CHAPTER 4

Configuring Smart Call Home

This chapter describes how to configure the Smart Call Home feature on the device.

This chapter includes the following sections:

Information About Call Home

Call Home provides e-mail-based notification of critical system events. Cisco NX-OS provides a range of message formats for optimal compatibility with pager services, standard e-mail, or XML-based automated parsing applications. You can use this feature to page a network support engineer, e-mail a Network Operations Center, or use Cisco Smart Call Home services to automatically generate a case with the Technical Assistance Center.

This section includes the following topics:

Call Home Overview

You can use Call Home to notify an external entity when an important event occurs on your device. Call Home delivers alerts to multiple recipients that you configure in *destination profiles* (see "Destination Profiles" section on page 4-2).

Call Home includes a fixed set of predefined alerts on your switch (see the "Event Triggers" section on page 4-22). Cisco NX-OS groups these alerts into alert groups and assigns CLI commands to execute when an alert in an alert group occurs. Cisco NX-OS includes the command output in the transmitted Call Home message. See the "Call Home Alert Groups" section on page 4-3 for a list of alerts and the predefined set of CLI commands sent when the alert triggers.

The Call Home feature offers the following advantages:

- Automatic execution and attachment of relevant CLI command output.
- Multiple message format options such as the following:
  - Short Text—Suitable for pagers or printed reports.
  - Full Text—Fully formatted message information suitable for human reading.
  - XML—Machine-readable format that uses Extensible Markup Language (XML) and Adaptive Messaging Language (AML) XML schema definition (XSD). The AML XSD is published on the Cisco.com 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.

Destination Profiles

A destination profile includes the following information:

- One or more alert groups—The group of alerts that trigger a specific Call Home message if the alert occurs.
- One or more e-mail destinations—The list of receipents for the Call Home messages generated by alert groups assigned to this destination profile.
- Message format—The format for the Call Home message (short text, full text, or XML).
- Message severity level—The Call Home severity level that the alert must meet before Cisco NX-OS generates a Call Home message to all e-mail addresses in the destination profile. For more information about Call Home severity levels, see the "Call Home Message Levels" section on page 4-5. Cisco NX-OS does not generate an alert if the Call Home severity level of the alert is lower than the message severity level set for the destination profile.

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

Cisco NX-OS supports the following predefined destination profiles:

- CiscoTAC-1—Supports the Cisco-TAC alert group in XML message format. This profile is preconfigured with the callhome@cisco.com e-mail contact, maximum message size, and message severity level 0. You cannot change any of the default information for this profile.
- full-text-destination—Supports the full text message format.
- short-text-destination—Supports the short text message format.

See the "Message Formats" section on page 4-23 for more information about the message formats.

Call Home Alert Groups

An alert group is a predefined subset of Call Home alerts that are supported in all Cisco NX-OS switches. Alert groups allow you to select the set of Call Home alerts that you want to send to a predefined or custom destination profile. Cisco NX-OS sends Call Home alerts 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 and if the alert has a Call Home message severity at or above the message severity set in the destination profile (see the "Call Home Message Levels" section on page 4-5).

Table 4-1 lists supported alert groups and the default CLI command output included in Call Home messages generated for the alert group.

Table 4-1 Alert Groups and Executed Commands

Alert Group	Description	Executed Commands
Cisco-TAC	All critical alerts from the other alert groups destined for Smart Call Home.	Execute commands based on the alert group that originates the alert.
Configuration	Periodic events related to configuration.	**show module** **show running-configuration vdc-all all** **show startup-configuration vdc-all** **show vdc current** **show vdc membership** **show version**
Diagnostic	Events generated by diagnostics.	**show diagnostic result module all detail** **show diagnostic result module** *number* **detail** **show module** **show tech-support gold** **show tech-support platform** **show tech-support sysmgr** **show vdc current** **show vdc membership**
EEM	Events generated by EEM.	**show diagnostic result module all detail** **show diagnostic result module** *number* **detail** **show module** **show tech-support gold** **show tech-support platform** **show tech-support sysmgr** **show vdc current** **show vdc membership**
Environmental	Events related to power, fan, and environment-sensing elements such as temperature alarms.	**show environment** **show logging last 200** **show module** **show vdc current** **show vdc membership** **show version**

Table 4-1 Alert Groups and Executed Commands (continued)

Alert Group	Description	Executed Commands
Inventory	Inventory status that is provided whenever a unit is cold booted, or when FRUs are inserted or removed. This alert is considered a noncritical event, and the information is used for status and entitlement.	**show inventory** **show module** **show system uptime** **show sprom all** **show vdc current** **show vdc membership** **show version**
License	Events related to licensing and license violations.	**show license usage** **show logging last 200** **show tech-support ethpm** **show vdc current** **show vdc membership**
Linemodule hardware	Events related to standard or intelligent switching modules.	**show diagnostic result module all detail** **show diagnostic result module** *number* **detail** **show module** **show tech-support gold** **show tech-support platform** **show tech-support sysmgr** **show vdc current** **show vdc membership**
Supervisor hardware	Events related to supervisor modules.	**show diagnostic result module all detail** **show diagnostic result module** *number* **detail** **show module** **show tech-support gold** **show tech-support platform** **show tech-support sysmgr** **show vdc current** **show vdc membership**
Syslog port group	Events generated by the syslog PORT facility.	**show license usage** **show logging last 200** **show tech-support ethpm** **show vdc current** **show vdc membership**

Table 4-1 Alert Groups and Executed Commands (continued)

Alert Group	Description	Executed Commands
System	Events generated by failure of a software system that is critical to unit operation.	**show diagnostic result module all detail** **show diagnostic result module** *number* **detail** **show module** **show tech-support gold** **show tech-support platform** **show tech-support sysmgr** **show vdc current** **show vdc membership**
Test	User-generated test message.	**show module** **show vdc current** **show vdc membership** **show version**

Call Home maps the syslog severity level to the corresponding Call Home severity level for syslog port group messages (see the "Call Home Message Levels" section on page 4-5).

You can customize predefined alert groups to execute additional CLI **show** commands when specific events occur and send that **show** output with the Call Home message.

You can add **show** commands only to full text and XML destination profiles. Short text destination profiles do not support additional **show** commands because they only allow 128 bytes of text.

Call Home Message Levels

Call Home allows you to filter messages based on their level of urgency. You can associate each destination profile (predefined and userdefined) with a Call Home message level threshold. Cisco NX-OS does not generate any Call Home messages with a value lower than this threshold for the destination profile. The Call Home message level ranges from 0 (lowest level of urgency) to 9 (highest level of urgency), and the default is 0 (Cisco NX-OS sends all messages).

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

Note Call Home does not change the syslog message level in the message text. The syslog messages in the Call Home log appear as they are described in the *Cisco NX-OS System Messages Guide.*

Table 4-2 lists each Call Home message level keyword and the corresponding syslog level for the syslog port alert group.

Table 4-2 Severity and syslog Level Mapping

Call Home Level	Keyword	syslog Level	Description
9	**Catastrophic**	N/A	Network-wide catastrophic failure.
8	**Disaster**	N/A	Significant network impact.
7	**Fatal**	Emergency (0)	System is unusable.

Table 4-2 Severity and syslog Level Mapping (continued)

Call Home Level	Keyword	syslog Level	Description
6	**Critical**	Alert (1)	Critical conditions that indicate that immediate attention is needed.
5	**Major**	Critical (2)	Major conditions.
4	**Minor**	Error (3)	Minor conditions.
3	**Warning**	Warning (4)	Warning conditions.
2	**Notification**	Notice (5)	Basic notification and informational messages. Possibly independently insignificant.
1	**Normal**	Information (6)	Normal event signifying return to normal state.
0	**Debugging**	Debug (7)	Debugging messages.

Obtaining Smart Call Home

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

Smart Call Home offers the following features:

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

You need the following items to register:

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

For more information about Smart Call Home, see the Smart Call Home page at the following URL:

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

High Availability

Cisco NX-OS supports stateless restarts for Call Home. After a reboot or supervisor switchover, Cisco NX-OS applies the running configuration.

Virtualization Support

Cisco NX-OS supports one instance of Call Home per virtual device context (VDCs). Smart Call Home uses the contact information from the first registered VDC as the administrator contact for all VDCs on the physical device. For example, if you want the Smart Call Home to use the contact information from the default VDC, you should register using that VDC. You can update this information at the Smart Call Home website at the following URL:

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

Smart Call Home registers the contacts for all other VDCs as users that can see all the Call Home data for the physical device but cannot act as administrators. All registered users and the registered administrator receive all Call Home notifications from all VDCs on the physical device.

