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Videoscape Control Suite Endpoint Manager Service User Guide

Please Read

Important

Please read this entire guide. If this guide provides installation or operation instructions, give particular attention to all safety statements included in this guide.

Notices

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About This Guide

Purpose

This document provides user instructions regarding the Endpoint Manager service for the Videoscape Control Suite.

The Endpoint Manager (EPM) service allows for the control and monitoring of various types of application software hosted on hardware components attached to the Videoscape platform. EPM provides a central control point to manage this application software.

Audience

The audience for this document includes system administrators, operators, and installation engineers who deploy Videoscape Conductor systems.

Document Version

This is the fourth formal release of this document. This release was updated for Videoscape Control Suite 3.0.

1

Before You Begin the Endpoint Manager Configuration

Introduction

Before you begin configuring the Endpoint Manager Service, be sure you have met the requirements in this chapter.

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Before You Begin

Software Requirements

- Be certain that you have installed the Videoscape Control Suite software. Refer to Videoscape Control Suite Installation and Upgrade Guide (part number OL-29939) for details.
- Be certain that the following components have been installed. Details are available in *Installing COP Files for the Videoscape Control Suite* (part number OL-27753).
 - HornetQ
 - UPMCDA
 - UPM

COP File Installation

Before you can begin configuring the Endpoint Manager Service, the Cisco Options Package (COP) file for that service must already be installed. To install the COP file for the EPM service, follow the instructions in *Installing COP Files for the Videoscape Control Suite* (part number OL-27753).

COP File Requirements

- cisco.conductor-endpointmanager.x.cop.sgn
- cisco.conductor-epmFiler-x.cop.sgn
- cisco.conductor-nosqlcb-x.cop

Note: COP files cannot be downloaded from the desktop.

Template File Requirements

- cisco.conductor-nosqlcb-x.tmp.xml
- cisco.conductor-endpointmanager.x.tmp.xml
- cisco.conductor-epmFiler.x.tmp.xml

Note: The template file can be downloaded from the desktop or through the SSH File Transfer Protocol (SFTP).

Before You Begin

Browser Requirements

- Internet Explorer 8
- Internet Explorer 9
- Mozilla Firefox 5

2

Configure Endpoints Using the Endpoint Manager Service

Introduction

The information in this chapter describes how to configure Endpoints using Endpoint Manager.

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Endpoint Manager Overview

The Endpoint Manager (EPM) subsystem allows for the control and monitoring of various types of application software hosted on hardware components attached to the Videoscape platform. The subsystem uses APIs to allow other components of the control suite to manage these application software entities.

The EPM subsystem provides a central control point for all application software that is compatible with the Videoscape platform, and allows for the monitoring of Endpoints and diagnostic output.

Endpoint Overview

The Endpoint Manager provides end-point management for VSR5 devices and Softclient provisioning, event collection and reporting, diagnostics, and firmware/configuration services as specified further in the Control Suite PRD [EDCS-1004068]. It does so by supporting the following major functions:

- Endpoint Inventory Provides a database of managed devices, along with metadata about those Endpoints, and allows the administrator to add, remove, and browse Endpoints.
- Endpoint Configuration Provides a way to manage configuration files for Endpoints.
- Device Software Management Allows Endpoint software to be published to a web server/CDN, as well as for messaging triggers to be sent to groups of devices to trigger upgrades.
- Device Monitoring Allows device data models to be queried, data sets to be built, and for the pass-through of monitoring data to northbound management systems.
- Reboot/Debug Log Management Allows for the storage of Endpoint Reboot and Debug logs.

Videoscape Control Suite

The Videoscape Control Suite supports three different types of devices:

- Managed devices Managed devices are physical devices under the control of the Videoscape architecture and hence are managed by the Endpoint Manager. A fully managed device includes factory-installed information such as device credentials (in the form of a certificate). A typical managed device is an IP set-top box.
- Partially managed devices Partially managed devices contain software installed and/or controlled by the overall Videoscape architecture. However, the hardware device itself is not under the control of Videoscape. Examples include Apple iOS and Android devices, where Videoscape provides an application to install and run on the device. The install process may require certain information to be installed on the device and the device identifying itself to the Videoscape Control Suite (for example, by having a device identity created).
- Unmanaged devices Unmanaged devices are all other devices that need to access the Videoscape Control Suite. Note that unmanaged devices do not install applications controlled by Videoscape. An example is a PC/Mac web browser. Unmanaged devices allow the Videoscape system to model the content consumption endpoint.

Consumption Endpoint

Device Type	Static Device ID	Dynamic Device ID	Device Jabber ID
Managed	Yes	No	Yes
Partially Managed	Yes	No	No
Unmanaged	No	Yes	No

Device Identifiers

Device identifiers are defined as follows:

- Static Device ID Static device IDs are globally unique and long-lived identifiers that uniquely identify a managed or a partially managed device. The static device ID will be stored in the Videoscape Control Suite Client Directory and associated with an account. Static device IDs uniquely identify a physical Videoscape Control Suite device. However, they do not provide an addressable identifier for the Videoscape Control Suite by themselves (device JIDs are used for this). Static device IDs may be authenticated (such as, for managed devices). In any case, static device IDs may be used as identifiers for resource binding when a given user is associated with a device.
- Dynamic Device ID Dynamic device IDs are globally unique identifiers that uniquely identify an unmanaged device instantiation, such as a virtual device. Dynamic device IDs are not long-lived; they may change after a reboot, or even between sessions, and hence they are not provisioned in the system. Otherwise, dynamic device IDs support the same properties as static device IDs (except they are never authenticated), and hence they can be used for resource binding and to store device capabilities for the duration of the virtual device lifetime.
- Device JID Device Jabber Identifiers (device JIDs) are globally unique and long-lived Jabber Identifiers that uniquely name a managed device. Device JIDs are authenticated and they provide an addressable identifier for the Videoscape Control Suite to use. Device JIDs are associated with exactly one (static) device identifier, and hence only devices with static device ids (and hence physical devices) can have device JIDs. From an XMPP point of view, the device JID performs resource binding with the (static) device identifier.



