CHAPTER 4

Configuring Call Home

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

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, page 4-1
- Guidelines and Limitations, page 4-18
- Default Settings, page 4-19
- Configuring Call Home, page 4-20
- Monitoring Call Home, page 4-32
- Field Descriptions for Call Home, page 4-37
- Additional References, page 4-42
- Feature History for Call Home, page 4-42

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

Common features may include the following:

- Paging the network support engineer
- E-mailing 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 Family 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 e-mail 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.

This section includes the following topics:

- Call Home Features, page 4-2
- About Smart Call Home, page 4-3
- Call Home Destination Profiles, page 4-5
- Call Home Alert Groups, page 4-5
- Call Home Message Level Feature, page 4-6
- Syslog-Based Alerts, page 4-6
- RMON-Based Alerts, page 4-7
- General E-Mail Options Using HTTPS Support, page 4-7
- Periodic Inventory Notification, page 4-7
- Duplicate Message Throttle, page 4-7
- Call Home Configuration Distribution, page 4-7
- Fabric Lock Override, page 4-8
- Clearing Call Home Name Server Database, page 4-8
- EMC E-mail Home Delayed Traps, page 4-8
- Event Triggers, page 4-9
- Call Home Message Levels, page 4-10
- Message Contents, page 4-11

Call Home Features

The Call Home functionality is available directly through the Cisco MDS 9000 Family 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 e-mail 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.

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.

Table 4-1 lists the benefits of Smart Call Home.

Table 4-1 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.
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.

Table 4-1 Benefits of Smart Call Home Compared to Autonotify (continued)

Feature	Smart Call Home	Autonotify
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 e-mail 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 Family 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 Family 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 e-mail 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 Family 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.

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 the "Call Home Message Levels" section on page 4-10). 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 the "Call Home Message Levels" section on page 4-10).

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 Family and Nexus 7000 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 E-Mail 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.

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 Family 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 aborting the changes instead of committing them. In either case, the lock is released. See Chapter 2, “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 E-mail Home Delayed Traps

DCNM-SAN can be configured to generate EMC E-mail Home XML e-mail messages. In SAN-OS Release 3.x or earlier, DCNM-SAN listens to interface traps and generates EMC E-mail Home e-mail 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 e-mail notification.

Cisco NX-OS Release 4.1(3) provides the ability to generate a delayed trap so that the number of generated e-mail messages is reduced. This method filters server reboots and avoids generating unnecessary EMC E-mail Home e-mail 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.

Table 4-2 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
	System and CISCO_TAC	SW_SYSTEM_INCONSISTENT	Inconsistency detected in software or file system.	5
	Environmental and CISCO_TAC	TEMPERATURE_ALARM	Thermal sensor indicates temperature reached operating threshold.	6
		POWER_SUPPLY_FAILURE	Power supply failed.	6
		FAN_FAILURE	Cooling fan has failed.	5
	Line Card Hardware and CISCO_TAC	LINECARD_FAILURE	Line card hardware operation failed.	7
		POWER_UP_DIAGNOSTICS_FAILURE	Line card hardware failed power-up diagnostics.	7
	Line Card Hardware and CISCO_TAC	PORT_FAILURE	Hardware failure of interface port(s).	6
	Line Card Hardware, Supervisor Hardware, and CISCO_TAC	BOOTFLASH_FAILURE	Failure of boot compact flash card.	6
	Supervisor Hardware and CISCO_TAC	NVRAM_FAILURE	Hardware failure of NVRAM on supervisor hardware.	6
	Supervisor Hardware and CISCO_TAC	FREEDISK_FAILURE	Free disk space is below a threshold on supervisor hardware.	6
	Supervisor Hardware and CISCO_TAC	SUP_FAILURE	Supervisor hardware operation failed.	7
		POWER_UP_DIAGNOSTICS_FAILURE	Supervisor hardware failed power-up diagnostics.	7
	Supervisor Hardware and CISCO_TAC	INBAND_FAILURE	Failure of in-band communications path.	7
	Supervisor Hardware and CISCO_TAC	EOBC_FAILURE	Ethernet out-of-band channel communications failure.	6

Table 4-2 Event Triggers (continued)

Event	Alert Group	Event Name	Description	Call Home Message Level
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
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

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" section on page 4-6).

This section discusses the severity levels for a Call Home message when using one or more switches in the Cisco MDS 9000 Family 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 4-3.

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 Family and Nexus 7000 Series System Messages Reference*.

Note Call Home severity levels are not the same as system message logging severity levels (see the *Cisco MDS 9000 Family and Nexus 7000 Series System Messages Reference*).