By default, Cisco NX-OS places you in the default VDC. See the *Cisco NX-OS Virtual Device Context Configuration Guide*.

Call Home is virtual routing and forwarding (VRF) aware. You can configure Call Home to use a particular VRF to reach the Call Home SMTP server.

Licensing Requirements for Call Home

The following table shows the licensing requirements for this feature:

Product	License Requirement
NX-OS	Call Home requires no license. Any feature not included in a license package is bundled with the Cisco NX-OS system images and is provided at no extra charge to you. For a complete explanation of the NX-OS licensing scheme, see the *Cisco NX-OS Licensing Guide*.

Prerequisites for Call Home

Call Home has the following prerequisites:

- You must configure an e-mail server.
- You must configure the contact name (SNMP server contact), phone, and street address information before you enable Call Home. This step is required to determine the origin of messages received.
- Your switch must have IP connectivity to an e-mail server.
- If you use Smart Call Home, you need an active service contract for the device that you are configuring.
- If you configure VDCs, install the Advanced Services license and enter the desired VDC (see the *Cisco NX-OS Virtual Device Context Configuration Guide).* This license is required for VDCs only, not for Call Home.
- If you configure VDCs, you should register the device from the default VDC.

Configuration Guidelines and Limitations

Call Home has the following configuration guidelines and limitations:

- If there is no IP connectivity or if the interface in the VRF to the profile destination is down, Cisco NX-OS cannot sent the Call Home message.
- Operates with any SMTP server.

Configuring Call Home

This section includes the following topics:

Note If you are familiar with the Cisco IOS CLI, be aware that the Cisco NX-OS commands for this feature might differ from the Cisco IOS commands that you would use.

Guidelines for Configuring Call Home

To configure Call Home, follow these steps:

Step 1 Assign contact information.

Step 2 Configure destination profiles.

Step 3 Associate one or more alert groups to each profile.

Step 4 (Optional) Add additional **show** commands to the alert groups.

Step 5 Configure transport options.

Step 6 Enable Call Home.

Step 7 (Optional) Test Call Home messages.

Configuring Contact Information

You must configure the e-mail, phone, and street address information for Call Home. You can optionally configure the contract ID, customer ID, site ID, and switch priority information.

BEFORE YOU BEGIN

Ensure that you are in the correct VDC (or use the **switchto vdc** command).

SUMMARY STEPS

1. **config t**
2. **snmp-server contact** *sys-contact*
3. **callhome**
4. **email-contact** *email-address*
5. **phone-contact** *international-phone-number*
6. **streetaddress** *address*
7. **contract-id** *contract-number*
8. **customer-id** *customer-number*
9. **site-id** *site-number*
10. **switch-priority** *numbers*
11. **show callhome**
12. **copy running-config startup-config**

DETAILED STEPS

	Command	Purpose

Step 1	**config t**
	
	Example:
	`switch# config t`
	`switch(config)#`
		Enters configuration mode.

Step 2	**snmp-server contact** *sys-contact* **Example:** `switch(config)# snmp-server contact personname@companyname.com`	Configures the SNMP sysContact.

Step 3	**callhome**
	
	Example:
	`switch(config)# callhome`
	`switch(config-callhome)#`
		Enters callhome configuration mode.

Step 4	**email-contact** *email-address* **Example:** `switch(config-callhome)# email-contact admin@Mycompany.com`	Configures the e-mail address for the primary person responsible for the device. Up to 255 alphanumeric characters are accepted in e-mail address format. **Note** You can use any valid e-mail address. You cannot use spaces.

	Command	Purpose
Step 5	**phone-contact** *international-phone-number* **Example:** `switch(config-callhome)# phone-contact +1-800-123-4567`	Configures the phone number in international phone number format for the primary person responsible for the device. Up to 17 alphanumeric characters are accepted in international format. **Note** You cannot use spaces. Be sure to use the **+** prefix before the number.
Step 6	**streetaddress** *address* **Example:** `switch(config-callhome)# streetaddress 123 Anystreet st. Anytown,AnyWhere`	Configures the street address as an alphanumeric string with white paces for the primary person responsible for the device. Up to 255 alphanumeric characters are accepted, including spaces.
Step 7	**contract-id** *contract-number* **Example:** `switch(config-callhome)# contract-id Contract5678`	(Optional) Configures the contract number for this device from the service agreement. The contract number can be up to 255 alphanumeric characters in free format.
Step 8	**customer-id** *customer-number* **Example:** `switch(config-callhome)# customer-id Customer123456`	(Optional) Configures the customer number for this device from the service agreement. The customer number can be up to 255 alphanumeric characters in free format.
Step 9	**site-id** *site-number* **Example:** `switch(config-callhome)# site-id Site1`	(Optional) Configures the site number for this device. The site number can be up to 255 alphanumeric characters in free format.
Step 10	**switch-priority** *number* **Example:** `switch(config-callhome)# switch-priority 3`	(Optional) Configures the switch priority for this device. The range is from 0 to 7, with 0 being the highest priority and 7 the lowest. The default is 7.
Step 11	**show callhome** **Example:** `switch(config-callhome)# show callhome`	(Optional) Displays a summary of the Call Home configuration.
Step 12	**copy running-config startup-config** **Example:** `switch(config)# copy running-config startup-config`	(Optional) Saves this configuration change.

This example shows how to configure the contact information for Call Home:

```
switch# config t
switch(config)# snmp-server contact personname@companyname.com
switch(config)# callhome
switch(config-callhome)# email-contact admin@Mycompany.com
switch(config-callhome)# phone-contact +1-800-123-4567
switch(config-callhome)# street-address 123 Anystreet st. Anytown,AnyWhere
```

Creating a Destination Profile

You can create a user-defined destination profile and configure the message format for that new destination profile.

BEFORE YOU BEGIN

Ensure that you are in the correct VDC (or use the **switchto vdc** command).

SUMMARY STEPS

1. **config t**
2. **callhome**
3. **destination-profile** *name*
4. **destination-profile** *name* **format** {**XML** | **full-txt** | **short-txt**}
5. **show callhome destination-profile** [**profile** *name*]
6. **copy running-config startup-config**

DETAILED STEPS

	Command	Purpose
Step 1	**config t** **Example:** switch# config t switch(config)#	Enters configuration mode.
Step 2	**callhome** **Example:** switch(config)# callhome switch(config-callhome)#	Enters callhome configuration mode.
Step 3	**destination-profile** *name* **Example:** switch(config-callhome)# destination-profile Noc101	Creates a new destination profile. The name can be any alphanumeric string up to 31 characters.
Step 4	**destination-profile** *name* **format** {**XML** | **full-txt** | **short-txt**} **Example:** switch(config-callhome)# destination-profile Noc101 format full-txt	Sets the message format for the profile. The name can be any alphanumeric string up to 31 characters.
Step 5	**show callhome destination-profile** [**profile** *name*] **Example:** switch(config-callhome)# show callhome destination-profile profile Noc101	(Optional) Displays information about one or more destination profiles.
Step 6	**copy running-config startup-config** **Example:** switch(config)# copy running-config startup-config	(Optional) Saves this configuration change.

This example shows how to create a destination profile for Call Home:

```
switch# config t
switch(config)# callhome
switch(config-callhome)# destination-profile Noc101
switch(config-callhome)# destination-profile Noc101 format full-text
```

Modifying a Destination Profile

You can modify the following attributes for a predefined or user-defined destination profile:

- 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).
- Message level—The Call Home message severity level for this destination profile.
- Message size—The allowed length of a Call Home message sent to the e-mail addresses in this destination profile.

See the "Associating an Alert Group with a Destination Profile" section on page 4-14 for information on configuring an alert group for a destination profile.

Note You cannot modify or delete the CiscoTAC-1 destination profile.

BEFORE YOU BEGIN

Ensure that you are in the correct VDC (or use the **switchto vdc** command).