These concepts are illustrated in the following diagram:

Pubsub Information

A PubSub is defined as an area where messages or notifications are sent from multiple entities to one receiver.



Chapter 2 Configure Endpoints Using the Endpoint Manager Service

Upon the installation of Endpoint Manager, the following ten PubSubs are created:

- DefaultGroupPubSub
- DownloadApplicationFinish
- DownloadApplicationStart
- EndpointProvison
- EPM_MetadataUpdate
- EPM_TOPIC_ApplicationIssue
- EPM_TOPIC_FirmwareIssue
- EPM_TOPIC_HardwareIssue
- EPM_TOPIC_Reboot
- EPM_TOPIC_TransmissionIssue

Before proceeding, verify that these PubSubs are present.

- 1 Log into the Videoscape Control Suite management console UI.
- 2 Click Message Infrastructure.
- 3 Click Publish Subscribe.
- 4 Choose the PubSub node that you defined when you installed EPM. **Example:** pubsub.features
- 5 Verify that the PubSubs are present.

CI	sco Control Suite Ma	anagement	4		Services *	Reports	• Oper	ate 🔹	Configure	•	Administration *	Message Infrastructure	. ?
ubl	lish Subscribe												
Pub	Sub Service List												
	Pubsub Service												_
•	pubsub.features												
0	pubsub.virtual												
	sub Node List	The description list	APPEND	un 1 lak									
+ A	Add -Remove 📴 Edit		Affiliati		eated By								
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	Add Remove Edit	Create Time	Affiliatio	Cr en en		05056a0525	69_1@svc.	csvm18	569.cisco.co	m/co.	**		
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	Add Remove Edit Pubsub Node Name DefaultGroupPubSub DownloadApplicationFin DownloadApplicationStart	Create Time 2013/08/14 13:32:51 2013/08/14 13:32:51 2013/08/14 13:32:51	Affiliatio	Cr en en en	ndpointmgr_0 ndpointmgr_0 ndpointmgr_0	05056a0525 05056a0525 56a05259_1	69_1@svc. 69_1@svc. @svc.csvm	csvm18 csvm18 18569.4	569.cisco.co 569.cisco.co cisco.com/co	m/co. m/co.	**		
	Add — Remove Edit Pubsub Node Name DefaultGroupPubSub DownloadApplicationFin DownloadApplicationStart EPMFiler_FileXferCompl	Create Time 2013/08/14 13:32:51 2013/08/14 13:32:51 2013/08/14 13:32:51 2013/08/14 13:32:51	Affiliati	Cr en en en ep en	ndpointmgr_0 ndpointmgr_0 ndpointmgr_0 omfiler_00505	05056a0525 05056a0525 66a05259_1 05056a0525	69_1@svc. 69_1@svc. @svc.csvm 69_1@svc.	csvm18 csvm18 18569. csvm18	569.cisco.co 569.cisco.co cisco.com/co 569.cisco.co	m/co. m/co. ondu m/co.	**		
	dd Remove Edit Pubsub Node Name DefaultGroupPubSub DownloadApplicationStart EPMFiler_FileXferCompl EPM_MetadataUpdate	Create Time 2013/08/14 13:32:51 2013/08/14 13:32:51 2013/08/14 13:32:51 2013/08/19 11:27:13 2013/08/14 13:32:51	Affiliati	Cr en en en en en	ndpointmgr_0 ndpointmgr_0 ndpointmgr_0 pmfiler_00505 ndpointmgr_0	05056a0525 05056a0525 66a05259_10 05056a0525 05056a0525	59_1@svc. 59_1@svc. @svc.csvm 59_1@svc. 59_1@svc.	csvm18 csvm18 18569. csvm18 csvm18	569.cisco.co 569.cisco.co cisco.com/co 569.cisco.co 569.cisco.co	m/co. m/co. m/co. m/co.	55 55 54 54		
	dd Remove Edit Pubsub Node Name DefaultGroupPubSub DownloadApplicationFin DownloadApplicationStart EPMFiler_FileXferCompl EPM_MetadataUpdate EPM_TOPIC_Application	Create Time 2013/08/14 13:32:51 2013/08/14 13:32:51 2013/08/14 13:32:51 2013/08/19 11:27:13 2013/08/14 13:32:51 2013/08/14 13:32:53	Affiliation of the second seco	Cr en en ep en en en	ndpointmgr_0 ndpointmgr_0 ndpointmgr_0 omfiler_00505 ndpointmgr_0 ndpointmgr_0	05056a0525 05056a0525 66a05259_10 05056a0525 05056a0525 05056a0525	69_1@svc. 69_1@svc. 69_1@svc. 69_1@svc. 69_1@svc. 69_1@svc.	csvm18 csvm18 18569,4 csvm18 csvm18 csvm18	569.cisco.co 569.cisco.co cisco.com/co 569.cisco.co 569.cisco.co 569.cisco.co	m/co. m/co. m/co. m/co. m/co.	44 44 44 44		
	dd erenove Et til Pubsub Node Name DefaultGroupPubSub DownloadApplicationFin DownloadApplicationStart EPMFiler_FileXFerCompL EPM_TOPIC_Application EPM_TOPIC_FirmwareIs	Create Time 2013/08/14 13:32:51 2013/08/14 13:32:51 2013/08/14 13:32:51 2013/08/19 11:27:13 2013/08/14 13:32:51 2013/08/14 13:32:53 2013/08/14 13:32:53	Affiliati	Cr en en en en en en en	ndpointmgr_0 ndpointmgr_0 ndpointmgr_0 pmfiler_00505 ndpointmgr_0 ndpointmgr_0 ndpointmgr_0	05056a0525 05056a05259_10 05056a05259_10 05056a0525 05056a0525 05056a0525 05056a0525	69_1@svc. 69_1@svc. 69_1@svc. 69_1@svc. 69_1@svc. 69_1@svc. 69_1@svc.	csvm18 csvm18 i18569. csvm18 csvm18 csvm18 csvm18	569.cisco.co 569.cisco.co cisco.com/co 569.cisco.co 569.cisco.co 569.cisco.co 569.cisco.co	m/co. m/co. m/co. m/co. m/co. m/co.			

