the Create Call Home Profile dialog box.
Step 5	Select switches to send alerts.
Step 6	Enter the name of the profile.
Step 7	Select the message format, message size, and message severity level.
Step 8	Check the **RMON** check box in the AlertGroups section.
Step 9	Click **Create** to create the profile for the RMON-based alerts.
Step 10	Close the dialog box.

Configuring Event Trap Notifications

To configure a Call Home event notification trap (except Call Home periodic messages), follow these steps:

Procedure

Step 1	Enter configuration mode:
	switch# **configure terminal**
Step 2	Enter Call Home configuration submode:
	switch(config)# **callhome**
Step 3	Enable the SNMP notification trap for Call Home:
	switch(config-callhome)# **snmp-server enable**

Configuring General EMail Options

You can configure the from, reply-to, and return-receipt email addresses. While most email address configurations are optional, you must configure the SMTP server address for the Call Home functionality to work.

To configure general email options, follow these steps:

Procedure

Step 1   Enter configuration mode:

switch# **configure terminal**

Step 2   Enter Call Home configuration submode:

switch(config)# **callhome**

Step 3   Configure the from email address:

switch(config-callhome)#**transport email from** *person@company.com*

Step 4   Configure the reply-to email address to which all responses should be sent:

switch(config-callhome)#**transport email reply-to** *person@company.com*

Step 5   Configure the DNS, IPv4 address, or IPv6 address of the SMTP server to reach the server:

switch(config-callhome)# **transport email smtp-server 192.168.1.1**

switch(config-callhome)# **transport email smtp-server 192.168.1.1 port 30**

The port usage defaults to 25 if no port is specified.

Note   The port number is optional and, if necessary, may be changed depending on the server location.

Configuring General EMail Options Using DCNM-SAN

To configure general email options using DCNM-SAN, follow these steps:

Procedure

Step 1   Select a switch in the Fabric pane.

Step 2   Expand **Events** and select **Call Home** in the Physical Attributes pane.

You will see the Call Home information in the Information pane.

Step 3   Click the **e-mail Setup** tab.

Step 4   Select a switch in the Information pane.

Step 5   Enter the general email information.

Step 6   Enter the SMTP server IP address type, IP address or name, and port.

Step 7   Click the **Apply Changes** icon to update the email options.

Configuring HTTPS Support

Any predefined or user-defined destination profiles can be configured with the HTTPS URL address.

To configure the HTTPS URL address for any destination profile, follow these steps:

Procedure

Step 1   Enter configuration mode:

switch# **configure terminal**

Step 2   Enter Call Home configuration submode:

switch(config)# **callhome**

Step 3   (Optional) Configure the predefined full-txt-destination profile with an HTTPS URL address:

switch(config-callhome)# **destination-profile full-txt-destination http**

The Call Home message in full-txt format is uploaded at the configured HTTPS URL address.

Step 4   (Optional) Configure the predefined CiscoTAC-1 profile with an HTTPS URL address:

switch(config-callhome)# **destination-profile CiscoTAC-1 http**

The Call Home message in XML format is uploaded at the configured HTTPS URL address.

Step 5   (Optional) Configure the user-defined destination profile with an HTTPS URL address:

switch(config-callhome)# **destination-profile test1 http**

The Call Home message in the configured format is uploaded at the configured HTTPS URL address.

Enable or Disable Transport Method

Any predefined or user-defined destination profiles can be configured to enable or disable a particular transport method. The transport methods are HTTP and email.

To enable or disable transport method for a destination profile, follow these steps:

Procedure

Step 1   Enter configuration mode:

switch# **configure terminal**

Step 2   Enter Call Home configuration submode:

switch(config)# **callhome**

Step 3   (Optional) Enable predefined destination profile CiscoTAC-1 for HTTP transport method:

switch(config-callhome)# **destination-profile CiscoTAC-1 transport-method http**

Note   For user-defined destination profiles, email is the default. You can enable either or both transport mechanisms. If you disable both methods, email will be enabled.

Step 4   (Optional) Disable predefined destination profile CiscoTAC-1 for email transport method:

switch(config-callhome)# **no destination-profile CiscoTAC-1 transport-method email**

Step 5   (Optional) Enable predefined full-txt-destination profile for HTTP transport method:

switch(config-callhome)# **destination-profile full-txt transport-method http**

Configuring an HTTP Proxy Server

Beginning with Cisco NX-OS Release 5.2, you can configure Smart Call Home to send HTTP messages through an HTTP proxy server. If you do not configure an HTTP proxy server, Smart Call Home sends HTTP messages directly to the Cisco Transport Gateway (TG).

To configure an HTTP proxy server, follow these steps:

Procedure

Step 1   Enter configuration mode:

switch# **configure terminal**

Step 2   Enter Call Home configuration submode:

switch(config)# **callhome**

Step 3   Configure the HTTP proxy server domain name server (DNS) name, IPv4 address, or IPv6 address:

switch(config-callhome)# **transport http proxy server 192.0.2.1**

Optionally configures the port number. The port range is from 1 to 65535. The default port number is 8080.

Step 4   Enable Smart Call Home to send all HTTP messages through the HTTP proxy server:

switch(config-callhome)# **transport http proxy enable**

Note   You can execute this command only after the proxy server address has been configured.

Step 5   (Optional) Display the transport-related configuration for Smart Call Home:

switch(config-callhome)# **show callhome transport**

Note   The default value for full text destination and for XML is 1 MB.

Configuring an HTTP Proxy Server Using DCNM-SAN

To configure a Call Home HTTP proxy server using DCNM-SAN, follow these steps:

Procedure

Step 1 Select a switch in the Fabric pane.

Step 2 Expand **Events**, select **Call Home**, and **HTTP Proxy Server** in the Physical Attributes pane.
You will see the Call Home HTTP Proxy Server information in the Information pane.

Step 3 Click the **Address Type** tab.
The Address Type options are displayed.

Step 4 Click the **Address** tab and enter the address of the HTTP proxy server.

Step 5 Click the **Port** tab and enter a integer number to specify the port of the HTTP proxy server.

Step 6 Check the **Enable** check box to enable the HTTP proxy configured for Call Home.

Step 7 (Optional) Set an empty value in the **Address** tab to delete the HTTP proxy server from the MDS switch.

Step 8 Choose an address type. You can select ipv4, ipv6, or DNS.

> **Note**   If the address is empty, then no proxy server is configured.

Step 9 Click **Apply** to update HTTP Proxy Server options.

Configuring Call Home Wizard

Task Flow for Configuring Call Home Wizard

Follow these steps to configure the Call Home Wizard:

Procedure

Step 1 Configure contact information.

Step 2 Configure SMTP information.

Step 3 Configure the email source and destination information.

Step 4 Use CFS to populate the configuration data.

Step 5 Display the status.

Launching Call Home Wizard

To configure Call Home wizard, follow these steps:

Before you begin

- Enable the global CFS on the switch from DCNM-SAN configuration table.