SUMMARY STEPS

1. **config t**
2. **callhome**
3. **destination profile** {*name* | **CiscoTAC-1** | **full-txt-destination** | **short-txt-destination**} **email-addr** *address*
4. **destination profile** {*name* | **CiscoTAC-1** | **full-txt-destination** | **short-txt-destination**} **message-level** *number*
5. **destination profile** {*name* | **CiscoTAC-1** | **full-txt-destination** | **short-txt-destination**} **message-size** *number*
6. **show call-home destination-profile** [**profile** *name*]
7. **copy running-config startup-config**

DETAILED STEPS

	Command	Purpose
Step 1	**config t** **Example:** switch# config t switch(config)#	Enters configuration mode.
Step 2	**callhome** **Example:** switch(config)# callhome switch(config-callhome)#	Enters callhome configuration mode.
Step 3	**destination-profile** {*name* | **CiscoTAC-1** | **full-txt-destination** | **short-txt-destination**} **email-addr** *address* **Example:** switch(config-callhome)# destination-profile full-txt-destination email-addr person@place.com	Configures an e-mail address for a user-defined or predefined destination profile. **Tip** You can configure up to 50 e-mail addresses in a destination profile.
Step 4	**destination-profile** {*name* | **CiscoTAC-1** | **full-txt-destination** | **short-txt-destination**} **message-level** *number* **Example:** switch(config-callhome)# destination-profile full-txt-destination message-level 5	Configures the Call Home message severity level for this destination profile. Cisco NX-OS sends only alerts that have a matching or higher Call Home severity level to destinations in this profile. The range is from 0 to 9, where 9 is the highest severity level.
Step 5	**destination-profile** {*name* | **CiscoTAC-1** | **full-txt-destination** | **short-txt-destination**} **message-size** *number* **Example:** switch(config-callhome)# destination-profile full-txt-destination message-size 100000	Configures the maximum message size for this destination profile The range is from 0 to 5000000. The default is 2500000.
Step 6	**show callhome destination-profile** [**profile** *name*] **Example:** switch(config-callhome)# show callhome destination-profile profile full-text-destination	(Optional) Displays information about one or more destination profiles.
Step 7	**copy running-config startup-config** **Example:** switch(config)# copy running-config startup-config	(Optional) Saves this configuration change.

This example shows how to modify a destination profile for Call Home:

```
switch# config t
switch(config)# callhome
switch(config-callhome)# destination-profile full-text-destination email-addr
person@place.com
switch(config-callhome)# destination-profile full-text-destination message-level 5
switch(config-callhome)# destination-profile full-text-destination message-size 10000
```

Associating an Alert Group with a Destination Profile

You can associate one or more alert groups with a destination profile.

BEFORE YOU BEGIN

Ensure that you are in the correct VDC (or use the **switchto vdc** command).

SUMMARY STEPS

1. **config t**
2. **callhome**
3. **destination profile** *name* **alert-group** {**All** | **Cisco-TAC** | **Configuration** | **Diagnostic** | **EEM** | **Environmental** | **Inventory** | **License** | **Linemodule-Hardware** | **Supervisor-Hardware** | **Syslog-group-port** | **System** | **Test**}
4. **show callhome destination-profile** [**profile** *name*]
5. **copy running-config startup-config**

DETAILED STEPS

	Command	Purpose

Step 1	**config t**
	
	Example:
	`switch# config t`
	`switch(config)#`
		Enters configuration mode.

Step 2	**callhome**
	
	Example:
	`switch(config)# callhome`
	`switch(config-callhome)#`
		Enters callhome configuration mode.

Step 3	**destination-profile** *name* **alert-group** {**All** | **Cisco-TAC** | **Configuration** | **Diagnostic** | **EEM** | **Environmental** | **Inventory** | **License** | **Linemodule-Hardware** | **Supervisor-Hardware** | **Syslog-group-port** | **System** | **Test**} **Example:** `switch(config-callhome)# destination-profile Noc101 alert-group All`	Associates an alert group with this destination profile. Use the **All** keyword to associate all alert groups with the destination profile.

	Command	Purpose
Step 4	**show callhome destination-profile** [**profile** *name*] **Example:** switch(config-callhome)# show callhome destination-profile profile Noc101	(Optional) Displays information about one or more destination profiles.
Step 5	**copy running-config startup-config** **Example:** switch(config)# copy running-config startup-config	(Optional) Saves this configuration change.

This example shows how to associate all alert groups with the destination profile Noc101:

```
switch# config t
switch(config)# callhome
switch(config-callhome)# destination-profile Noc101 alert-group All
```

Adding show Commands to an Alert Group

You can assign a maximum of five user-defined CLI **show** commands to an alert group.

Note You cannot add user-defined CLI **show** commands to the CiscoTAC-1 destination profile.

BEFORE YOU BEGIN

Ensure that you are in the correct VDC (or use the **switchto vdc** command).

SUMMARY STEPS

1. **config t**
2. **callhome**
3. **alert-group** {**Configuration** | **Diagnostic** | **EEM** | **Environmental** | **Inventory** | **License** | **Linemodule-Hardware** | **Supervisor-Hardware** | **Syslog-group-port** | **System** | **Test**} **user-def-cmd** *show-cmd*
4. **show call-home user-def-cmds**
5. **copy running-config startup-config**

DETAILED STEPS

	Command	Purpose
Step 1	**config t** **Example:** switch# config t switch(config)#	Enters configuration mode.
Step 2	**callhome** **Example:** switch(config)# callhome switch(config-callhome)#	Enters callhome configuration mode.
Step 3	**alert-group** {**Configuration** | **Diagnostic** | **EEM** | **Environmental** | **Inventory** | **License** | **Linemodule-Hardware** | **Supervisor-Hardware** | **Syslog-group-port** | **System** | **Test**} **user-def-cmd** *show-cmd* **Example:** switch(config-callhome)# alert-group Configuration user-def-cmd "show ip routing"	Adds the **show** command output to any Call Home messages sent for this alert group. You must enclose the **show** command in double quotes. Only valid **show** commands are accepted.
Step 4	**show callhome user-def-cmds** **Example:** switch(config-callhome)# show callhome user-def-cmds	(Optional) Displays information about all user-defined **show** commands added to alert groups.
Step 5	**copy running-config startup-config** **Example:** switch(config)# copy running-config startup-config	(Optional) Saves this configuration change.

This example shows how to add the **show ip routing** command o the Cisco-TAC alert group:

```
switch# config t
switch(config)# callhome
switch(config-callhome)# alert-group Configuration user-def-cmd "show ip routing"
```

Configuring E-Mail

You must configure the SMTP server address for the Call Home functionality to work. You can also configure the from and reply-to e-mail addresses.

BEFORE YOU BEGIN

Ensure that you are in the correct VDC (or use the **switchto vdc** command).

SUMMARY STEPS

1. **config t**
2. **callhome**

3. **transport email smtp-server** *ip-address* [**port** *number*] [**use-vrf** *vrf-name*]
4. **transport email from** *email-address*
5. **transport email reply-to** *email-address*
6. **show callhome transport-email**
7. **copy running-config startup-config**

DETAILED STEPS

	Command	Purpose

Step 1	**config t**
	
	Example:
	`switch# config t`
	`switch(config)#`
		Enters configuration mode.

Step 2	**callhome**
	
	Example:
	`switch(config)# callhome`
	`switch(config-callhome)#`
		Enters callhome configuration mode.

Step 3	**transport email smtp-server** *ip-address* [**port** *number*] [**use-vrf** *vrf-name*] **Example:** `switch(config-callhome)# transport email smtp-server 192.0.2.1 use-vrf Red`	Configures the SMTP server as either the domain name server (DNS) name, IPv4 address, or IPv6 address). Optionally configures the port number. The port ranges is from 1 to 65535. The default port number is 25. Also optionally configures the VRF to use when communicating with this SMTP server.
Step 4	**transport email from** *email-address* **Example:** `switch(config-callhome)# transport email from person@company.com`	(Optional) Configures the e-mail from field for Call Home messages.
Step 5	**transport email reply-to** *email-address* **Example:** `switch(config-callhome)# transport email reply-to person@company.com`	(Optional) Configures the e-mail reply-to field for Call Home messages.
Step 6	**show callhome transport-email** **Example:** `switch(config-callhome)# show callhome transport-email`	(Optional) Displays information about the e-mail configuration for Call Home.
Step 7	**copy running-config startup-config** **Example:** `switch(config)# copy running-config startup-config`	(Optional) Saves this configuration change.

This example shows how to configure the e-mail options for Call Home messages:

```
switch# config t
switch(config)# callhome
switch(config-callhome)# transport email smtp-server 192.0.2.10 use-vrf Red
switch(config-callhome)# transport email from person@company.com
switch(config-callhome)# transport email reply-to person@company.com
```

Configuring 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 device along with hardware inventory information. Cisco NX-OS generates two Call Home notifications, periodic configuration messages and periodic inventory messages.

BEFORE YOU BEGIN

Ensure that you are in the correct VDC (or use the **switchto vdc** command).