- Refer to *Troubleshooting the Endpoint Manager Service* (on page 65) if the PubSubs are not displayed.
- PubSubs are also created when Endpoint Topics and Endpoint Groups are created.

Registration Status

The Endpoint Manager provides the capability to allow or prevent the registration of new Endpoints, using the **Endpoint Activation Flag** setting.

- 1 Choose Services > Endpoint Management.
- 2 Click Endpoint Settings.

ujuiju Osco Videoscape cisco Control Suite Management	Services * Reports * Operate * Configure * Administration * Message Infrastructure *	1005.1
ndpoint Settings	Services * Reports * Operate * Configure * Administration * Message Infrastructure *	
Access Endpoint		
Endpoint ID Endpoint JID		
New Edit Delete Search Debug Mor	itor Manage Watches Installed Items Manage Configurations Reboot Log Files Restore	
Them I con I been I been i been I have	and handle contract moment handle conditioned in second time in second	
Endpoint System Wide Settings		
Registration Status		
Enable/Disable Registration Evaluate Dynamic Groups	Clear ALL Debug History	
Batch Load Endpoints		
Batch Load		
Contraction 1		
Endpoint Reports		
Endpoint ID/JID Mapping Endpoint/Group Association		

- 3 In the Endpoint System Wide Settings section, check the color of the Registration Status. If the status displays green, Endpoints can register. If the status displays red, Endpoints can no longer register.
- 4 Click Enable/Disable Registration to enable or disable registration.
- 5 Note that the **Access Endpoint** fields allow the user to perform the following tasks:
 - Create a new Endpoint
 - Edit an existing Endpoint
 - Delete an Endpoint
 - Search for an Endpoint
 - Retrieve/Send Debug commands to an Endpoint
 - Set/Monitor performance parameters on an Endpoint
 - Set/Retrieve Watches on an Endpoint
 - View/Delete Installed Items on an Endpoint
 - Send/Cancel Configuration of an Endpoint
 - Retrieve/View Reboot Log Files
 - Restore an Endpoint
- 6 Click **Clear All Debug History** to clear all debug records received for all Endpoints.
- 7 Click **Batch Load** to allow for a batch load from a file of multiple Endpoints.

Chapter 2 Configure Endpoints Using the Endpoint Manager Service

- 8 Click **Endpoint ID/JID Mapping** to create a report which shows Endpoints and their associated JIDs.
- **9** Click **Endpoint/Group Association** to create a report that displays the Endpoints and the groups to which they are assigned.

Note: See the collection of notes that follow for additional information on steps 6 through 9.

Batch Load

This option allows for multiple Endpoints located in a file to be uploaded to the system.

- **1** Navigate to **Services > Endpoints**.
- 2 Select Batch Load.
- **3** Browse to choose the file.
- 4 Click Upload.
- 5 At the Security Warning message, click **Continue**.

Notes:

- The batch load file report is located at /common/log/taos-log-a/EPM_Reports.
- To view the report, enter a CLI command similar to the following: file dump activelog EPM_Reports/batchload.10072013-15:50:40.839.rpt.gz

Endpoint ID/JID Mapping

- **1** Navigate to **Services > Endpoint Settings**.
- In the Endpoint Reports section, click Endpoint ID/JID Mapping.
 Result: The EPM generates the report and indicates the name of the file and its location in the /common/log/taos-log-a/EPM_Reports directory.
- 3 To view the report, enter a CLI command similar to the following: file dump activelog EPM_Reports/endpointidtojid.10072013-15:59:40.rpt.gz

Endpoint Group Association

The EPM allows for the reporting of all Endpoints and the groups to which they are assigned.

- 1 Navigate to Services > Endpoint Settings.
- 2 In the Endpoint Reports section, click Endpoint/Group Association. Result: The EPM generates a report for all Endpoints and the groups to which they are associated, and indicates the file name and location in /common/log/taos-log-a/EPM_Reports where the file can be found.
- 3 To view the report, enter a CLI command similar to the following: file dump activelog

EPM_Reports/endpointgroupassociations.10072013-16:00:00.rpt.gz

Creating an Endpoint

- 1 Click Services.
- 2 Under the Endpoint Management heading, click Endpoint Settings.

cisco Control Suite Management	Services * Reports * Operate * Configure * Administration * Messãoe Infrastructure *	-000
ndpoint Settings	Services * Réports * Operate * Configure * Administration * Messige Infrastructure *	
Access Endpoint		
Endpoint ID Endpoint JID		
1		
New Edit Delete Search Debug Monit	or Manage Watches Installed Items Manage Configurations Reboot Log Files Restore	
Endpoint System Wide Settings		
Registration Status		
Enable/Disable Registration Evaluate Dynamic Groups	Clear ALL Debug History	
Batch Load Endpoints		
Batch Load		
Endpoint Reports		
Endpoint ID/JID Mapping Endpoint/Group Association		

- **3** Type a unique number for the **Endpoint ID** and then click **New**. **Note:** The Endpoint ID is a string with a minimum size of 1 and a maximum size
- of 128 items.4 Enter the Time Zone, Location, Endpoint Name, Billing ID, and choose a
- **Group** for the Endpoint. These are all required fields for the creation of an Endpoint. Then, **Save** the information.

cisco Contro	deoscape I Suite Management	Sev	ices · Reports ·	Operate • Conf	gure • Administration •	Message Infrastructure •
Endpoint Setting	js.					
Endpoint Attribute	*					
Endpoint ID	1	Endpoint Name	1			
Time Zone		Billing ID				
Endpoint Description		Location				
	Available Fixed Groups	2	Selected Fixed	Groups		
	Default dynamicGroup	Add =				
		- Remove				
Save Resid	Cancel					