- Clear the CFS lock on the switch.

- Check the merger status of CFS on the switch. If a merger failure is found, the wizard clears up the merge failure in the backend process while running the wizard.

Procedure

Step 1   Select a fabric in the logical domain tree.

Step 2   Select **Tools**, **Events** and **Call Home**.
The master switch pane is displayed.

Step 3   (Optional) You can also launch the Call Home wizard by clicking the **CallHome Wizard** icon in the Call Home **Control** tab.

Step 4   Select a **Master Switch** and click **Next**.
The contact information pane is displayed.

Step 5   Enter the **Contact**, **Phone Number**, **Email Address** and the **Street Address** information.

>   **Note**   You must specify all of the four parameters before clicking Next.

Step 6   Click **Next**.
The Email Setup pane is displayed.

Step 7   In the **Email SMTP Servers** tab, enter the **Primary SNTP Server** address.

You can specify up to two SMTP servers if the master switch is version 5.0 or above. However, you cannot specify a secondary SMTP server if the master switch version is below 5.0.

The wizard creates new rows in the SMTP server table.

Step 8   In the **Destination** tab, click **Add** to enter the Call Home destinations.

You can enter up to three Call Home destinations.

Step 9   (Optional) Click **Remove** to delete a Call Home destination entry.

Step 10   From the drop-down list, select **Protocol** and **Profile**.
The Profile drop-down lists three default profiles: xml, short_txt and full_txt.

Step 11   Click **Finish** to configure the wizard.

All major configuration steps and failures are displayed in the Status Dialog window.

The **Status Dialog** window is displayed.

Step 12   Click **Run Test** to perform the Call Home test.

Step 13   Click **Yes** to test the command on all switches in the selected fabric or click **No** to close the window.

Configuring SMTP Server and Ports

To configure the SMTP server and port, follow these steps:

Procedure

Step 1   Enter configuration mode:

switch# **configure terminal**

Step 2   Enter Call Home configuration submode:

switch(config)# **callhome**

Step 3   Configure the DNS, IPv4 address, or IPv6 address of the SMTP server to reach the server:

switch(config-callhome)# **transport email smtp-server 192.168.1.1**

switch(config-callhome)# **transport email smtp-server 192.168.1.1 port 30**

The port usage defaults to 25 if no port is specified.

Note   The port number is optional and, if required, may be changed depending on the server location.

Configuring Multiple SMTP Server Support

To configure multiple SMTP server support, follow these steps:

Procedure

Step 1   Enter configuration mode:

switch# **configure terminal**

Step 2   Enter Call Home configuration submode:

switch(config)# **callhome**

Step 3   Use one of the following commands:

• Distribute the SMTP server configuration to devices running software releases prior to NX-OS Release 5.0 and earlier:

switch(config-callhome)# **transport email smtp-server**

• Distribute multiple SMTP server capability:

switch(config-callhome)# [**no**] **transport email mail-server** {**ipv4** | **IPV6** | **hostname**} [**port** *number*] [**priority** *number*]

Example

Note The **transport email mail-server** command is distributed only to devices running Cisco NX-OS Release 5.0(1a) or later. The **transport email smtp-server** command is distributed only to devices running earlier software releases.

The following example shows how to configure multiple SMTP servers for Call Home messages:

```
switch# configure terminal
Enter configuration commands, one per line. End with CNTL/Z.
switch(config)# callhome
switch(config-callhome)# transport email mail-server 192.0.2.10 priority 4
switch(config-callhome)# transport email mail-server 172.21.34.193
switch(config-callhome)# transport email smtp-server 10.1.1.174
switch(config-callhome)# transport email mail-server 64.72.101.213 priority 60
switch(config-callhome)# transport email from person@company.com
switch(config-callhome)# transport email reply-to person@company.com
```

Based on the configuration above, the SMTP servers will be contacted in this order:

10.1.1.174 (priority 0)

192.0.2.10 (priority 4)

172.21.34.193 (priority 50 - default)

64.72.101.213 (priority 60)

Enabling Periodic Inventory Notifications

When you enable this feature without configuring an interval value, the Call Home message is sent every 7 days. This value ranges from 1 to 30 days. By default, this feature is disabled in all switches in the Cisco MDS 9000 Series and Cisco Nexus 5000 Series switches.

To enable periodic inventory notification in a Cisco MDS 9000 Series switch or a Cisco Nexus 5000 Series switch, follow these steps:

Procedure

Step 1 Enter configuration mode:

switch# **configure terminal**

Step 2 Enter the Call Home configuration submode:

switch(config)# **callhome**

Step 3 Enable the periodic inventory notification feature:

switch(config-callhome)# **periodic-inventory notification**

Disable the periodic inventory notification feature (default):

switch(config-callhome)# **no periodic-inventory notification**

By default, the Call Home message is sent every 7 days.

Step 4 Configure the periodic inventory notification message to be sent every 15 days:

switch(config-callhome)# **periodic-inventory notification interval 15**

Default to using the factory default of sending a Call Home message every 7 days:

switch(config-callhome)# **no periodic-inventory notification interval 15**

This value ranges from 1 to 30 days.

Enabling Periodic Inventory Notifications Using DCNM-SAN

To enable periodic inventory notification in a Cisco MDS 9000 Series switch or a Cisco Nexus 5000 Series switch using DCNM-SAN, follow these steps:

Procedure

Step 1 Select a switch in the Fabric pane.

Step 2 Expand **Events** and select **Call Home** in the Physical Attributes pane.
You will see the Call Home information in the Information pane.

Step 3 Click the **Periodic Inventory** tab.
You will see the Call Home periodic inventory information.

Step 4 Select a switch in the Information pane.

Step 5 Check the **Enable** check box.

Step 6 Enter the number of days for which you want the inventory checked.

Step 7 Click the **Apply Changes** icon.

Configuring Duplicate Message Throttle

You can configure a throttling mechanism to limit the number of Call Home messages received for the same event. If the same message is sent multiple times from the switch within a short period of time, you may be swamped with a large number of duplicate messages.

Restrictions

- By default, this feature is enabled in all switches in the Cisco MDS 9000 Series and the Cisco Nexus 5000 Series switches. When enabled, if the number of messages sent exceeds the maximum limit of 30 messages within the 2-hour time frame, then additional messages for that alert type are discarded within that time frame. You cannot modify the time frame or the message counter limit.

- If 2 hours have elapsed since the first such message was sent and a new message has to be sent, then the new message is sent and the time frame is reset to the time when the new message was sent and the count is reset to 1.