SUMMARY STEPS

1. **config t**
2. **callhome**
3. **periodic-inventory notification** [**interval** *days* | **timeofday** *time*]
4. **show callhome**
5. **copy running-config startup-config**

DETAILED STEPS

	Command	Purpose

Step 1	**config t**
	
	Example:
	`switch# config t`
	`switch(config)#`
		Enters configuration mode.

Step 2	**callhome**
	
	Example:
	`switch(config)# callhome`
	`switch(config-callhome)#`
		Enters callhome configuration mode.

Step 3	**periodic-inventory notification** [**interval** *days*] [**timeofday** *time*] **Example:** `switch(config-callhome)# periodic-inventory notification interval 20`	Configures the periodic inventory messages. The interval range is from 1 to 30 days. The default is 7. The timeofday value is in HH:MM format.

	Command	Purpose
Step 4	**show callhome** **Example:** `switch(config-callhome)# show callhome`	(Optional) Displays information about Call Home.
Step 5	**copy running-config startup-config** **Example:** `switch(config)# copy running-config startup-config`	(Optional) Saves this configuration change.

This example shows how to configure the periodic inventory messages to generate every 20 days:

```
switch# config t
switch(config)# callhome
switch(config-callhome)# periodic-inventory notification interval 20
```

Disabling Duplicate Message Throttle

You can limit the number of duplicate messages received for the same event. By default, Cisco NX-OS limits the number of duplicate messages received for the same event. If the number of duplicate messages sent exceeds 30 messages within a 2-hour time frame, then Cisco NX-OS disables further messages for that alert type.

Use the following command in Call Home configuration mode to disable duplicate message throttling:

Command	Purpose
no duplicate-message throttle **Example:** `switch(config-callhome)# no duplicate-message throttle`	Disables duplicate message throttling for Call Home. Enabled by default.

Enabling or Disabling Call Home

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

Use the following command in Call Home configuration mode to enable Call Home:

Command	Purpose
enable **Example:** `switch(config-callhome)# enable`	Enables Call Home. Disabled by default.

Use the following command in Call Home configuration mode to disable Call Home:

Command	Purpose
no enable **Example:** `switch(config-callhome)# no enable`	Disables Call Home. Disabled by default

Testing Call Home Communications

You can generate a test message to test your Call Home communications.

Use the following commands in any mode to generate a test Call Home message:

Command	Purpose
callhome send [**configuration** | **diagnostic** | **inventory**] **Example:** `switch(config-callhome)# callhome send diagnostic`	Sends the specified Call Home test message to all configured destinations.
callhome test **Example:** `switch(config-callhome)# callhome test`	Sends a test message to all configured destinations.

Verifying Call Home Configuration

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

Command	Purpose
show callhome	Displays the status for Call Home.
show callhome destination-profile *name*	Displays one or more Call Home destination profiles.
show callhome status	Displays the Call Home status.
show callhome transport-email	Displays the e-mail configuration for Call Home.
show callhome user-def-cmds	Displays CLI commands added to any alert groups.
show running-config callhome [**all**]	Displays the running configuration for Call Home.
show startup-config callhome [**all**]	Displays the startup configuration for Call Home.
show tech-support callhome	Displays the technical support output for Call Home.

Call Home Example Configuration

The following example creates a destination profile called Noc101, associate the Cisco-TAC alert group to that profile, and configure contact and e-mail information.

```
config t
 snmp-server contact person@company.com
 callhome
  email-contact admin@Mycompany.com
  phone-contact +1-800-123-4567
  street-address 123 Anystreet st. Anytown,AnyWhere
  destination-profile Noc101
  destination-profile Noc101 full-text
  destination-profile full-text-destination email-addr person@company.com
  destination-profile full-text-destination message-level 5
  destination-profile Noc101 alert-group Configuration
  alert-group Configuration user-def-cmd "show ip routing"
  transport email smtp-server 192.0.2.10 use-vrf Red
  enable
```

Default Settings

Table 4-3 lists the default settings for Call Home parameters.

Table 4-3 Default Call Home Parameters

Parameters	Default
Destination message size for a message sent in full text format.	2500,000
Destination message size for a message sent in XML format.	2500,000
Destination message size for a message sent in short text format.	4000
SMTP server port number if no port is specified.	25
Alert group association with profile.	All for full-text-destination and short-text-destination profiles. The cisco-tac alert group for the CiscoTAC-1 destination profile.
Format type.	XML
Call Home message level.	0 (zero)

Additional References

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

- Event Triggers, page 4-22
- Message Formats, page 4-23
- Sample syslog Alert Notification in Full-Text Format, page 4-26
- Sample syslog Alert Notification in XML Format, page 4-29

- Related Documents, page 4-33
- Standards, page 4-33
- MIBs, page 4-33

Event Triggers

Table 4-4 lists the event triggers and their Call Home message severity levels.

Table 4-4 Event Triggers

Alert Group	Event Name	Description	Call Home Severity Level
Configuration	PERIODIC_CONFIGURATION	Periodic configuration update message.	2
Diagnostic	DIAGNOSTIC_MAJOR_ALERT	GOLD generated a major alert.	7
	DIAGNOSTIC_MINOR_ALERT	GOLD generated a minor alert.	4
	DIAGNOSTIC_NORMAL_ALERT	Call Home generated a normal diagnostic alert.	2
Environmental and CISCO_TAC	FAN_FAILURE	Cooling fan has failed.	5
	POWER_SUPPLY_ALERT	Power supply warning has occurred.	6
	POWER_SUPPLY_FAILURE	Power supply has failed.	6
	POWER_SUPPLY_SHUTDOWN	Power supply has shut down.	6
	TEMPERATURE_ALARM	Thermal sensor indicates temperature has reached operating threshold.	6
Inventory and CISCO_TAC	COLD_BOOT	Switch is powered up and reset to a cold boot sequence.	2
	HARDWARE_INSERTION	New piece of hardware has been inserted into the chassis.	2
	HARDWARE_REMOVAL	Hardware has been removed from the chassis.	2
	PERIODIC_INVENTORY	Periodic inventory message has been generated.	2
License	LICENSE_VIOLATION	Feature in use is not licensed and is turned off after grace period expiration.	6
Line module Hardware and CISCO_TAC	LINEmodule_FAILURE	Module operation has failed.	7
Line module Hardware, Supervisor Hardware, and CISCO_TAC	BOOTFLASH_FAILURE	Boot compact Flash module has failed.	6
	EOBC_FAILURE	Ethernet out-of-band channel communications have failed.	6

Table 4-4 Event Triggers (continued)

Alert Group	Event Name	Description	Call Home Severity Level
Supervisor Hardware and CISCO_TAC	CMP_FAILURE	CMP module operation has failed.	5
	POWER_UP_DIAGNOSTICS_FAILURE	Supervisor power-up failure occurred.	7
	SUP_FAILURE	Supervisor module operation has failed.	7
Syslog-group-port	PORT_FAILURE	A syslog message that corresponds to the port facility has been generated.	6
	SYSLOG_ALERT	A syslog alert message has been generated.	5
System and CISCO_TAC	SW_CRASH	Software process has failed with a stateless restart, indicating an interruption of a service.	5
	SW_SYSTEM_INCONSISTENT	Inconsistency has been detected in software or file system.	5
Test and CISCO_TAC	TEST	User generated test has occurred.	2

Message Formats

Call Home supports the following message formats:

- Short Text Message Format
- Common Fields for All Full Text and XML Messages
- Inserted Fields for a Reactive or Proactive Event Message
- Inserted Fields for an Inventory Event Message
- Inserted Fields for a User-Generated Test Message

Table 4-5 describes the short text formatting option for all message types.

Table 4-5 Short Text Message Format

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 4-7 describes the common event message format for full text or XML.