Table 4-3 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.

Table 4-3 Severity and Syslog Level Mapping (continued)

Call Home Level	Keyword Used	Syslog Level	Description
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
- E-mail 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 4-4 describes the short text formatting option for all message types.

Table 4-4 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 4-5, Table 4-6, and Table 4-7 display the information contained in plain text and XML messages.

Table 4-5 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" section on page 4-9.	/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 4-3).	/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 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

Table 4-5 Reactive Event Message Format (continued)

Data Item (Plain text and XML)	Description (Plain text and XML)	XML Tag (XML only)
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
Contact e-mail	E-mail address of person identified as contact for this unit.	/mml/body/sysContacte-mail - ch:SystemInfo/Contacte-mail
Contact phone number	Phone number of the person identified as the contact for this unit.	/mml/body/sysContactPhone Number - ch:SystemInfo/ContactPhone Number
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 family 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

Table 4-5 Reactive Event Message Format (continued)

Data Item (Plain text and XML)	Description (Plain text and XML)	XML Tag (XML only)
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 (see Table 4-3).	/mml/attachments/attachment/atdata - aml-block:Attachment/Data

Table 4-6 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-DDTHH: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” section on page 4-9.	/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 4-3).	/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

Table 4-6 Inventory Event Message Format (continued)

Data Item (Plain text and XML)	Description (Plain text and XML)	XML Tag (XML only)
Customer ID	Optional user-configurable field used for contact info or other ID by any support service.	/mml/header/customerID - ch-inv:CustomerId
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@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-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 e-mail	E-mail address of person identified as contact for this unit.	/mml/body/sysContacte-mail - ch-inv:SystemInfo/Contacte-mail
Contact phone number	Phone number of the person identified as the contact for this unit.	/mml/body/sysContactPhone Number - ch-inv:SystemInfo/ContactPh oneNumber
Street address	Optional field containing street address for RMA part shipments associated with this unit.	/mml/body/sysStreetAddress- ch-inv:SystemInfo/StreetAddr ess
Model name	Model name of the unit. This is the specific model as part of a product family 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/SoftwareIde ntity

Table 4-6 Inventory Event Message Format (continued)

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" section on page 4-9).	/mml/attachments/attachment/atdata - aml-block:Attachment/Data

Table 4-7 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-DDTHH: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" section on page 4-9).	/mml/header/name
Message type	Specifically "Test Call Home."	/mml/header/type - ch:Type
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 4-3).	/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

Table 4-7 User-Generated Test Message Format (continued)

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 e-mail	E-mail address of person identified as contact for this unit.	/mml/body/sysContacte-mail - ch:SystemInfo/Contacte-mail
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 family 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 4-3.	/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 e-mail 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.
- Verify that two destination profiles do not have the same name (even if they have different configuration information) on the subordinate and dominant switches. If they do contain the same name, the merge operation will fail. You must then modify or delete the conflicting destination profile on the required switch.

See the "CFS Merge Support" section on page 2-6 for detailed concepts.

Call Home Configuration Guidelines

When configuring Call Home, follow these guidelines:

- An e-mail server and at least one destination profile (predefined or user-defined) must be configured. The destination profile(s) used depends on whether the receiving entity is a pager, e-mail, 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 Family switch and the Cisco Nexus 5000 Series switch must have IP connectivity to an e-mail server.
- If Cisco Smart Call Home is used, an active service contract must cover the device being configured.

Default Settings

Table 4-8 lists the default Call Home settings.

Table 4-8 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.

Table 4-8 Default Call Home Default Settings (continued)

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

Configuring Call Home

How you configure the Call Home process depends on how you intend to use the feature.

This section includes the following topics:

- Task Flow for Configuring Call Home, page 4-20
- Enabling Call Home Function, page 4-21
- Configuring Destination Profiles, page 4-22
- Associating an Alert Group, page 4-23
- Customizing Alert Group Messages, page 4-24
- Configuring General E-Mail Options, page 4-26
- Configuring an HTTP Proxy Server, page 4-26
- Task Flow for Configuring Call Home Wizard, page 4-27
- Launching Call Home Wizard, page 4-27
- Enabling Periodic Inventory Notifications, page 4-28
- Configuring Duplicate Message Throttle, page 4-29
- Enabling Call Home Fabric Distribution, page 4-29
- Call Home Communications Test, page 4-30
- Configuring Delayed Traps, page 4-31
- Enabling Delayed Traps Using Cisco Device Manager, page 4-31
- Viewing Event Filter Notification, page 4-32

Task Flow for Configuring Call Home

Follow these steps to configure Call Home:

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 e-mail options.