To enable message throttling in a Cisco MDS 9000 Series switch or a Cisco Nexus 5000 Series switch, follow these steps:

Procedure

Step 1	Enter configuration mode:
	switch# **configure terminal**
Step 2	Enter the Call Home configuration submode:
	switch(config)# **callhome**
Step 3	Disable the duplicate message throttling feature:
	switch(config-callhome)# **no duplicate-message throttle**
Step 4	Enable the duplicate message throttling feature (default):
	switch(config-callhome)# **duplicate-message throttle**

Configuring Duplicate Message Throttle Using DCNM-SAN

To enable message throttling in a Cisco MDS 9000 Series switch or a Cisco Nexus 5000 Series switch using DCNM-SAN, follow these steps:

Procedure

Step 1	Select a switch in the Fabric pane.
Step 2	Expand **Events** and select **Call Home** in the Physical Attributes pane.
	You see the Call Home information in the Information pane.
Step 3	Click the **Control** tab.
Step 4	Select a switch in the Information pane.
Step 5	Check the **Duplicate Msg Throttle** check box.
Step 6	Click the **Apply Changes** icon.

Enabling Call Home Fabric Distribution

To enable Call Home fabric distribution, follow these steps:

Procedure

Step 1	Enter configuration mode:

    switch# **configure terminal**

Step 2   Enter the Call Home configuration submode:

    switch(config)# **callhome**

Step 3   Enable Call Home configuration distribution to all switches in the fabric:

    switch(config-callhome)# **distribute**

    Acquires a fabric lock and stores all future configuration changes in the pending database.

Step 4   Disables (default) Call Home configuration distribution to all switches in the fabric.

    switch(config-callhome)# **no distribute**

Committing the Call Home Configuration Changes

To commit the Call Home configuration changes, follow these steps:

Procedure

Step 1   Enter configuration mode:

    switch# **configure terminal**

Step 2   Enter the Call Home configuration submode:

    switch(config)# **callhome**

Step 3   Distribute the configuration changes to all switches in the fabric and release the lock:

    switch(config-callhome)# **commit**

    Overwrites the effective database with the changes made to the pending database.

Discarding the Call Home Configuration Changes

To discard the Call Home configuration changes, follow these steps:

Procedure

Step 1   Enter configuration mode:

    switch# **configure terminal**

Step 2   Enter the Call Home configuration submode:

    switch(config)# **callhome**

Step 3   Discard the configuration changes in the pending database and release the fabric lock:

switch(config-callhome)# **abort**

Enabling Call Home Fabric Distribution Using DCNM-SAN

To enable Call Home fabric distribution using DCNM-SAN, follow these steps:

Procedure

Step 1   Select a switch in the Fabric pane.

Step 2   Expand **Events** and select **Call Home** in the Physical Attributes pane.

You see the Call Home information in the Information pane.

Step 3   Click the **CFS** tab.

You see the CFS information for Call Home.

Step 4   Select a switch in the Information pane.

Step 5   Select **Enable** from the drop-down list in the Admin column in the row for that switch.

Step 6   Click the **Apply Changes** icon to commit the changes.

Fabric Lock Override

To use administrative privileges and release a locked Call Home session, follow these steps:

Procedure

Use administrative privileges and release a locked Call Home session:

switch# **clear callhome session**

Call Home Communications Test

You can test Call Home communications by sending a test message to the configured destination(s) or sending a test inventory message to the configured destination(s).

Use the **test** command to simulate a message generation.

To test the Call Home function, follow these steps:

Procedure

Step 1   Send a test message to the configured destinations:

switch# **callhome test**

Step 2   Send a test inventory message to the configured destinations:

switch(config)# **callhome test inventory**

Call Home Communications Test Using DCNM-SAN

To test the Call Home function and simulate a message generation using DCNM-SAN, follow these steps:

Procedure

Step 1   Select a switch in the Fabric pane.

Step 2   Expand **Events** and select **Call Home** in the Physical Attributes pane.

You see the Call Home information in the Information pane.

Step 3   Click the **Test** tab.

You see the configured tests for the switch and the status of the last testing.

Step 4   Select a switch in the Information pane.

Step 5   From the **TestAction** drop-down list in the row for that switch, select **test** or **testWithInventory**

Step 6   Click the **Apply Changes** icon to run the test.

Table 10: EMC Call Home Traps, on page 46 includes all the traps for EMC Call Home.

Table 10: EMC Call Home Traps

SNMP Trap	Send EMC Call Home When
connUnitStatusChange	operStatus == failed(5)
cefcModuleStatusChange	operStatus != {ok(2), boot(5), selfTest(6), poweredUp(16), syncInProgress(21)}
cefcPowerStatusChange	operStatus = {offDenied(4), offEnvPower(5),offEnvTemp(6),offEnvFan(7),failed(8)}
cefcFRURemoved	all
cefcFanTrayStatusChange	all
cieDelayedLinkUpDown	operStatusReason != {linkFailure, adminDown, portGracefulShutdown}
cefcFRUInserted	all

entSensorThresholdNotification	value >= threshold

Configuring Delayed Traps

The server.callhome.delayedtrap.enable property is added to section 9 Call Home in the server.properties configuration file. The property file can enable the DCNM-SAN server to use delayed traps instead of regular link Down traps for EMC Email Home messages.

Enabling the Delayed Trap Feature

To enable the delayed trap feature, perform this task:

Before you begin

To enable this feature, you need to turn on delayed traps at switch level, and then set the server.callhome.delayedtrap.enable property in the server.properties configuration file to true. By default, the server.callhome.delayedtrap.enable option is disabled and regular linkDown traps are used.

Procedure

Step 1 Enter configuration mode:

switch# **configure terminal**

Step 2 Enable the system-delayed trap feature:

switch(config)# **system delayed-traps enable mode** *FX*

Step 3 Configure the system-delayed trap timeout value:

switch(config)# **system delayed-traps timer** *<1-60>*

If no value is entered, a default value of 4 minutes is used. You can choose any value between 1 to 60 minutes.

Enabling the Delayed Trap Feature Using DCNM-SAN

To enable delayed traps on switches running NX-OS Release 4.1(3) and later using DCNM-SAN, follow these steps:

Procedure

Step 1 Expand **Events** and select **SNMP Traps** in the Physical Attributes pane.

In the table above the map layout in DCNM-SAN, click the **Delayed Traps** tab.

Step 2 Check the **Enable** check box for the switches on which you want to enable delayed traps.

Step 3 Enter the **timer** value in the Delay column.

Step 4   Click **Apply** to save your changes.

Note   If no value is entered, the default value of 4 minutes is used.

Enabling Delayed Traps Using Cisco Device Manager

To enable the delayed trap feature using Device Manager, follow these steps:

Procedure

Step 1   In Device Manager, choose **Admin** > **Events** > **Filters** > **Delayed Traps**.

You can see the Events Filters information in the Information pane.

Step 2   Click the **Delayed Traps** tab.

Step 3   Check the **Enable** check box to enable delayed traps.

Delay interval will only be available when the feature is enabled.

Step 4   To disable Delayed Traps, uncheck the **Enable** check box and click **Apply**.

Viewing Event Filter Notification

In Device Manager, choose Admin > Events > Filters to see the descriptive notification.

You can see the Event Filters information in the Information pane.

The Event Filters screen displays the descriptive information about the notification.