- The Default group is automatically created when Endpoint Manager is installed. If the Default group is not present, see *Troubleshooting the Endpoint Manager Service* (on page 65).
- Use these guidelines when creating the Endpoint:
 - Endpoint Name String, length from 3 to 256 characters
 - Time Zone Range from 12 to -12
 - Billing ID Integer, range from 1 to 2,147,483,647. The Billing ID is received from the billing vendor.
 - Location Geographic location
 - Endpoint Description String, maximum of 256 characters

Editing the Endpoint

- 1 Choose Services > Endpoint Management.
- 2 Click Endpoint Settings.
- **3** Type the **Endpoint ID** and click **Edit**. The Endpoint Attributes window opens. You can edit the fields that are not dimmed
- 4 Click **Endpoint Logging** (located at the bottom of the Endpoint Attributes window) to either activate or deactivate logging on the Endpoint.

ndpoint Setting	15				
Endpoint Attribute					
Endpoint ID	1	Endpoint Name	Endpoint1	1	
Time Zone	1	Billing ID	1011]	
Logging	1	Connected			
Last Update Time	Tue Aug 20 20:18:38 UTC 2013	Creation Time	Tue Aug 20 20:18:38 UTC 2013		
JID		Туре	Unknown		
Endpoint Description	This is my very first Endpoint	Location	Lawrenceville	1	
	Available Fixed Groups		Selected Fixed Groups		
	dynamicGroup	Add -	Default		
		+ Remove			

Notes:

- The Endpoint will be assigned to the Default Group if no other group is selected.
- If the Logging field has a check-mark next to it, logging is activated. If the field is unchecked, logging is deactivated. Logging allows Endpoints to send logs to the EPM. An Endpoint can still send logs to the EPM if logging is deactivated. However, in such a case, the EPM will not store these logs in the database.
- Click Join Dynamic Group to allow the Endpoint to join a specific Dynamic Group based on the rules of the group and the Endpoint settings. If the Endpoint settings match those of a rule, and if the rules are assigned to a Dynamic Group, the Endpoint becomes a member of that group when you click Join Dynamic Group.
- The Connected field will be selected once the Endpoint has "attached" or signed on to Endpoint Manager.
- 5 Click Save.

Deleting an Endpoint

- 1 Choose Services > Endpoint Management > Endpoint Settings.
- 2 Enter the Endpoint ID and then click **Delete**.

Search for an Endpoint by Endpoint ID or Endpoint JID

Users can search for Endpoints that match an input string. When complete, the search returns a set of matching Endpoint values, either the Endpoint ID or the Endpoint JID.

The search string may be a partial match and/or include a single wild card character (*). For example, a JID search string could be username1*ipad@cisco.com.

- 1 Choose Services > Endpoint Management > Endpoint Settings.
- 2 Enter the Endpoint ID or Endpoint JID and then click Search. Notes:
 - Searches can be performed using the complete Endpoint ID or JID, as well as using wildcard characters, such as *.
 - There is a limit of 1,000 records that a search result can return. If a search contains more than 1,000 records, the following error message appears:
 Error searching for endpoint by ID key. mex result set exceeded (1000+ matches found), aborting search

Endpoint Parameters

A Parameter is defined as a value in an Endpoint that needs to be monitored or configured. An example of a value that should be monitored is the amount of RAM in use. Currently, the process for assigning a Parameter to an internal value on an Endpoint is based upon the software resident in the Endpoint.

The GUI allows for the creation, deletion, editing, or viewing of an Endpoint Parameter. Parameters are building blocks for either Configurations, Watches, or Log Performance operations.

Creating an Endpoint Parameter

- 1 Choose Services > Endpoint Management > Parameters.
- 2 Click Create.
- **3** Type the **Name**, **Description**, **Type**, and **Value**, for the Parameter you are creating.
- 4 Click Save.

cisco Control	eoscape Suite Management	a	Services •	Operate •	Configure 🔻	Administration T	Message Infrastructure	root 🔹
Endpoint Paramet	ter							
Parameter								
Name	DroppedPackets							
Description	Dropped Network Packets							
Туре	Integer +							
Value	100							
Save Reset	Cancel							

- The Endpoint Manager can contain a maximum of 10,000 parameters.
- Name Unique; string, from 3 to 256 characters
- Description String, maximum of 256 characters
- Type Drop-down menu; integer or string
- Value Integer or string
 Example: http:\\10.90.70.5\guide\atlanta

Endpoint Configurations

A Configuration is composed of one to many parameters. A Configuration can be used to configure a single Endpoint or a group of Endpoints. In addition, the UI provides the capability to publish a Configuration to the PubSub associated with a Group.

Creating an Endpoint Configuration

1 Choose **Services > Endpoint Management > Configuration**. The Endpoint Configuration list appears.

cisco Videoscape Cisco Control Suite Managemen	-	Services V Operate	 Configure 	Administration M	essage Infrastructure
ndpoint Configuration					
Configuration List					
	Description	Priority	Source	Type	

- 2 Click Create.
- 3 Type the Name, Description, and Type of the Configuration to be created.
- 4 Select a Parameter from the **Available Parameters** list.
- 5 Click Save.

Suite Management	1	Services *	Reports *	Operate *	Configure *	Administration *	Message Infrastructure
ation							
iPadConfiguration							
Configuration for Pad							
iPad •							
Available Parameters			Selected Par	ameters			
param2 param1	Add						
	+ Remov	we					
	ation PedConfiguration Configuration for Ppd Pad Pad Available Parameters param2	ation PedConfiguration Configuration for ®yd Pad Available Parameters param2 param1 Add =	ation PedConfiguration Oonfiguration Ped Available Parameters param2 Den Den Den Den Den Den Den De	Bervices * Reports * ation PredConfiguration Configuration Configuration Pred Available Parameters param2 param3 Add + ConpeterMediatePa	ation PedConfiguration Configuration Configuration Available Parameters param2 param1 Add - Configuration Configurati	Analable Parameters parama paramaa parama paramaa paramaa paramaa paramaa paramaa	Add - Selected Parameters Darsm2 param1 Add -

- Name String, from 3 to 256 characters; a unique string within the context of the Configuration
- **Description** String, maximum of 256 characters
- Type Drop-down menu; iPad, iPad2, iPhone, FireFox, IE, Safari, Unknown
- The maximum number of Parameters per Configuration is 100.
- The Endpoint Manager service contains a maximum of 1,000 Configurations.