Table 4-6 Common Fields for All Full Text and XML Messages

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 HH:MM:SS GMT+HH:MM*.	/aml/header/time
Message name	Name of message. Specific event names are listed in the Table 4-4.	/aml/header/name
Message type	Name of message type, such as reactive or proactive.	/aml/header/type
Message group	Name of alert group, such as syslog.	/aml/header/group
Severity level	Severity level of message (see "Call Home Message Levels" section on page 4-5).	/aml/header/level
Source ID	Product type for routing. Specifically Catalyst 6500.	/aml/header/source
Device ID	Unique device identifier (UDI) for end device that generated the message. This field should be empty if the message is nonspecific to a device. The format is *type@Sid@serial*. • *type* is the product model number from backplane IDPROM. • @ is a separator character. • *Sid* is C, identifying the serial ID as a chassis serial number· • *serial* is the number identified by the Sid field. An example is WS-C6509@C@12345678	/aml/ header/deviceId
Customer ID	Optional user-configurable field used for contract information or other ID by any support service.	/aml/ header/customerID
Contract ID	Optional user-configurable field used for contract information or other ID by any support service.	/aml/ header /contractId
Site ID	Optional user-configurable field used for Cisco-supplied site ID or other data meaningful to alternate support service.	/aml/ header/siteId
Server ID	If the message is generated from the device, this is the unique device identifier (UDI) of the device. The format is *type@Sid@serial*. • *type* is the product model number from backplane IDPROM. • @ is a separator character. • *Sid* is C, identifying the serial ID as a chassis serial number· • *serial* is the number identified by the Sid field. An example is WS-C6509@C@12345678	/aml/header/serverId
Message description	Short text that describes the error.	/aml/body/msgDesc
Device name	Node that experienced the event (host name of the device).	/aml/body/sysName
Contact name	Name of person to contact for issues associated with the node that experienced the event.	/aml/body/sysContact
Contact e-mail	E-mail address of person identified as the contact for this unit.	/aml/body/sysContactEmail
Contact phone number	Phone number of the person identified as the contact for this unit.	/aml/body/sysContactPhoneNumber

Table 4-6 Common Fields for All Full Text and XML Messages (continued)

Data Item (Plain Text and XML)	Description (Plain Text and XML)	XML Tag (XML Only)
Street address	Optional field that contains the street address for RMA part shipments associated with this unit.	/aml/body/sysStreetAddress
Model name	Model name of the device (the specific model as part of a product family name).	/aml/body/chassis/name
Serial number	Chassis serial number of the unit.	/aml/body/chassis/serialNo
Chassis part number	Top assembly number of the chassis.	/aml/body/chassis/partNo
Fields specific to a particular alert group message are inserted here.		
The following fields may be repeated if multiple CLI commands are executed for this alert group.		
Command output name	Exact name of the issued CLI command.	/aml/attachments/attachment/name
Attachment type	Specific command output.	/aml/attachments/attachment/type
MIME type	Either plain text or encoding type.	/aml/attachments/attachment/mime
Command output text	Output of command automatically executed (see "Call Home Alert Groups" section on page 4-3).	/aml/attachments/attachment/atdata

Table 4-7 describes the reactive event message format for full text or XML.

Table 4-7 Inserted Fields for a Reactive or Proactive Event Message

Data Item (Plain Text and XML)	Description (Plain Text and XML)	XML Tag (XML Only)
Chassis hardware version	Hardware version of chassis.	/aml/body/chassis/hwVersion
Supervisor module software version	Top-level software version.	/aml/body/chassis/swVersion
Affected FRU name	Name of the affected FRU that is generating the event message.	/aml/body/fru/name
Affected FRU serial number	Serial number of the affected FRU.	/aml/body/fru/serialNo
Affected FRU part number	Part number of the affected FRU.	/aml/body/fru/partNo
FRU slot	Slot number of the FRU that is generating the event message.	/aml/body/fru/slot
FRU hardware version	Hardware version of the affected FRU.	/aml/body/fru/hwVersion
FRU software version	Software version(s) that is running on the affected FRU.	/aml/body/fru/swVersion

Table 4-8 describes the inventory event message format for full text or XML.

Table 4-8 Inserted Fields for an Inventory Event Message

Data Item (Plain Text and XML)	Description (Plain Text and XML)	XML Tag (XML Only)
Chassis hardware version	Hardware version of the chassis.	/aml/body/chassis/hwVersion
Supervisor module software version	Top-level software version.	/aml/body/chassis/swVersion
FRU name	Name of the affected FRU that is generating the event message.	/aml/body/fru/name
FRU s/n	Serial number of the FRU.	/aml/body/fru/serialNo
FRU part number	Part number of the FRU.	/aml/body/fru/partNo
FRU slot	Slot number of the FRU.	/aml/body/fru/slot
FRU hardware version	Hardware version of the FRU.	/aml/body/fru/hwVersion
FRU software version	Software version(s) that is running on the FRU.	/aml/body/fru/swVersion

Table 4-9 describes the user-generated test message format for full text or XML.

Table 4-9 Inserted Fields for a User-Generated Test Message

Data Item (Plain Text and XML)	Description (Plain Text and XML)	XML Tag (XML Only)
Process ID	Unique process ID.	/aml/body/process/id
Process state	State of process (for example, running or halted).	/aml/body/process/processState
Process exception	Exception or reason code.	/aml/body/process/exception