Verifying Call Home Configuration

To display the Call Home configuration information, perform one of the following tasks:

Displaying Call Home Information

Use the **show callhome** command to display the configured Call Home information.

Displays Configured Call Home Information

```
switch# show callhome

callhome enabled
Callhome Information:
contact person name:who@where
contact person's email:person@place.com
contact person's phone number:310-408-4000
street addr:1234 Picaboo Street, Any city, Any state, 12345
```

```
site id:Site1ManhattanNewYork
customer id:Customer1234
contract id:Cisco1234
switch priority:0
```

Displays Information for All Destination Profiles (Predefined and User-Defined)

```
switch# show callhome destination-profile

XML destination profile information
maximum message size:500000
message format:XML
message-level:0
email addresses configured:
alert groups configured:
cisco_tac
test destination profile information
maximum message size:100000
message format:full-txt
message-level:5
email addresses configured:
admin@yourcompany.com
alert groups configured:
test
full-txt destination profile information
maximum message size:500000
message format:full-txt
message-level:0
email addresses configured:
alert groups configured:
all
short-txt destination profile information
maximum message size:4000
message format:short-txt
message-level:0
email addresses configured:
alert groups configured:
all
```

Displays Information for a User-defined Destination Profile

```
switch# show callhome destination-profile
 test
test destination profile information
maximum message size:100000
message format:full-txt
message-level:5
email addresses configured:
user
@
company
.com
alert groups configured:
test
```

Displays the Full-Text Profile

```
switch# show callhome destination-profile profile full-txt-destination

full-txt destination profile information
```

```
maximum message size:250000
email addresses configured:
person2@company2.com
```

Displays the Short-Text Profile

```
switch# show callhome destination-profile profile short-txt-destination
Short-txt destination profile information
maximum message size:4000
email addresses configured:
person2@company2.com
```

Displays the XML Destination Profile

```
switch# show callhome destination-profile profile XML-destination
XML destination profile information
maximum message size:250000
email addresses configured:
findout@.cisco.com
```

Displays EMail and SMTP Information

```
switch# show callhome transport-email
from email addr:user@company1.com
reply to email addr:pointer@company.com
return receipt email addr:user@company1.com
smtp server:server.company.com
smtp server port:25
```

Displays the running configuration callhome information

```
switch# show running-config callhome
!Command: show running-config callhome
!Time: Tue Sep  9 12:16:45 2014
version 6.2(9)
logging level callhome 5
callhome
  contract-id contact1
  customer-id cust1
  site-id Site1
  email-contact sakpuri@cisco.com
  phone-contact +1-800-000-0000
  streetaddress 12345 Cisco Way, San Jose, CA
  destination-profile Inventory
  destination-profile Inventory format full-txt
  destination-profile Inventory message-size 1000000
  destination-profile Service
  destination-profile Service format full-txt
  destination-profile Service message-size 1000000
  destination-profile dest1
  destination-profile dest1 format XML
  destination-profile dest1 message-size 500000
  destination-profile full_txt message-size 1000000
  destination-profile httpProf
  destination-profile httpProf format XML
  destination-profile httpProf message-size 0
  destination-profile short_txt message-size 4000
  destination-profile xml message-size 1000000
```

```
  destination-profile xml message-size 1000000
  destination-profile Inventory email-addr sakpuri@cisco.com
  destination-profile Service email-addr sakpuri@cisco.com
  destination-profile full_txt email-addr sakpuri@cisco.com
  destination-profile short_txt email-addr sakpuri@cisco.com
  destination-profile xml email-addr sakpuri@cisco.com
  destination-profile Service alert-group environmental
  destination-profile xml alert-group environmental
  destination-profile Inventory alert-group inventory
  destination-profile xml alert-group inventory
  destination-profile Service alert-group linecard-hardware
```

Displays the running configuration for callhome with defaults

```
switch# show running-config callhome all
EG-9506-1-176# show running-config callhome all
!Command: show running-config callhome all
!Time: Tue Sep  9 12:18:22 2014
version 6.2(9)
logging level callhome 5
callhome
  contract-id contact1
  customer-id cust1
  switch-priority 7
  site-id Site1
  email-contact sakpuri@cisco.com
  phone-contact +1-800-000-0000
  streetaddress 12345 Cisco Way, San Jose, CA
  destination-profile Inventory
  destination-profile Inventory format full-txt
  destination-profile Inventory transport-method email
  no destination-profile Inventory transport-method http
  destination-profile Inventory message-size 1000000
  destination-profile Inventory message-level 0
  destination-profile Service
  destination-profile Service format full-txt
  destination-profile Service transport-method email
  no destination-profile Service transport-method http
  destination-profile Service message-size 1000000
  destination-profile Service message-level 0
  destination-profile dest1
  destination-profile dest1 format XML
  destination-profile dest1 transport-method email
  no destination-profile dest1 transport-method http
  destination-profile dest1 message-size 500000
  destination-profile dest1 message-level 0
  destination-profile full_txt
  destination-profile full_txt format full-txt
  destination-profile full_txt transport-method email
  no destination-profile full_txt transport-method http
  destination-profile full_txt message-size 1000000
  destination-profile full_txt message-level 0
  destination-profile httpProf
```

Displays the startup configuration for callhome

```
switch# show startup-config callhome

!Command: show startup-config callhome
!Time: Tue Sep  9 12:19:27 2014
!Startup config saved at: Fri Sep  5 12:13:53 2014
```

```
version 6.2(9)
logging level callhome 5
callhome
  contract-id contact1
  customer-id cust1
  site-id Site1
  email-contact sakpuri@cisco.com
  phone-contact +1-800-000-0000
  streetaddress 12345 Cisco Way, San Jose, CA
  destination-profile Inventory
  destination-profile Inventory format full-txt
  destination-profile Inventory message-size 1000000
  destination-profile Service
  destination-profile Service format full-txt
  destination-profile Service message-size 1000000
  destination-profile dest1
  destination-profile dest1 format XML
  destination-profile dest1 message-size 500000
  destination-profile full_txt message-size 1000000
  destination-profile httpProf
  destination-profile httpProf format XML
  destination-profile httpProf message-size 0
  destination-profile short_txt message-size 4000
  destination-profile xml message-size 1000000
  destination-profile xml message-size 1000000
  destination-profile Inventory email-addr sakpuri@cisco.com
  destination-profile Service email-addr sakpuri@cisco.com
  destination-profile full_txt email-addr sakpuri@cisco.com
  destination-profile short_txt email-addr sakpuri@cisco.com
  destination-profile xml email-addr sakpuri@cisco.com
  destination-profile Service alert-group environmental
  destination-profile xml alert-group environmental
  destination-profile Inventory alert-group inventory
  destination-profile xml alert-group inventory
```

Displaying Delayed Trap Information

Use the **show running-config | in delay** command to display the system-delayed trap state. If no timer value is specified or if the timer value is set to 4 minutes, the following is displayed:

Displays the Delayed Trap Information with No Timer Value (Set to the Default 4 Minutes)

```
switch# show running-config | in delay
system delayed-traps enable mode FX
```

The following example shows the output when the timer value is set to any other value other than 4 minutes:

Displays the Delayed Trap Information with a Timer Value Other Than 4 Minutes

```
switch# show running-config | in delay
system delayed-traps enable mode FX
system delayed-traps timer 5
```

Verifying Alert Group Customization

To verify the alert group customization, use the **show callhome user-def-cmds** command.

```
switch# show callhome user-def-cmds
```

```
User configured commands for alert groups :
alert-group test user-def-cmd "show version"
```

Verifying Event Notification Trap

To verify the SNMP event notification trap, use the show snmp trap | inc callhome command.

```
switch# show snmp trap | inc callhome
callhome : event-notify Yes
callhome : smtp-send-fail No
```

Verifying Call Home Transport

The show callhome transport command displays all of the transport-related configurations for Call Home.

```
switch# show callhome transport
http vrf:management
from email addr:xyz-1@cisco.com
reply to email addr:xyz-1@cisco.com
smtp server:72.163.62.211
smtp server port:25
smtp server vrf:management
smtp server priority:0
http proxy server:10.64.65.52
http proxy server port:8080
http proxy status:Enabled
```

The following example shows how to configure SMTP server port:

```
switch# callhome
switch(config-callhome)# transport email mail-server 192.168.10.23 port 4
switch# config t
```

The following example shows how to configure SMTP server priority:

```
switch(config-callhome)# transport email mail-server 192.168.10.23 priority 60
switch# config t
```

Monitoring Call Home

This section includes the following topics:

Sample Syslog Alert Notification in Full-txt Format

```
source:MDS9000
Switch Priority:7
Device Id:DS-C9506@C@FG@07120011
Customer Id:basu
Contract Id:123
Site Id:San Jose
Server Id:DS-C9506@C@FG@07120011
Time of Event:2004-10-08T11:10:44
Message Name:SYSLOG_ALERT
```

```
Message Type:Syslog
Severity Level:2
System Name:10.76.100.177
Contact Name:Basavaraj B
Contact email:admin@yourcompany.com
Contact Phone:+91-80-310-1718
Street Address:#71 , Miller's Road
Event Description:2004 Oct  8 11:10:44 10.76.100.177 %PORT-5-IF_TRUNK_UP: %$VSAN 1%$ Interface
 fc2/5, vsan 1 is up
syslog_facility:PORT
start chassis information:
Affected Chassis:DS-C9506
Affected Chassis Serial Number:FG@07120011
Affected Chassis Hardware Version:0.104
Affected Chassis Software Version:3.1(1)
Affected Chassis Part No:73-8607-01
end chassis information:
```