Publishing a Configuration to a Group

In order to publish a configuration to a group, the configuration first needs to be associated to the group.

- 1 From the Services menu, navigate to the Endpoint Management section and click Groups.
- 2 Choose the desired group from the Groups list and click Edit.
- 3 From the Configuration drop-down list, choose the desired configuration; then, click Save.

alata Cisco Vi	deoscape Suite Management							1000 *
cisco control	Suite Management	2	Services *	Reports *	Operate *	Configure *	Administration •	Message Infrastructure
Indpoint Group								
Group								
Name	group1	1						
Description		1						
		-						
	Available Rules			Selected Ru	les			
	rule3							
	rule2 rule1	Add -+	1					
			5					
		~ Remove						
	Available Configurations			elected Configu	ankines.			
	PadConfiguration		2	elected Coringi	uracions			
	A.4.4.4.4.4.4	1 444						
		Add -+						
		- Remove						
Creation Time	Thu Jul 18 13:55:31 UTC 2013							
Last Update Time	Tue Jul 30 20:38:29 UTC 2013							
Active Dynamic Group								
Save Cancel								

4 From the Endpoint Group list, choose the group that has been associated with the Configuration; then, click Publish Configuration.

Results:

- The EPM displays a message stating that the publish configuration action was successful.
- All Configurations associated with the Group are published.

Note: All Endpoints that are members of the group receive the Configuration.

Canceling Configurations from a Group

- 1 From the **Services** menu, navigate to the Endpoint Management section and choose **Groups**.
- **2** Choose the desired group from which to cancel the Configuration or Configurations.
- 3 Click **Cancel Configuration**. **Result:** All Configurations published to the group are canceled.

Note: To further disassociate the configuration from the group, complete the following steps:

- 1 Select the **Group** and click **Edit**.
- 2 From the **Selected Configurations** list, choose the configuration to be removed and click **Remove**.

Sending a Configuration Directly to an Endpoint

A Configuration can be sent directly to an Endpoint.

- 1 From the **Services** menu, navigate to **Endpoint Management**; then, choose **Endpoint Settings**.
- 2 From the Endpoint Settings window, enter the desired **Endpoint ID** or **JID**; then, click **Manage Configurations**.
- **3** From the Endpoint Settings window, navigate to the **Available Configurations** list and choose the desired **Configuration** to send to the Endpoint.
- 4 Click Send. The EPM sends the Configuration directly to the Endpoint.Note: Only the last Configuration sent directly to an Endpoint is stored by the Endpoint.

Canceling a Configuration from an Endpoint

- 1 From the **Services** menu, navigate to **Endpoint Management**, and then choose **Endpoint Settings**.
- 2 In the Endpoint Settings window, enter the **Endpoint ID** or **JID** and then click **Manage Configurations**.
- 3 Navigate to the **Configuration List** on the Endpoint at the top of the page, and choose **Remove Configuration**.

Result: The Configuration is removed from the Endpoint.

Editing a Configuration

- 1 From the **Services** menu, navigate to **Endpoint Management** and then choose **Configurations**.
- 2 Choose the configuration to edit and click **Edit**.
- 3 Make the necessary changes and click **Save**.

Note: A configuration cannot be edited if it has been published to a group or sent directly to an Endpoint. The configuration has to first be canceled from the group or Endpoint before it can be edited.

Endpoint Group Rules

An Endpoint Group Rule is an expression that is composed of a parameter, an operation, and a value. The expression evaluates to either true or false.

Creating Endpoint Group Rules

1 Choose Service > Endpoint Management > Group Rules. The Endpoint Group Rule window opens.

ululu Cisco Videoscape				root 🔹 📿	0.
cisco Control Suite Mar	agement 🙆 Services 🔻	Operate 🔻 Configure 🔻 Admi	nistration 🔹 Message Int	frastructure 🔻	
ndpoint Group Rule					
Group Rule List					Selected 0 Total
2 Create / Edit K Delete					
Name	Description	Parameter	Operation	Value	Value Type
1 autoRule-12	Some generic description.	LocationCode	NotEqualTo	12	String
2 autoRule-9	Some generic description.	LocationCode	NotEqualTo	9	String
3 autoRule-4	Some generic description.	LocationCode	NotEqualTo	4	String
4 autoRule-3	Some generic description.	LocationCode	NotEqualTo	3	String
5 autoRule-2	Some generic description.	LocationCode	NotEqualTo	2	String
6 autoRule-11	Some generic description.	LocationCode	NotEqualTo	11	String
7 autoRule-7	Some generic description.	LocationCode	NotEqualTo	7	String
8 autoRule-6	Some generic description.	LocationCode	NotEqualTo	6	String
9 autoRule-5	Some generic description.	LocationCode	NotEqualTo	5	String
10 autoRule-13	Some generic description.	LocationCode	NotEqualTo	13	String
11 autoRule-10	Some generic description.	LocationCode	NotEqualTo	10	String
12 autoRule-8	Some generic description.	LocationCode	NotEqualTo	8	String
12 D sutoRula-1	Somo nonorie docerintian	LocationCodo	NotEqualTo	1	String

2 Click Create.

3 Configure the Endpoint Group Rule.

ndpoint Group R	ule				
Group Rule					
Name	iPad2Rule				
Description	Rules for iPads				
Parameter	Type ID	-			
Operation	Equal To	¥			
Value Type	String	Ŧ			
Value	iPad				

Chapter 2 Configure Endpoints Using the Endpoint Manager Service

- Click **Reset** to reset all values that have been entered.
- Click Cancel to cancel any changes that you have made and to exit the window.
- **Name** String, from 3 to 256 characters
- Description String, maximum of 256 characters
- Parameter Drop-down menu: TypeID, JID, Time Zone, Location Code, Billing ID
- Operation Drop-down menu: Equal To, Not Equal To, Starts With, Contains
- Value Drop-down menu: Integer, String
- Value Type Drop-down menu: Integer, String
- 4 Click Save.