Sample syslog Alert Notification in Full-Text Format

This sample shows the full-text format for a syslog port alert-group notification:

```
Severity Level:5
Series:Nexus7000
Switch Priority:0
Device Id:N7K-C7010@C@TXX12345678
Server Id:N7K-C7010@C@TXX12345678
Time of Event:2008-01-17 16:31:33 GMT+0000 Message Name:
Message Type:syslog
System Name:dc3-test
Contact Name:Jay Tester
Contact Email:contact@example.com
Contact Phone:+91-80-1234-5678
Street Address:#1 Any Street
```

```
Event Description:SYSLOG_ALERT 2008 Jan 17 16:31:33 dc3-test %ETHPORT-2-IF_SEQ_ERROR:
Error (0x20) while communicating with component MTS_SAP_ELTM
opcode:MTS_OPC_ETHPM_PORT_PHY_CLEANUP (for:RID_PORT: Ethernet3/1)

syslog_facility:ETHPORT
start chassis information:
Affected Chassis:N7K-C7010
Affected Chassis Serial Number:TXX12345678 Affected Chassis Hardware Version:0.405
Affected Chassis Software Version:4.0(1) Affected Chassis Part No:73-10900-04 end chassis
information:
start attachment
    name:show logging logfile | tail -n 200
    type:text
    data:
    2008 Jan 17 10:57:51 dc3-test %SYSLOG-1-SYSTEM_MSG : Logging logfile (messages)
cleared by user
    2008 Jan 17 10:57:53 dc3-test %VSHD-5-VSHD_SYSLOG_CONFIG_I: Configuring console from
/dev/ttyS0 /dev/ttyS0_console
    2008 Jan 17 10:58:35 dc3-test %VSHD-5-VSHD_SYSLOG_CONFIG_I: Configuring console from
/dev/ttyS0 /dev/ttyS0_console
    2008 Jan 17 10:59:00 dc3-test %DAEMON-3-SYSTEM_MSG: error: setsockopt IP_TOS 16:
Invalid argument: - sshd[14484]
    2008 Jan 17 10:59:05 dc3-test %VSHD-5-VSHD_SYSLOG_CONFIG_I: Configuring console from
/dev/ttyS0 /dev/ttyS0_console
    2008 Jan 17 12:11:18 dc3-test %SYSMGR-STANDBY-5-SUBPROC_TERMINATED: "System Manager
(gsync controller)" (PID 12000) has finished with error code
SYSMGR_EXITCODE_GSYNCFAILED_NONFATAL (12).
    2008 Jan 17 16:28:03 dc3-test %VSHD-5-VSHD_SYSLOG_CONFIG_I: Configuring console from
/dev/ttyS0 /dev/ttyS0_console
    2008 Jan 17 16:28:44 dc3-test %SYSMGR-3-BASIC_TRACE: core_copy: PID 2579 with message
Core not generated by system for eltm(0). WCOREDUMP(9) returned zero .
    2008 Jan 17 16:28:44 dc3-test %SYSMGR-2-SERVICE_CRASHED: Service "eltm" (PID 3504)
hasn't caught signal 9 (no core).
    2008 Jan 17 16:29:08 dc3-test %SYSMGR-3-BASIC_TRACE: core_copy: PID 2579 with message
Core not generated by system for eltm(0). WCOREDUMP(9) returned zero.
    2008 Jan 17 16:29:08 dc3-test %SYSMGR-2-SERVICE_CRASHED: Service "eltm" (PID 23210)
hasn't caught signal 9 (no core).
    2008 Jan 17 16:29:17 dc3-test %SYSMGR-3-BASIC_TRACE: core_copy: PID 2579 with message
Core not generated by system for eltm(0). WCOREDUMP(9) returned zero.
    2008 Jan 17 16:29:17 dc3-test %SYSMGR-2-SERVICE_CRASHED: Service "eltm" (PID 23294)
hasn't caught signal 9 (no core).
    2008 Jan 17 16:29:25 dc3-test %SYSMGR-2-HASWITCHOVER_PRE_START: This supervisor is
becoming active (pre-start phase).
    2008 Jan 17 16:29:25 dc3-test %SYSMGR-2-HASWITCHOVER_START: This supervisor is
becoming active.
    2008 Jan 17 16:29:26 dc3-test %USER-3-SYSTEM_MSG: crdcfg_get_srvinfo: mts_send failed
- device_test
    2008 Jan 17 16:29:27 dc3-test %NETSTACK-3-IP_UNK_MSG_MAJOR:  netstack [4336]
Unrecognized message from MRIB. Major type 1807
    2008 Jan 17 16:29:27 dc3-test %IM-5-IM_INTF_STATE: mgmt0 is DOWN in vdc 1
    2008 Jan 17 16:29:27 dc3-test %IM-5-IM_INTF_STATE: mgmt0 is DOWN in vdc 2
    2008 Jan 17 16:29:27 dc3-test %IM-5-IM_INTF_STATE: mgmt0 is DOWN in vdc 3
    2008 Jan 17 16:29:27 dc3-test %IM-5-IM_INTF_STATE: mgmt0 is DOWN in vdc 4
    2008 Jan 17 16:29:28 dc3-test %SYSMGR-2-SWITCHOVER_OVER: Switchover completed.
    2008 Jan 17 16:29:28 dc3-test %DAEMON-3-SYSTEM_MSG: ntp:socket family : 2  -
ntpd[19045]
    2008 Jan 17 16:29:28 dc3-test %DAEMON-3-SYSTEM_MSG: ntp:socket family : 10  -
ntpd[19045]
    2008 Jan 17 16:29:28 dc3-test %DAEMON-3-SYSTEM_MSG: ntp:ipv6 only defined -
ntpd[19045]
    2008 Jan 17 16:29:28 dc3-test %DAEMON-3-SYSTEM_MSG: ntp:bindv6 only defined -
ntpd[19045]
    2008 Jan 17 16:29:28 dc3-test %DAEMON-3-SYSTEM_MSG: ntp:socket family : 2  -
ntpd[19045]
```

```
    2008 Jan 17 16:29:28 dc3-test %DAEMON-3-SYSTEM_MSG: ntp:socket family : 0  -
ntpd[19045]
    2008 Jan 17 16:29:28 dc3-test %DAEMON-3-SYSTEM_MSG: ntp:socket family : 0  -
ntpd[19045]
    2008 Jan 17 16:29:28 dc3-test %NETSTACK-3-CLIENT_GET:  netstack [4336]  HA client
filter recovery failed (0)
    2008 Jan 17 16:29:28 dc3-test %NETSTACK-3-CLIENT_GET:  netstack [4336]  HA client
filter recovery failed (0)
    2008 Jan 17 16:29:29 dc3-test %DAEMON-3-SYSTEM_MSG: ssh disabled, removing -
dcos-xinetd[19072]
    2008 Jan 17 16:29:29 dc3-test %DAEMON-3-SYSTEM_MSG: telnet disabled, removing -
dcos-xinetd[19072]
    2008 Jan 17 16:29:31 dc3-test %DAEMON-3-SYSTEM_MSG: telnet disabled, removing -
dcos-xinetd[19073]
    2008 Jan 17 16:29:32 dc3-test %DAEMON-3-SYSTEM_MSG: ssh disabled, removing -
dcos-xinetd[19079]
    2008 Jan 17 16:29:32 dc3-test %DAEMON-3-SYSTEM_MSG: telnet disabled, removing -
dcos-xinetd[19079]
    2008 Jan 17 16:29:34 dc3-test %IM-5-IM_INTF_STATE: mgmt0 is UP in vdc 1
    2008 Jan 17 16:29:34 dc3-test %IM-5-IM_INTF_STATE: mgmt0 is UP in vdc 2
    2008 Jan 17 16:29:34 dc3-test %IM-5-IM_INTF_STATE: mgmt0 is UP in vdc 3
    2008 Jan 17 16:29:34 dc3-test %IM-5-IM_INTF_STATE: mgmt0 is UP in vdc 4
    2008 Jan 17 16:29:34 dc3-test %DAEMON-3-SYSTEM_MSG: ssh disabled, removing -
dcos-xinetd[19105]
    2008 Jan 17 16:29:34 dc3-test %DAEMON-3-SYSTEM_MSG: telnet disabled, removing -
dcos-xinetd[19105]
    2008 Jan 17 16:29:35 dc3-test %PLATFORM-2-PS_AC_IN_MISSING: Power supply 2 present but
all AC inputs are not connected, ac-redundancy might be affected
    2008 Jan 17 16:29:35 dc3-test %PLATFORM-2-PS_AC_IN_MISSING: Power supply 3 present but
all AC inputs are not connected, ac-redundancy might be affected
    2008 Jan 17 16:29:38 dc3-test %CALLHOME-2-EVENT: SUP_FAILURE
    2008 Jan 17 16:29:46 dc3-test vsh[19166]: CLIC-3-FAILED_EXEC: Can not exec command
<more> return code <14>
    2008 Jan 17 16:30:24 dc3-test vsh[23810]: CLIC-3-FAILED_EXEC: Can not exec command
<more> return code <14>
    2008 Jan 17 16:30:24 dc3-test vsh[23803]: CLIC-3-FAILED_EXEC: Can not exec command
<more> return code <14>
    2008 Jan 17 16:30:24 dc3-test vsh[23818]: CLIC-3-FAILED_EXEC: Can not exec command
<more> return code <14>
    2008 Jan 17 16:30:47 dc3-test %SYSMGR-3-BASIC_TRACE: core_copy: PID 2630 with message
Core not generated by system for eltm(0). WCOREDUMP(9) returned zero .
    2008 Jan 17 16:30:47 dc3-test %SYSMGR-2-SERVICE_CRASHED: Service "eltm" (PID 4820)
hasn't caught signal 9 (no core).
    2008 Jan 17 16:31:02 dc3-test %SYSMGR-3-BASIC_TRACE: core_copy: PID 2630 with message
Core not generated by system for eltm(0). WCOREDUMP(9) returned zero .
    2008 Jan 17 16:31:02 dc3-test %SYSMGR-2-SERVICE_CRASHED: Service "eltm" (PID 24239)
hasn't caught signal 9 (no core).
    2008 Jan 17 16:31:14 dc3-test %SYSMGR-3-BASIC_TRACE: core_copy: PID 2630 with message
Core not generated by system for eltm(0). WCOREDUMP(9) returned zero .
    2008 Jan 17 16:31:14 dc3-test %SYSMGR-2-SERVICE_CRASHED: Service "eltm" (PID 24401)
hasn't caught signal 9 (no core).
    2008 Jan 17 16:31:23 dc3-test %CALLHOME-2-EVENT: SW_CRASH alert for service: eltm
    2008 Jan 17 16:31:23 dc3-test %SYSMGR-3-BASIC_TRACE: core_copy: PID 2630 with message
Core not generated by system for eltm(0). WCOREDUMP(9) returned zero .
    2008 Jan 17 16:31:23 dc3-test %SYSMGR-2-SERVICE_CRASHED: Service "eltm" (PID 24407)
hasn't caught signal 9 (no core).
    2008 Jan 17 16:31:24 dc3-test vsh[24532]: CLIC-3-FAILED_EXEC: Can not exec command
<more> return code <14>
    2008 Jan 17 16:31:24 dc3-test vsh[24548]: CLIC-3-FAILED_EXEC: Can not exec command
<more> return code <14>
    2008 Jan 17 16:31:24 dc3-test vsh[24535]: CLIC-3-FAILED_EXEC: Can not exec command
<more> return code <14>
    2008 Jan 17 16:31:33 dc3-test %NETSTACK-3-INTERNAL_ERROR:  netstack [4336]  (null)
```

```
    2008 Jan 17 16:31:33 dc3-test %ETHPORT-2-IF_SEQ_ERROR: Error (0x20) while
communicating with component MTS_SAP_ELTM opcode:MTS_OPC_ETHPM_PORT_PHY_CLEANUP
(for:RID_PORT: Ethernet3/1) end attachment start attachment
    name:show vdc membership
    type:text
    data:

    vdc_id: 1 vdc_name: dc3-test interfaces:
        Ethernet3/1           Ethernet3/2           Ethernet3/3
        Ethernet3/4           Ethernet3/5           Ethernet3/6
        Ethernet3/7           Ethernet3/8           Ethernet3/9
        Ethernet3/10          Ethernet3/11          Ethernet3/12
        Ethernet3/13          Ethernet3/14          Ethernet3/15
        Ethernet3/16          Ethernet3/17          Ethernet3/18
        Ethernet3/19          Ethernet3/20          Ethernet3/21
        Ethernet3/22          Ethernet3/23          Ethernet3/24
        Ethernet3/25          Ethernet3/26          Ethernet3/27
        Ethernet3/28          Ethernet3/29          Ethernet3/30
        Ethernet3/31          Ethernet3/32          Ethernet3/33
        Ethernet3/34          Ethernet3/35          Ethernet3/36
        Ethernet3/37          Ethernet3/38          Ethernet3/39
        Ethernet3/40          Ethernet3/41          Ethernet3/42
        Ethernet3/43          Ethernet3/44          Ethernet3/45
        Ethernet3/46          Ethernet3/47          Ethernet3/48

    vdc_id: 2 vdc_name: dc3-aaa interfaces:

    vdc_id: 3 vdc_name: dc3-rbac interfaces:

    vdc_id: 4 vdc_name: dc3-call interfaces:



end attachment
start attachment
    name:show vdc current-vdc
    type:text
    data:
    Current vdc is 1 - dc3-test
end attachment
start attachment
    name:show license usage
    type:text
    data:
    Feature                      Ins  Lic   Status Expiry Date Comments
                                     Count
    --------------------------------------------------------------------------------
    LAN_ADVANCED_SERVICES_PKG     Yes   -   In use Never       -
    LAN_ENTERPRISE_SERVICES_PKG   Yes   -   Unused Never       -
    --------------------------------------------------------------------------------
end attachment
```