Sample Syslog Alert Notification in XML Format

```
<?xml version="1.0" encoding="UTF-8" ?>
<soap-env:Envelope xmlns:soap-env="http://www.w3.org/2003/05/soap-envelope">
<soap-env:Header>
<aml-session:Session xmlns:aml-session="http://www.cisco.com/2004/01/aml-session"
soap-env:mustUnderstand="true"
soap-env:role="http://www.w3.org/2003/05/soap-envelope/role/next">
<aml-session:To>http://tools.cisco.com/neddce/services/DDCEService</aml-session:To>
<aml-session:Path>
<aml-session:Via>http://www.cisco.com/appliance/uri</aml-session:Via>
</aml-session:Path>
<aml-session:From>http://www.cisco.com/appliance/uri</aml-session:From>
<aml-session:MessageId>1004:FOX090306QT:3E55A81A</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>2003-02-21 04:16:18 GMT+00:00</aml-block:CreationDate>
<aml-block:Builder>
<aml-block:Name>MDS</aml-block:Name>
<aml-block:Version>4.1</aml-block:Version>
</aml-block:Builder>
<aml-block:BlockGroup>
<aml-block:GroupId>1005:FOX090306QT:3E55A81A</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>6</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>2003-02-21 04:16:18 GMT+00:00</ch:EventTime>
<ch:MessageDescription>LICENSE_VIOLATION 2003 Feb 21 04:16:18 switch %$  %DAEMON-3-SYSTEM_MSG:
 &lt;&lt;%LICMGR-3-LOG_LICAPP_NO_LIC&gt;&gt; License file is missing for feature
SAN_EXTN_OVER_IP</ch:MessageDescription>
<ch:Event>
<ch:Type>syslog</ch:Type>
<ch:SubType>LICENSE_VIOLATION</ch:SubType>
<ch:Brand>Cisco</ch:Brand>
```

```
<ch:Series>MDS9000</ch:Series>
</ch:Event>
<ch:CustomerData>
<ch:UserData>
<ch:email>esajjana@cisco.com</ch:email>
</ch:UserData>
<ch:ContractData>
<ch:CustomerId>eeranna</ch:CustomerId>
<ch:SiteId>Bangalore</ch:SiteId>
<ch:ContractId>123</ch:ContractId>
<ch:DeviceId>DS-C9216I-K9@C@FOX090306QT</ch:DeviceId>
</ch:ContractData>
<ch:SystemInfo>
<ch:Name>switch</ch:Name>
<ch:Contact>Eeranna</ch:Contact>
<ch:Contactemail>esajjana@cisco.com</ch:Contactemail>
<ch:ContactPhoneNumber>+91-80-310-1718</ch:ContactPhoneNumber>
<ch:StreetAddress>#71, Miller&apos;s Road</ch:StreetAddress> </ch:SystemInfo>
</ch:CustomerData> <ch:Device> <rme:Chassis xmlns:rme="http://www.cisco.com/rme/4.0">
<rme:Model>DS-C9216I-K9</rme:Model>
<rme:HardwareVersion>1.0</rme:HardwareVersion>
<rme:SerialNumber>FOX090306QT</rme:SerialNumber>
</rme:Chassis>
</ch:Device>
</ch:CallHome>
</aml-block:Content>
<aml-block:Attachments>
<aml-block:Attachment type="inline">
<aml-block:Name>show logging logfile | tail -n 200</aml-block:Name> <aml-block:Data
encoding="plain">
<![CDATA[syslog_show:: command: 1055 param_count: 0
2003 Feb 21 04:11:48  %KERN-2-SYSTEM_MSG: Starting kernel... - kernel
2003 Feb 21 04:11:48  %KERN-3-SYSTEM_MSG: CMOS: Module initialized - kernel
2003 Feb 21 04:11:48  %KERN-2-SYSTEM_MSG: CARD TYPE: KING BB Index = 2344 - kernel
2003 Feb 21 04:12:04  %MODULE-5-ACTIVE_SUP_OK: Supervisor 1 is active (serial: JAB100700MC)
2003 Feb 21 04:12:04  %PLATFORM-5-MOD_STATUS: Module 1 current-status is MOD_STATUS_ONLINE/OK
2003 Feb 21 04:12:06  %IMAGE_DNLD-SLOT1-5-ADDON_IMG_DNLD_COMPLETE:  Addon module image
download process completed. Addon Image download completed, installing image please wait..
2003 Feb 21 04:12:07  %IMAGE_DNLD-SLOT1-5-ADDON_IMG_DNLD_SUCCESSFUL:  Addon module image
download and install process successful. Addon image installed.
2003 Feb 21 04:12:08  %KERN-3-SYSTEM_MSG: klm_af_xipc: Unknown parameter `start&apos; -
kernel
2003 Feb 21 04:12:08  %KERN-3-SYSTEM_MSG: klm_ips_portcfg: Unknown parameter `start&apos;
- kernel
2003 Feb 21 04:12:08  %KERN-3-SYSTEM_MSG: klm_flamingo: Unknown parameter `start&apos; -
kernel
2003 Feb 21 04:12:10  %PORT-5-IF_UP: Interface mgmt0 is up
2003 Feb 21 04:12:21 switch %LICMGR-3-LOG_LIC_FILE_MISSING: License file(s) missing for
feature ENTERPRISE_PKG.
2003 Feb 21 04:12:21 switch %LICMGR-3-LOG_LIC_FILE_MISSING: License file(s) missing for
feature SAN_EXTN_OVER_IP.
2003 Feb 21 04:12:21 switch %LICMGR-3-LOG_LIC_FILE_MISSING: License file(s) missing for
feature ENTERPRISE_PKG.
2003 Feb 21 04:12:21 switch %LICMGR-3-LOG_LIC_FILE_MISSING: License file(s) missing for
feature SAN_EXTN_OVER_IP.
2003 Feb 21 04:12:23 switch %PLATFORM-5-MOD_STATUS: Module 1 current-status is
MOD_STATUS_ONLINE/OK
2003 Feb 21 04:12:23 switch %MODULE-5-MOD_OK: Module 1 is online (serial: JAB100700MC)
2003 Feb 21 04:12:25 switch %PORT-5-IF_DOWN_ADMIN_DOWN: %$VSAN 1%$ Interface fc1/1 is down
 (Administratively down)
2003 Feb 21 04:12:25 switch %PORT-5-IF_DOWN_ADMIN_DOWN: %$VSAN 1%$ Interface fc1/2 is down
 (Administratively down)
2003 Feb 21 04:12:25 switch %PORT-5-IF_DOWN_ADMIN_DOWN: %$VSAN 1%$ Interface fc1/3 is down
 (Administratively down)
```

```
2003 Feb 21 04:12:25 switch %PORT-5-IF_DOWN_ADMIN_DOWN: %$VSAN 1%$ Interface fc1/4 is down
 (Administratively down)
2003 Feb 21 04:12:26 switch %PLATFORM-5-PS_STATUS: PowerSupply 1 current-status is PS_FAIL
2003 Feb 21 04:12:26 switch %PLATFORM-2-PS_FAIL: Power supply 1 failed or shut down (Serial
 number QCS1007109F)
2003 Feb 21 04:12:26 switch %PLATFORM-5-PS_FOUND: Power supply 2 found (Serial number
QCS1007109R)
2003 Feb 21 04:12:26 switch %PLATFORM-2-PS_OK: Power supply 2 ok (Serial number QCS1007109R)