Step 6 Test Call Home messages.

Configuring Contact Information

Switch priority is configured by a user for 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.

Prerequisites

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

Detailed Steps

To assign the contact information, follow these steps:

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 e-mail address that identifies the source of Call Home notifications.

Step 4 Click the **Destination(s)** tab to configure the destination e-mail addresses for Call Home notifications. You can identify one or more e-mail 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 e-mail 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.

Detailed Steps

To enable the Call Home function, follow these steps:

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 Destination Profiles

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 (see http://www.cisco.com/en/US/partner/products/hw/ps4159/ps4358/products_configuration_example09186a0080108e72.shtml).

Prerequisites

- 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.

Detailed Steps

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

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

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

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

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.

Restrictions

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

Detailed Steps

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

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

Detailed Steps

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

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 Steps 3 through 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

Restrictions

- 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).

Detailed Steps

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

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

You see the Call Home information in the Information pane.

In Device Manager, choose **Admin > Events > Call Home**.

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

You see the Call Home profiles.

Step 3 Set a message level for each switch using the drop-down menu in the MsgLevel column.

Step 4 Click the **Apply Changes** icon to save your changes.

Configuring the Syslog-Based Alerts

Detailed Steps

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

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

Detailed Steps

To configure RMON alert groups, follow these steps:

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 Select the **Create Row** icon.

You 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 General E-Mail Options

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

Detailed Steps

To configure general e-mail options, follow these steps:

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 **e-mail Setup** tab.

Step 4 Select a switch in the Information pane.

Step 5 Enter the general e-mail 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 e-mail options.

Configuring an HTTP Proxy Server

Detailed Steps

To configure a Call Home HTTP proxy server, follow these steps:

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 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:

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

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.

Detailed Steps

To configure Call Home wizard, follow these steps:

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.

The **Status Dialog** window is displayed.

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

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.

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 Family and Cisco Nexus 5000 Series switches.

Detailed Steps

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

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 **Periodic Inventory** tab.

You 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 Family 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.

Detailed Steps

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

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

Detailed Steps

To enable Call Home fabric distribution, follow these steps:

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.

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).

Detailed Steps

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

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 4-9 includes all the traps for EMC Call Home.

Table 4-9 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 linkDown traps for EMC E-mail Home messages.

Prerequisites

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.

Detailed Steps

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

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.

To disable delayed traps, follow these steps:

Step 1 Uncheck the **Enable** check box.

Step 2 Click **Apply**.

Enabling Delayed Traps Using Cisco Device Manager

Detailed Steps

To enable the delayed trap feature, follow these steps:

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

Detailed Steps

To see the descriptive notification, follow these steps:

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

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

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

Monitoring Call Home

This section includes the following topics:

- Sample Syslog Alert Notification in Full-txt Format, page 4-32
- Sample Syslog Alert Notification in XML Format, page 4-33
- Sample RMON Notification in XML Format, page 4-36

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 e-mail: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:e-mail>esajjana@cisco.com</ch:e-mail>
</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:Contacte-mail>esajjana@cisco.com</ch:Contacte-mail>
<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&amp;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>diagnostic</ch:Type>
<ch:SubType>GOLD-major</ch:SubType>
<ch:Brand>Cisco</ch:Brand>
<ch:Series>MDS9000</ch:Series>
</ch:Event>
<ch:CustomerData>
<ch:UserData>
<ch:e-mail>mchinn@cisco.com</ch:e-mail>
</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:Contacte-mail>mchinn@cisco.com</ch:Contacte-mail>
<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 describes the field descriptions for Call Home.

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 e-mail address of the contact person. Some valid e-mail 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.
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

Call Home Destinations

Field	Description
E-mailAddress	The e-mail 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

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 E-mail Setup

Field	Description
From	The e-mail address that is to be used in the From field when sending the e-mail using SMTP. Some examples are raj@helpme.com, bob@service.com, mtom@abc.caview.ca.us.
ReplyTo	The e-mail address that is to be used in the Reply-To field when sending the e-mail 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).
Name or IP Address	Name or IP address of the SMTP server.
Port	TCP port of the SMTP server.

Related Topics

Configuring General E-Mail Options

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

Customizing Alert Group Messages

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.
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.
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, page 4-42

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_list.html

Feature History for Call Home

Table 4-10 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 4-10 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.
Multiple SMTP Server Support	5.0(1a)	Added Multiple SMTP Server Support details. Added Verifying Callhome Transport commands.

Feature Name	Releases	Feature Information
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.