Sample syslog Alert Notification in XML Format

This sample shows the XML format for a syslog port alert-group notification:

```
<?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:TXX12345678:478F82E6</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>2008-01-17 16:31:33 GMT+0000</aml-block:CreationDate>
<aml-block:Builder> <aml-block:Name>DC3</aml-block:Name>
<aml-block:Version>4.0</aml-block:Version>
</aml-block:Builder>
<aml-block:BlockGroup>
<aml-block:GroupId>1005:TXX12345678:478F82E6</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>5</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>2008-01-17 16:31:33 GMT+0000</ch:EventTime>
<ch:MessageDescription>SYSLOG_ALERT 2008 Jan 17 16:31:33 dc3-test %ETHPORT-2-IF_SEQ_ERROR:
Error (0x20) while communicating with component MTS_SAP_ELTM
opcode:MTS_OPC_ETHPM_PORT_PHY_CLEANUP (for:RID_PORT: Ethernet3/1) </ch:MessageDescription>
<ch:Event> <ch:Type>syslog</ch:Type> <ch:SubType></ch:SubType> <ch:Brand>Cisco</ch:Brand>
<ch:Series>Nexus7000</ch:Series> </ch:Event> <ch:CustomerData> <ch:UserData>
<ch:Email>contact@example.com</ch:Email>
</ch:UserData>
<ch:ContractData>
<ch:DeviceId>N7K-C7010@C@TXX12345678</ch:DeviceId>
</ch:ContractData>
<ch:SystemInfo>
<ch:Name>dc3-test</ch:Name>
<ch:Contact>Jay Tester</ch:Contact> <ch:ContactEmail>contact@example.com</ch:ContactEmail>
<ch:ContactPhoneNumber>+91-80-1234-5678</ch:ContactPhoneNumber>
<ch:StreetAddress>#1, Any Street</ch:StreetAddress> </ch:SystemInfo> </ch:CustomerData>
<ch:Device> <rme:Chassis xmlns:rme="http://www.cisco.com/rme/4.0">
<rme:Model>N7K-C7010</rme:Model>
<rme:HardwareVersion>0.405</rme:HardwareVersion>
<rme:SerialNumber>TXX12345678</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[2008 Jan 17 10:57:51 dc3-test %SYSLOG-1-SYSTEM_MSG : Logging logfile (messages)
cleared by user
2008 Jan 17 10:57:53 dc3-test %VSHD-5-VSHD_SYSLOG_CONFIG_I: Configuring console from
/dev/ttyS0 /dev/ttyS0_console
2008 Jan 17 10:58:35 dc3-test %VSHD-5-VSHD_SYSLOG_CONFIG_I: Configuring console from
/dev/ttyS0 /dev/ttyS0_console
```