2003 Feb 21 04:12:26 switch %PLATFORM-5-PS_STATUS: PowerSupply 2 current-status is PS_OK
2003 Feb 21 04:12:26 switch %PLATFORM-2-PS_FANOK: Fan in Power supply 2 ok
2003 Feb 21 04:12:26 switch %PLATFORM-5-FAN_DETECT: Fan module 1 (Serial number NWG0901031X)
 ChassisFan1 detected
2003 Feb 21 04:12:26 switch %PLATFORM-2-FAN_OK: Fan module ok
2003 Feb 21 04:12:26 switch %PLATFORM-2-CHASSIS_CLKMODOK: Chassis clock module A ok
2003 Feb 21 04:12:26 switch %PLATFORM-2-CHASSIS_CLKSRC: Current chassis clock source is
clock-A
2003 Feb 21 04:12:26 switch %PORT-5-IF_DOWN_ADMIN_DOWN: %$VSAN 1%$ Interface fc1/5 is down
 (Administratively down)
2003 Feb 21 04:12:26 switch %PORT-5-IF_DOWN_ADMIN_DOWN: %$VSAN 1%$ Interface fc1/6 is down
 (Administratively down)
2003 Feb 21 04:12:26 switch %PORT-5-IF_DOWN_ADMIN_DOWN: %$VSAN 1%$ Interface fc1/7 is down
 (Administratively down)
2003 Feb 21 04:12:26 switch %PORT-5-IF_DOWN_ADMIN_DOWN: %$VSAN 1%$ Interface fc1/8 is down
 (Administratively down)
2003 Feb 21 04:12:26 switch %PORT-5-IF_DOWN_ADMIN_DOWN: %$VSAN 1%$ Interface fc1/9 is down
 (Administratively down)
2003 Feb 21 04:12:26 switch %PORT-5-IF_DOWN_ADMIN_DOWN: %$VSAN 1%$ Interface fc1/10 is down
 (Administratively down)
2003 Feb 21 04:12:27 switch %PORT-5-IF_DOWN_ADMIN_DOWN: %$VSAN 1%$ Interface fc1/11 is down
 (Administratively down)
2003 Feb 21 04:12:27 switch %PORT-5-IF_DOWN_ADMIN_DOWN: %$VSAN 1%$ Interface fc1/12 is down
 (Administratively down)
2003 Feb 21 04:12:27 switch %PORT-5-IF_DOWN_ADMIN_DOWN: %$VSAN 1%$ Interface fc1/13 is down
 (Administratively down)
2003 Feb 21 04:12:27 switch %PORT-5-IF_DOWN_ADMIN_DOWN: %$VSAN 1%$ Interface fc1/14 is down
 (Administratively down)
2003 Feb 21 04:12:30 switch %PLATFORM-2-MOD_DETECT: Module 2 detected (Serial number
JAB0923016X) Module-Type IP Storage Services Module Model DS-X9304-SMIP
2003 Feb 21 04:12:30 switch %MODULE-2-MOD_UNKNOWN: Module type [25] in slot 2 is not supported
2003 Feb 21 04:12:45 switch %VSHD-5-VSHD_SYSLOG_CONFIG_I: Configured from vty by root on
console0
2003 Feb 21 04:14:06 switch %VSHD-5-VSHD_SYSLOG_CONFIG_I: Configured from vty by admin on
console0
2003 Feb 21 04:15:12 switch %VSHD-5-VSHD_SYSLOG_CONFIG_I: Configured from vty by admin on
console0
2003 Feb 21 04:15:52 switch %SYSMGR-3-BASIC_TRACE: core_copy: PID 1643 with message Core
not generated by system for licmgr(0). WCOREDUMP(9) returned zero .
2003 Feb 21 04:15:52 switch %SYSMGR-2-SERVICE_CRASHED: Service \"licmgr\" (PID 2272)
hasn&apos;t caught signal 9 (no core).
2003 Feb 21 04:16:18 switch %LICMGR-3-LOG_LIC_FILE_MISSING: License file(s) missing for
feature ENTERPRISE_PKG.
2003 Feb 21 04:16:18 switch %LICMGR-3-LOG_LIC_FILE_MISSING: License file(s) missing for
feature SAN_EXTN_OVER_IP.
2003 Feb 21 04:16:18 switch %LICMGR-3-LOG_LIC_FILE_MISSING: License file(s) missing for
feature ENTERPRISE_PKG.
2003 Feb 21 04:16:18 switch %LICMGR-3-LOG_LIC_FILE_MISSING: License file(s) missing for
feature SAN_EXTN_OVER_IP.
2003 Feb 21 04:16:18 switch %CALLHOME-2-EVENT: LICENSE_VIOLATION
2003 Feb 21 04:16:18 switch %CALLHOME-2-EVENT: LICENSE_VIOLATION
2003 Feb 21 04:16:18 switch %CALLHOME-2-EVENT: LICENSE_VIOLATION
2003 Feb 21 04:16:18 switch %CALLHOME-2-EVENT: LICENSE_VIOLATION ]]> </aml-block:Data>
</aml-block:Attachment> <aml-block:Attachment type="inline"> <aml-block:Name>show license
usage</aml-block:Name> <aml-block:Data encoding="plain">
<![CDATA[Feature                    Ins  Lic   Status Expiry Date Comments
```

```
                                      Count
--------------------------------------------------------------------------------
DMM_184_PKG                          No    0    Unused               Grace expired
FM_SERVER_PKG                        No    -    Unused               Grace expired
MAINFRAME_PKG                        No    -    Unused               Grace expired
ENTERPRISE_PKG                       Yes   -    Unused never         license missing
DMM_FOR_SSM_PKG                      No    0    Unused               Grace expired
SAN_EXTN_OVER_IP                     Yes   8    Unused never         8 license(s) missing
PORT_ACTIVATION_PKG                  No    0    Unused               -
SME_FOR_IPS_184_PKG                  No    0    Unused               Grace expired
STORAGE_SERVICES_184                 No    0    Unused               Grace expired
SAN_EXTN_OVER_IP_18_4                No    0    Unused               Grace expired
SAN_EXTN_OVER_IP_IPS2                No    0    Unused               Grace expired
SAN_EXTN_OVER_IP_IPS4                No    0    Unused               Grace expired
STORAGE_SERVICES_SSN16               No    0    Unused               Grace expired
10G_PORT_ACTIVATION_PKG              No    0    Unused               -
STORAGE_SERVICES_ENABLER_PKG  No    0    Unused               Grace expired
--------------------------------------------------------------------------------
**** WARNING: License file(s) missing. **** ]]> </aml-block:Data> </aml-block:Attachment>
</aml-block:Attachments> </aml-block:Block> </soap-env:Body> </soap-env:Envelope>
```