Endpoint Groups

Groups allow for the division of the entire population of Endpoints into sets. This provides the capability to apply configurations to geographic areas, Endpoint types, or specially defined test groups, such as *friendlies*. Associated with each Group is a PubSub node, named by adding the Group ID to "EPM_Group."

Notes:

- Groups can be either Fixed or Dynamic.
- A Fixed Group is a group without rules.
- A Dynamic Group includes at least one rule. That group must also be activated.
- The maximum number of groups that the Endpoint Manager is required to store is 200.
- The GroupName is a unique string within the context of the Group definitions.

Creating a Fixed Endpoint Group

1 Choose **Services > Endpoint Management > Groups**. The Endpoint Group window opens.

cisco Control Suite	Management	Services • Oper	ate 🔻 Configure 🔻 Ad	ministration • Message Infra	root ▼ _D_+ structure ▼
ndpoint Group					
Group List					Selected 0 Tota
🔁 Create 🥂 Edit 💥 De	ete Publish Activate/Deactiv	ate Logging			
Group Name	Description	Config Name	Child Group	Active Dynamic Group	Pubsub Node Name
1 🗆 Default	Default group for all End	dpoints		Να	DefaultGroupPubSub
2 Group4				No	Group3542a1e7-b613-449c-9bb1-7dfbc71
3 🔲 group5				Na	Group408bf905-f1cc-44a9-b429-67d90fdb
				No	Group435b4034-8448-4d73-97a3-13dc99
4 group2					

- 2 Click Create.
- 3 Enter or select the Name, Description, and Configuration.

Chapter 2 Configure Endpoints Using the Endpoint Manager Service

4 Click Save.

Configuration Available Rules Availab	cisco Control	eoscape Suite Management	-	Canadara =	Onomite -	Configure -	Administration	Massage Telepole	A
Name AtliPadGroup Description Group for Atlanta (PAds) Configuration IPadConfig Child Group IPadConfig Available Rules Selected Rules AutoRule-12 autoRule-12 autoRule-12 autoRule-2 autoRule-2 autoRule-2 autoRule-2 autoRule-2 autoRule-2 autoRule-2 autoRule-2 autoRule-2 autoRule-2 autoRule-2 autoRule-11 Image: Control of the remove	dpoint Group		101	Services *	Operate •	Configure •	Administration *	Message Infrastructure	_
Description Group for Atlanta IPAdS Group for Atlanta IPAdS IPAdConfig Configuration IPadConfig Configuration IPadConfiguratio IPadConfi									 _
Description Group for Atlanta IPAds Configuration IPadConfig Child Group Available Rules Selected Rules autoRule-12 autoRule-2 autoRule-2 autoRule-2 autoRule-2 autoRule-11 autoRule-2 autoRule-2									
Configuration IPadConfig Configuration IPadConfig Child Group Available Rules Selected Rules autoRule-12 autoRule-2 autoRule-2 autoRule-2 autoRule-2 autoRule-2 autoRule-2 autoRule-2 autoRule-2 autoRule-2 autoRule-11 autoRule-2 autoRule-11 autoRule-11 autoRule-2 autoRule-11 autoRule-2 autoRule-	Name	AtliPadGroup							
Child Group Available Rules Available Rules Available Rules Available Rules Add Add Add Add Rule-2 autoRule-2	Description	Group for Atlanta iPAds							
Child Group Available Rules Add Add Add Remove Remove Active Dynamic Active Dynamic									
Child Group Available Rules Add Add Add Remove Remove Active Dynamic Active Dynamic									
Child Group Available Rules Available Rules Available Rules Add Add Add Add Add Add Add Add Add Ad	Configuration	iPadConfig							
autoRule-12 autoRule-9 autoRule-3 autoRule-13 autoRule-14 autoRule-15 autoRule-16 autoRule-17									
Active Dynamic		Available Rules			Selected	Rules			
autoRule-4 Add - autoRule-3 - Remove autoRule-2 - Remove autoRule-11 - autoRule-7 -									
autoRule-2 autoRule-11 Active Dynamic		2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	Add -						
autoRule-11 autoRule-2			- Remove	-					
Active Dynamic			- Herriote	9					
				_		_			
	Group								

Notes:

- Name String, from 3 to 256 characters
- Description String, maximum of 256 characters

Creating a Dynamic Endpoint Group

1 Choose **Services > Endpoint Management > Groups**. The Endpoint Group window opens.

cisco Control Suite M	e Aanagement	Services T Oper	ate.▼ Configure ▼ Ac	Iministration 🔻 Message Infra	root * D.
Endpoint Group		La Jervices - opci	are configure re	annisoddon v nesodge fard	
Group List					Selected 0 Te
👷 Create 🧳 Edit 🔌 Del	ete Publish Activate/Deactivate	Logging			
Group Name	Description	Config Name	Child Group	Active Dynamic Group	Pubsub Node Name
1 Default	Default group for all Endpoint	ts		No	DefaultGroupPubSub
2 Group4				No	Group3542a1e7-b613-449c-9bb1-7dfbc71.
3 group5				No	Group408bf905-f1cc-44a9-b429-67d90fdb.
4 group2				No	Group435b4034-8448-4d73-97a3-13dc99.
5 AtliPadGroup	Group for Atlanta iPAds	iPadConfig		No	Groupd6e0a028-1a25-4fb5-8e35-0aa8c03
6 🔲 group3				No	Groupef4e5c19-65e3-43d1-8d45-3dfd244

- 2 Click Create.
- 3 Enter or select the Name, Description, and Configuration.