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2008 Jan 17 10:59:00 dc3-test %DAEMON-3-SYSTEM_MSG: error: setsockopt IP_TOS 16: Invalid
argument: - sshd[14484]
2008 Jan 17 10:59:05 dc3-test %VSHD-5-VSHD_SYSLOG_CONFIG_I: Configuring console from
/dev/ttyS0 /dev/ttyS0_console
2008 Jan 17 12:11:18 dc3-test %SYSMGR-STANDBY-5-SUBPROC_TERMINATED: \"System Manager
(gsync controller)\" (PID 12000) has finished with error code
SYSMGR_EXITCODE_GSYNCFAILED_NONFATAL (12).
2008 Jan 17 16:28:03 dc3-test %VSHD-5-VSHD_SYSLOG_CONFIG_I: Configuring console from
/dev/ttyS0 /dev/ttyS0_console
2008 Jan 17 16:28:44 dc3-test %SYSMGR-3-BASIC_TRACE: core_copy: PID 2579 with message Core
not generated by system for eltm(0). WCOREDUMP(9) returned zero .
2008 Jan 17 16:28:44 dc3-test %SYSMGR-2-SERVICE_CRASHED: Service \"eltm\" (PID 3504)
hasn&apos;t caught signal 9 (no core).
2008 Jan 17 16:29:08 dc3-test %SYSMGR-3-BASIC_TRACE: core_copy: PID 2579 with message Core
not generated by system for eltm(0). WCOREDUMP(9) returned zero .
2008 Jan 17 16:29:08 dc3-test %SYSMGR-2-SERVICE_CRASHED: Service \"eltm\" (PID 23210)
hasn&apos;t caught signal 9 (no core).
2008 Jan 17 16:29:17 dc3-test %SYSMGR-3-BASIC_TRACE: core_copy: PID 2579 with message Core
not generated by system for eltm(0). WCOREDUMP(9) returned zero .
2008 Jan 17 16:29:17 dc3-test %SYSMGR-2-SERVICE_CRASHED: Service \"eltm\" (PID 23294)
hasn&apos;t caught signal 9 (no core).
2008 Jan 17 16:29:25 dc3-test %SYSMGR-2-HASWITCHOVER_PRE_START: This supervisor is
becoming active (pre-start phase).
2008 Jan 17 16:29:25 dc3-test %SYSMGR-2-HASWITCHOVER_START: This supervisor is becoming
active.
2008 Jan 17 16:29:26 dc3-test %USER-3-SYSTEM_MSG: crdcfg_get_srvinfo: mts_send failed -
device_test
2008 Jan 17 16:29:27 dc3-test %NETSTACK-3-IP_UNK_MSG_MAJOR:  netstack [4336]  Unrecognized
message from MRIB. Major type 1807
2008 Jan 17 16:29:27 dc3-test %IM-5-IM_INTF_STATE: mgmt0 is DOWN in vdc 1
2008 Jan 17 16:29:27 dc3-test %IM-5-IM_INTF_STATE: mgmt0 is DOWN in vdc 2
2008 Jan 17 16:29:27 dc3-test %IM-5-IM_INTF_STATE: mgmt0 is DOWN in vdc 3
2008 Jan 17 16:29:27 dc3-test %IM-5-IM_INTF_STATE: mgmt0 is DOWN in vdc 4
2008 Jan 17 16:29:28 dc3-test %SYSMGR-2-SWITCHOVER_OVER: Switchover completed.
2008 Jan 17 16:29:28 dc3-test %DAEMON-3-SYSTEM_MSG: ntp:socket family : 2  - ntpd[19045]
2008 Jan 17 16:29:28 dc3-test %DAEMON-3-SYSTEM_MSG: ntp:socket family : 10  - ntpd[19045]
2008 Jan 17 16:29:28 dc3-test %DAEMON-3-SYSTEM_MSG: ntp:ipv6 only defined - ntpd[19045]
2008 Jan 17 16:29:28 dc3-test %DAEMON-3-SYSTEM_MSG: ntp:bindv6 only defined - ntpd[19045]
2008 Jan 17 16:29:28 dc3-test %DAEMON-3-SYSTEM_MSG: ntp:socket family : 2  - ntpd[19045]
2008 Jan 17 16:29:28 dc3-test %DAEMON-3-SYSTEM_MSG: ntp:socket family : 0  - ntpd[19045]
2008 Jan 17 16:29:28 dc3-test %DAEMON-3-SYSTEM_MSG: ntp:socket family : 0  - ntpd[19045]
2008 Jan 17 16:29:28 dc3-test %NETSTACK-3-CLIENT_GET:  netstack [4336]  HA client filter
recovery failed (0)
2008 Jan 17 16:29:28 dc3-test %NETSTACK-3-CLIENT_GET:  netstack [4336]  HA client filter
recovery failed (0)
2008 Jan 17 16:29:29 dc3-test %DAEMON-3-SYSTEM_MSG: ssh disabled, removing -
dcos-xinetd[19072]
2008 Jan 17 16:29:29 dc3-test %DAEMON-3-SYSTEM_MSG: telnet disabled, removing -
dcos-xinetd[19072]
2008 Jan 17 16:29:31 dc3-test %DAEMON-3-SYSTEM_MSG: telnet disabled, removing -
dcos-xinetd[19073]
2008 Jan 17 16:29:32 dc3-test %DAEMON-3-SYSTEM_MSG: ssh disabled, removing -
dcos-xinetd[19079]
2008 Jan 17 16:29:32 dc3-test %DAEMON-3-SYSTEM_MSG: telnet disabled, removing -
dcos-xinetd[19079]
2008 Jan 17 16:29:34 dc3-test %IM-5-IM_INTF_STATE: mgmt0 is UP in vdc 1
2008 Jan 17 16:29:34 dc3-test %IM-5-IM_INTF_STATE: mgmt0 is UP in vdc 2
2008 Jan 17 16:29:34 dc3-test %IM-5-IM_INTF_STATE: mgmt0 is UP in vdc 3
2008 Jan 17 16:29:34 dc3-test %IM-5-IM_INTF_STATE: mgmt0 is UP in vdc 4
2008 Jan 17 16:29:34 dc3-test %DAEMON-3-SYSTEM_MSG: ssh disabled, removing -
dcos-xinetd[19105]
2008 Jan 17 16:29:34 dc3-test %DAEMON-3-SYSTEM_MSG: telnet disabled, removing -
dcos-xinetd[19105]
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2008 Jan 17 16:29:35 dc3-test %PLATFORM-2-PS_AC_IN_MISSING: Power supply 2 present but all
AC inputs are not connected, ac-redundancy might be affected
2008 Jan 17 16:29:35 dc3-test %PLATFORM-2-PS_AC_IN_MISSING: Power supply 3 present but all
AC inputs are not connected, ac-redundancy might be affected
2008 Jan 17 16:29:38 dc3-test %CALLHOME-2-EVENT: SUP_FAILURE
2008 Jan 17 16:29:46 dc3-test vsh[19166]: CLIC-3-FAILED_EXEC: Can not exec command
&lt;more&gt; return code &lt;14&gt;
2008 Jan 17 16:30:24 dc3-test vsh[23810]: CLIC-3-FAILED_EXEC: Can not exec command
&lt;more&gt; return code &lt;14&gt;
2008 Jan 17 16:30:24 dc3-test vsh[23803]: CLIC-3-FAILED_EXEC: Can not exec command
&lt;more&gt; return code &lt;14&gt;
2008 Jan 17 16:30:24 dc3-test vsh[23818]: CLIC-3-FAILED_EXEC: Can not exec command
&lt;more&gt; return code &lt;14&gt;
2008 Jan 17 16:30:47 dc3-test %SYSMGR-3-BASIC_TRACE: core_copy: PID 2630 with message Core
not generated by system for eltm(0). WCOREDUMP(9) returned zero .
2008 Jan 17 16:30:47 dc3-test %SYSMGR-2-SERVICE_CRASHED: Service \"eltm\" (PID 4820)
hasn&apos;t caught signal 9 (no core).
2008 Jan 17 16:31:02 dc3-test %SYSMGR-3-BASIC_TRACE: core_copy: PID 2630 with message Core
not generated by system for eltm(0). WCOREDUMP(9) returned zero .
2008 Jan 17 16:31:02 dc3-test %SYSMGR-2-SERVICE_CRASHED: Service \"eltm\" (PID 24239)
hasn&apos;t caught signal 9 (no core).
2008 Jan 17 16:31:14 dc3-test %SYSMGR-3-BASIC_TRACE: core_copy: PID 2630 with message Core
not generated by system for eltm(0). WCOREDUMP(9) returned zero .
2008 Jan 17 16:31:14 dc3-test %SYSMGR-2-SERVICE_CRASHED: Service \"eltm\" (PID 24401)
hasn&apos;t caught signal 9 (no core).
2008 Jan 17 16:31:23 dc3-test %CALLHOME-2-EVENT: SW_CRASH alert for service: eltm
2008 Jan 17 16:31:23 dc3-test %SYSMGR-3-BASIC_TRACE: core_copy: PID 2630 with message Core
not generated by system for eltm(0). WCOREDUMP(9) returned zero .
2008 Jan 17 16:31:23 dc3-test %SYSMGR-2-SERVICE_CRASHED: Service \"eltm\" (PID 24407)
hasn&apos;t caught signal 9 (no core).
2008 Jan 17 16:31:24 dc3-test vsh[24532]: CLIC-3-FAILED_EXEC: Can not exec command
&lt;more&gt; return code &lt;14&gt;
2008 Jan 17 16:31:24 dc3-test vsh[24548]: CLIC-3-FAILED_EXEC: Can not exec command
&lt;more&gt; return code &lt;14&gt;
2008 Jan 17 16:31:24 dc3-test vsh[24535]: CLIC-3-FAILED_EXEC: Can not exec command
&lt;more&gt; return code &lt;14&gt;
2008 Jan 17 16:31:33 dc3-test %NETSTACK-3-INTERNAL_ERROR:  netstack [4336]  (null)
2008 Jan 17 16:31:33 dc3-test %ETHPORT-2-IF_SEQ_ERROR: Error (0x20) while communicating
with component MTS_SAP_ELTM opcode:MTS_OPC_ETHPM_PORT_PHY_CLEANUP (for:RID_PORT:
Ethernet3/1) ]]> </aml-block:Data> </aml-block:Attachment> <aml-block:Attachment
type="inline"> <aml-block:Name>show vdc membership</aml-block:Name> <aml-block:Data
encoding="plain"> <![CDATA[
vdc_id: 1 vdc_name: dc3-test interfaces:
    Ethernet3/1           Ethernet3/2           Ethernet3/3
    Ethernet3/4           Ethernet3/5           Ethernet3/6
    Ethernet3/7           Ethernet3/8           Ethernet3/9
    Ethernet3/10          Ethernet3/11          Ethernet3/12
    Ethernet3/13          Ethernet3/14          Ethernet3/15
    Ethernet3/16          Ethernet3/17          Ethernet3/18
    Ethernet3/19          Ethernet3/20          Ethernet3/21
    Ethernet3/22          Ethernet3/23          Ethernet3/24
    Ethernet3/25          Ethernet3/26          Ethernet3/27
    Ethernet3/28          Ethernet3/29          Ethernet3/30
    Ethernet3/31          Ethernet3/32          Ethernet3/33
    Ethernet3/34          Ethernet3/35          Ethernet3/36
    Ethernet3/37          Ethernet3/38          Ethernet3/39
    Ethernet3/40          Ethernet3/41          Ethernet3/42
    Ethernet3/43          Ethernet3/44          Ethernet3/45
    Ethernet3/46          Ethernet3/47          Ethernet3/48

vdc_id: 2 vdc_name: dc3-aaa interfaces:

vdc_id: 3 vdc_name: dc3-rbac interfaces:
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vdc_id: 4 vdc_name: dc3-call interfaces:



]]>
</aml-block:Data>
</aml-block:Attachment>
<aml-block:Attachment type="inline">
<aml-block:Name>show vdc current-vdc</aml-block:Name> <aml-block:Data encoding="plain">
<![CDATA[Current vdc is 1 - dc3-test ]]> </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
--------------------------------------------------------------------------------
LAN_ADVANCED_SERVICES_PKG     Yes   -   In use Never       -
LAN_ENTERPRISE_SERVICES_PKG   Yes   -   Unused Never       -
--------------------------------------------------------------------------------
]]>
</aml-block:Data>
</aml-block:Attachment>
</aml-block:Attachments>
</aml-block:Block>
</soap-env:Body>
</soap-env:Envelope>
```

Related Documents

Related Topic	Document Title
Call Home CLI commands	*Cisco NX-OS System Management Command Line Reference*
VDCs and VRFs	*Cisco NX-OS Virtual Device Contexts Configuration Guide*

Standards

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

MIBs

MIBs	MIBs Link
• CISCO-CALLHOME-MIB	To locate and download MIBs, go to the following URL: http://www.cisco.com/public/sw-center/netmgmt/cmtk/mibs.shtml