Sample RMON 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>1086:FHH0927006V:48BA26BD</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/diagnostic</aml-block:Type>
<aml-block:CreationDate>2008-08-31 05:06:05 GMT+00:00</aml-block:CreationDate>
<aml-block:Builder>
<aml-block:Name>MDS</aml-block:Name>
<aml-block:Version>4.1</aml-block:Version>
</aml-block:Builder>
<aml-block:BlockGroup>
<aml-block:GroupId>1087:FHH0927006V:48BA26BD</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>2008-08-31 05:06:05 GMT+00:00</ch:EventTime>
<ch:MessageDescription>RMON_ALERT WARNING(4) Falling:iso.3.6.1.4.1.9.9.305.1.1.1.0=1 &lt;=
 89:1, 4</ch:MessageDescription>
<ch:Event>
<ch:Type>environment</ch:Type>
```

```
<ch:SubType>minor</ch:SubType>
<ch:Brand>Cisco</ch:Brand>
<ch:Series>MDS9000</ch:Series>
</ch:Event>
<ch:CustomerData>
<ch:UserData>
<ch:email>mchinn@cisco.com</ch:email>
</ch:UserData>
<ch:ContractData>
<ch:CustomerId>12ss</ch:CustomerId>
<ch:SiteId>2233</ch:SiteId>
<ch:ContractId>rrr55</ch:ContractId>
<ch:DeviceId>DS-C9513@C@FHH0927006V</ch:DeviceId>
</ch:ContractData>
<ch:SystemInfo>
<ch:Name>sw172-22-46-174</ch:Name>
<ch:Contact>Mani</ch:Contact>
<ch:Contactemail>mchinn@cisco.com</ch:Contactemail>
<ch:ContactPhoneNumber>+1-800-304-1234</ch:ContactPhoneNumber>
<ch:StreetAddress>1234 wwee</ch:StreetAddress>
</ch:SystemInfo>
</ch:CustomerData>
<ch:Device>
<rme:Chassis xmlns:rme="http://www.cisco.com/rme/4.0">
<rme:Model>DS-C9513</rme:Model>
<rme:HardwareVersion>0.205</rme:HardwareVersion>
<rme:SerialNumber>FHH0927006V</rme:SerialNumber>
</rme:Chassis>
</ch:Device>
</ch:CallHome>
</aml-block:Content>
</aml-block:Block>
</soap-env:Body>
</soap-env:Envelope>
```

Field Descriptions for Call Home

This section displays the field descriptions for this feature:

Call Home General

Field	Description
Contact	The contact person for this switch, together with information on how to contact this person.
PhoneNumber	The phone number of the contact person. The phone number must start with '+' and contains only numeric characters except for space and '-'. Some valid phone numbers are +44 20 8332 9091 +45 44886556 +81-46-215-4678 +1-650-327-2600.
EmailAddress	The email address of the contact person. Some valid email addresses are raj@helpme.com, bob@service.com, mtom@abc.caview.ca.us.
StreetAddress	The mailing address of this switch.
CustomerId	A string, in whatever format is appropriate, to identify the customer.

Field	Description
ContractId	A string, in whatever format is appropriate, to identify the support contract between the customer and support partner.
SiteId	A location identifier of this device.
DeviceServicePriority	The service priority of the device. This determines how fast the device has to be serviced.
Enable	Enables/disables the Call Home infrastructure on the local device.

Related Topics

Information About Call Home, on page 1

Call Home Destinations

Field	Description
EmailAddress	The email address associated this destination profile. Some examples are raj@helpme.com, bob@service.com, mtom@abc.caview.ca.us.

Related Topics

Call Home Destination Profiles, on page 4

Call Home SMTP Servers

Field	Description
Address Type, Address	IP address of the SMTP server.
Port	TCP port of the SMTP server.
Priority	Priority value.

Call Home Email Setup

Field	Description
From	The email address that is to be used in the From field when sending the email using SMTP. Some examples are raj@helpme.com, bob@service.com, mtom@abc.caview.ca.us.
ReplyTo	The email address that is to be used in the Reply-To field when sending the email using SMTP. Some examples are raj@helpme.com, bob@service.com, mtom@abc.caview.ca.us.
IP Address Type	The IP address type (IPv4, IPv6, or DNS).

Field	Description
Name or IP Address	Name or IP address of the SMTP server.
Port	TCP port of the SMTP server.

Related Topics

General EMail Options Using HTTPS Support, on page 6

Call Home Alerts

Field	Description
Action	Test — Sends a Call Home message TestWithInventory — Sends a message with inventory details.
Status	The status of the last Call Home action invocation.
FailureCause	The failure cause for the last Call Home test invocation.
LastTimeSent	When the last Call Home alert was sent.
NumberSent	The number of Call Home alerts sent.
Interval	Time frame for sending the periodic software inventory Call Home message.
Throttling Enable	If checked, enables the message throttling mechanism implemented on the system, to limit the number of Call Home messages for an alert type within a time frame. The maximum is 30 in a 2-hour time frame, and any further messages for that alert type are discarded.
Enable	If checked, enables the sending of periodic software inventory Call Home messages on the system.

Related Topics

Call Home Alert Groups, on page 4

Call Home Message Level Feature, on page 5

Call Home User Defined Command

Field	Description
User Defined Command	Configures user-defined commands for the Call Home alert group types.

Delayed Traps

Field	Description
Enable	Enables or disables delay traps.

Field	Description
Delay	Delays interval in minutes (valid values are between 1 to 60).

Call Home Profiles

Field	Description
MsgFormat	XML, full text, or short text.
MaxMsgSize	Maximum message size that can be sent to destination pointed to by this destination profile.
MsgLevel	Threshold level, used for filtering alert messages sent to a destination. Callhome alert message with severity level lower than the configured threshold level would not be sent. The default threshold level is debug (1), which means all the alert messages will be sent.
AlertGroups	The list of configured alert groups for this destination profile.

Event Destinations Addresses

Field	Description
Address/Port	IP address and port to send event.
Security Name	The SNMP parameters to be used when generating messages to be sent to this address.
Security Model	Is used when generating SNMP messages using this entry.
Inform Type	• Trap — Unacknowledged event • Inform — Acknowledged event.
Inform Timeout	This expected maximum round-trip time for communicating with the address.
RetryCount	The number of retries to be attempted when a response is not received for a generated message.

Event Destinations Security (Advanced)

Field	Description
MPModel	The message processing model to be used when generating SNMP messages using this entry.
SecurityModel	The security model to be used when generating SNMP messages using this entry.
SecurityName	Identifies the principal on whose behalf SNMP messages will be generated using this entry.
SecurityLevel	The level of security to be used when generating SNMP messages using this entry.

Event Filters General

Field	Description
FSPF - Nbr State Changes	Specifies whether or not the local switch should issue notification when the local switch learns of a change in the neighbor's state (state in the FSPF neighbor finite state machine) on an interface on a VSAN.
Domain Mgr - ReConfig Fabrics	Specifies whether or not the local switch should issue a notification on sending or receiving ReConfigureFabric (RCF) on a VSAN.
Zone Server - Request Rejects	Specifies if the zone server should issue a notification on rejects.
Zone Server - Merge Failures	Specifies if the zone server should issue a notification on merge failures.
Zone Server - Merge Successes	Specifies if the zone server should issue a notification on merge successes.
Zone Server - Default Zone Behavior Change	Specifies if the zone server should issue a notification if the propagation policy changes.
Zone Server - Unsupp Mode	Specifies if the zone server should issue a notification on unsupp mode changes
FabricConfigServer - Request Rejects	Specifies if the fabric configuration server should issue a notification on rejects.
RSCN - ILS Request Rejects	Specifies if the RSCN module should generate notifications when a SW_RSCN request is rejected.
RSCN - ILS RxRequest Rejects	Specifies if the RSCN module should generate notifications when a SW_RSCN request is rejected.
RSCN - ELS Request Rejects	Specifies if the RSCN module should generate notifications when a SCR or RSCN request is rejected.
FRU Changes	A false value will prevent field replaceable unit (FRU) notifications from being generated by this system.
SNMP - Community Auth Failure	Indicates whether the SNMP entity is permitted to generate authenticationFailure traps.
VRRP	Indicates whether the VRRP-enabled router will generate SNMP traps for events defined in this MIB.
FDMI	Specifies if the FDMI should generate notifications when a registration request is rejected.
License Manager	Indicates whether the system should generate notifications.
Port/Fabric Security	Specifies if the system should generate notifications when a port/fabric security issue arises.
FCC	Specifies whether the agent should generate notifications.

Field	Description
Name Server	If checked, the name server generates a notification when a request is rejected. If false, the notification is not generated.

Event Filters Interfaces

Field	Description
EnableLinkTrap	Indicates whether linkUp/linkDown traps should be generated for this interface.

Event Filters Control

Field	Description
Variable	Represents the notification to be controlled.
Descr	Description about the notification.
Enabled	Check to enable notification of the control. Shows the status of the control.

> **Note** You see the Descr column only on switches that run Cisco NX-OS Release 5.0 or later.

Additional References

For additional information related to implementing Call Home, see the following section:

MIBs

MIBs	MIBs Link
• CISCO-CALLHOME-CAPABILITY-MIB • CISCO-CALLHOME-MIB	To locate and download MIBs, go to the following URL: http://www.cisco.com/en/US/products/ps5989/prod_technical_reference_

Feature History for Call Home

lists the release history for this feature. Only features that were introduced or modified in Release 3.x or a later release appear in the table.

Table 11: Feature History for Call Home

Feature Name	Releases	Feature Information
Call Home HTTP Proxy Server	5.2	Added the Call Home HTTP Proxy Server support details.
Call Home Wizard	5.2	Added the Call Home Wizard configuration details.
Call Home HTTP Proxy Server	5.2	Added the Call Home HTTP Proxy Server support details. Added Verifying Callhome Transport commands.
Multiple SMTP Server Support	5.0(1a)	Added Multiple SMTP Server Support details. Added Verifying Callhome Transport commands.
Notification Enhancements	5.0(1a)	Added the enhancement in Notification in the Event Filter Using Device Manager.
Call Home	4.1(1b)	Added the HTTPS support for Call Home.
Call Home - Delayed Traps for EMC Call Home configuration window in DCNM-SAN.	4.1(1a)	Added the delayed traps enhancements for EMC Call Home.
Call Home Destination tab	4.2(1)	Added the enhancement in Destination tab.
Call Home HTTPs support	4.2(1)	Added Call Home HTTPs enhancement.
EMC Email Home	3.3(3)	EMC Email Home configuration information was added to this chapter.
EMC Call Home	3.0(1)	Enables the forwarding of traps as XML data using email, according to EMC specifications.
Call Home enhancement	3.0(1)	Enables customization of alert group messages.