Endpoint Groups

CISCO Control S	eoscape Suite Management		<u>6</u> 9	ervices 🔻	Operate 🔻	Configure	 Administra 	ation 🔻	Message Infrastructure	root 🔻	P
dpoint Group											
roup											
Name	iPadDynamicGroup										
Description											
		h									
Configuration	iPadConfig	*									
Child Group											
	Available Rules				Selecte	i Rules					
	autoRule-9 autoRule-4	n		a	itoRule-12						
	autoRule-3	- P E	Add -								
	autoRule-2 autoRule-11	E E	- Remove								
	autoRule-7										
Active Dynamic	autoRule_6	•									
Acuve Dynamic											

4 Select at least one rule from the **Available Rules** list.

- **Name** String, from 3 to 256 characters
- Description String, maximum of 256 characters
- 5 Click **Save**. The group is added to the Group List.

ndpo	int Group					
Group	List					Selected 1 Tota
Crea	ite 🥖 Edit 🔀 Delete	Publish Activate/Deactivate Lo	gging			
	Group Name	Description	Config Name	Child Group	Active Dynamic Group	Pubsub Node Name
1 🗆	Default	Default group for all Endpoints			No	DefaultGroupPubSub
2 🗆	Group4				No	Group3542a1e7-b613-449c-9bb1-7dfbc71
3	group5				No	Group408bf905-f1cc-44a9-b429-67d90fdb
1	group2				No	Group435b4034-8448-4d73-97a3-13dc99
	iPadDynamicGroup		iPadConfig		No	Group58560bf0-715e-48d9-a3f4-212cca7
5 🔽		and the second second	In deside		No	Groupd6e0a028-1a25-4fb5-8e35-0aa8c03
5 🔽	AtliPadGroup	Group for Atlanta iPAds	iPadConfig		IAO	Gionhnosogoso.1952.4103.0632.0990c03"

Chapter 2 Configure Endpoints Using the Endpoint Manager Service

6 Choose the group from the Group List and click Activate/Deactivate. The system activates the group and displays Yes in the Active Dynamic Group column.
 Note: To deactivate a group, click Activate/Deactivate. The system deactivates the group and displays No in the Active Dynamic Group column.

		Services • Reports • Operate • Con	figure • Administration	 Message Infras 	aucture -
ndpoint Group Group List P Create / Edit Delete	Publish Configuration Cancel Co	nfiguration Activate/Deactivate Logging			
Group Name	Description	Published Configurations Unpublished Configura	Active Dynamic Group	Attached Devices	Pubsub Node Name
1 🗌 Default	Default group for all Endpoints	defaultGroupConfig EndpointConfig	No	1	DefaultGroupPubSub
2 dynamicGroup2	dynamicGroup		Yes	1	Group594d17fc-177d-4860-9a
3 🖸 group1	group1		Yes	1	Group7dc08157-8cd5-41e0-97
	DynamicGroup		No		Groupf84a535c-7d93-4766-94

Endpoint Topics

A Topic is an area where an Endpoint sends data. Each Topic has a corresponding PubSub node to which Events, Watches, or Notifications on Endpoints can publish. The associated data is then handled by other components of the EPM Videoscape system.

Note: A Topic is needed to create a Watch.

Creating an Endpoint Topic

1 Choose Services > Endpoint Management > Topic. The Endpoint Topic window opens.

cisco Co	ntrol Suite Managemen		Services V	Operate 🔻	Configure •	Administration •	Message Infrastructure 🔻
ndpoint To	pic						
Topic List							
Create	Edit 🔀 Delete						
Name		Description					
< [] 11-14	vareFault						
1 L Hardw	aici auit						

- 2 Click Create.
- 3 Enter the Topic Name and Description.
- 4 Click Save.

alaala Cisco Vi	deoscape Suite Management							root v
cisco Control	Suite Management	۵	Services *	Operate 🔻	Configure 🔻	Administration •	Message Infrastructure	•
Endpoint Topic								
Name	NetworkLatency							
Description	NetworkLatency.							
Save Reset	Cancel							

- Name String, from 3 to 256 characters
- Description String, maximum of 256 characters

Endpoint Watches

A Watch is a trigger that occurs when one or more conditions have been met. When a trigger occurs, the Endpoint publishes the data that matched the conditions to the specified PubSub. A condition is composed of a Parameter, an operation, and a value. Conditions may be concatenated using logical operators.

```
Example: If Number of Movies = 5 and Maximum Movie Rental = 5
```

Creating an Endpoint Watch

1 Choose Services > Endpoint Management > Watch. The Endpoint Watch window opens.

ndpoint Watch			
Vatch List			
😤 Create 🦿 Edit 💥 Delete Publish/Remove			
Name Description	Торіс	Expression	Assigned Groups

- 2 Click Create.
- **3** Type the Watch **Name** and **Description**. Then, select the **Topic** to which the Watch is tied.
- 4 Build the watch expression in Expression Builder.
- 5 Click Save.

		140	Services 4 observice .	Compare - Automotion	n 🔹 Méssagé Infrastructuri 🔹	
dpoint Watch						
Watch Attribute						
Name	WatchHardwareFaults					
Description	Watch out for Hardware Faults					
Description						
Topic	HardwareFault.					
				Left parenthess		pression
					Ex param1 ≥ 150	pression
arameter parar	st + Comparator >	• Value 15	0 Value Type	Left parenthese		pression
arameter parar	st + Comparator >	• Value 15	0 Value Type	Integer (pression
arameter paraz	st + Comparator >	• Value 15		Integer		pression
arameter parar	at - Comparator >	Value 15	0 Value Type Operator	Integer (presson

- **Name** String, from 3 to 256 characters
- Description String, maximum of 256 characters
Endpoint Settings

Deploying Watches to Endpoints

Notes:

- Watches can be deployed through the Access Endpoint window or through the Endpoint Attribute window.
- An Endpoint Watch needs to have been previously created. See *Creating an Endpoint Watch* (on page 28).
- 1 Choose Services > Endpoint Management > Endpoint Settings. The Endpoint Settings window opens.

alialia Cisco Videoscape	1005 Y
cisco Control Suite Management Services * Reports * Operat	te Configure Administration Message Infrastructure
Endpoint Settings	
Access Endpoint	
Endpoint ID D Endpoint JID	
New Edit Delete Search Debug Monitor Manage Watches Installed Items	Manage Configurations Reboot Log Files Restore
Endpoint System Wide Settings	
Registration Status	
Enable/Disable Registration Evaluate Dynamic Groups Clear ALL Debug History	
Batch Load Endpoints	
Batch Load	
Endpoint Ruports	
Endpoint ID/JID Mapping Endpoint/Group Association	

2 Type an **Endpoint ID** and then click **Manage Watches**. The Deployed and Available Watch List window opens.

CISCO Control Suite Management		â	Services v	Operate 🔻	Configure 🔻	Administration 🔻	Message Infrastructure 🔻			
ndpoint Settings										
Deployed Watch List										
								Selected 0 Total 0	<u>ښ</u> .	
Get Watches										
	Description						Topic		Ĩ	
Name										

Avail:	able Watch List		Selected 0 Total 2	•
	Name	Description	Торіс	1
1 🗆	WatchTemperate	Report when temperate is above 60 degrees	HardwareFault	
2 🗆	WatchVODFailures	VOD Failures above 10	ServiceError	

- **3** In the **Available Watch List** portion of the window, choose a Watch to deploy to an Endpoint.
- 4 Click **Add**. The Watch is added to the Endpoint and is now visible on the Deployed Watch List.

Retrieving all Watches from an Endpoint

To retrieve all Watches from an Endpoint, from the Deployed Watch List, click **Get Watches**. All the Watches deployed to an Endpoint are displayed.

Removing a Watch from an Endpoint

To remove a Watch from an Endpoint, from the Deployed Watch List, click **Remove**. The Watch is removed from the Endpoint and is no longer visible in the Deployed Watch List.

Deploying a Watch to a Group

EPM permits the transmission of Watches to all Endpoints assigned to a Group.

- 1 Choose Services > Endpoint Management > Watches.
- 2 Choose a Watch from the Watch List window.

CISCO Videoscape CISCO Videoscape Control Suite Management	Services 🔻	Operate Configure Administ	root v D.
Endpoint Watch Watch List			Selected 1 Tota
Create / Edit X Delete Publish/Remove Name Description		Торіс	Expression
1 🗹 WatchForHardwareFaults		HardwareFault	MinimalHardwareFaults < 100
2 WatchForServiceErrors		ServiceError	ExcessiveServiceErrors == 1000

3 Click Publish/Remove.

4 Click **Publish Watch**, choose the **Group** to which the Watch is to be published, and click **OK**.

anagement	Services • Operate •	Configure T Administratio	Message Infrastructure *
			n v message mindserdetare
			Selected 1 Total
move			
Description		Торіс	Expression
		HardwareFault	MinimalHardwareFaults < 100
		ServiceError	ExcessiveServiceErrors == 1000
	Send Command to Group Publish Watch Remove Group Default Ok	≥ watch 	
		Description Send Command to Group Publish Watch Remov Group Default	Description Topic HardwarePault ServiceError ServiceError ServiceError Publish Watch O Remove Watch Group Default

Note: When the Watch is successfully deployed, the system displays a message that indicates a successful deployment.

Removing a Watch from a Group

- 1 Choose Services > Endpoint Management > Watches.
- 2 Choose a Watch from the Watch List window.
- 3 Click Publish/Remove.

duulu. Cisco Videoscape	and the second se		root v D-
CISCO Videoscape CISCO Videoscape Control Suite Management	Services • Operate • Configu	re 🔻 Administration 🔻 Mess	age Infrastructure 🔻
indpoint Watch			
Watch List			Selected 1 Total 2
🖭 Create 🥖 Edit 🗙 Delete Publish/Remove			
Name Description 1 2 WatchForHardwareFaults	Top Har		xpression finimalHardwareFaults < 100
2 WatchForServiceErrors	Ser	iceError E	ixcessiveServiceErrors == 1000
	Send Command to Group	×	
	O Publish Watch Remove Watch		
	Group Ok Cancel		

4 Click **Remove Watch**, choose the **Group**, and click **OK**.



Note: When the Watch is successfully removed, the system displays a message that indicates the successful removal.

Endpoint Performance Parameters

Information on the state of an Endpoint is available using the Performance Parameter function. EPM specifies what Parameter the Endpoint should monitor and how often. Then, the Endpoint performs the actions to monitor the status and returns the information to the associated Topic PubSub.

Note: To deploy a Performance Parameter to an Endpoint, a Parameter and Topic must be previously set up. See *Creating an Endpoint Topic* (on page 27).

Deploying a Performance Parameter to an Endpoint

1 Choose Services > Endpoint Management > Endpoint Settings. The Endpoint Settings window opens.

cisco Control Suite Man	agement	Services Reports Operate Configure Administration Message Infrastructure	
ndpoint Settings			
Access Endpoint			
Endpoint ID O Endpoint 1	ID		
New Edit Delete	Search Debug Monitor	Manage Watches Installed Items Manage Configurations Reboot Log Files Restore	
THEN I LOOK LOOKE	second		
Endoder Custom Mide Setting			
	6		
	6		
	Evaluate Dynamic Groups	Clear ALL Debug History	
Registration Status		Gear ALL Debug History	
Registration Status		Clear ALL Debug History	
Batch Load Endpoints		Clear ALL Debug History	
Registration Status		Gear ALL Debug History	
Registration Status Enable/Disable Registration Batch Load Endpoints		Clear ALL Debug History	

2 Type an **Endpoint ID** and click **Monitor**. The Performance Parameter window opens.

dpoint Settings			
erformance Parameters			
Remove 👷 Add 👷 Retrieve Perfo	ormance Parameters		
Parameter Name	Topic Name	Interval	
		No data available	

3 Click Add. The Performance Attributes window opens.

Parameter	DroppedPackets	+
Торіс	NetworkLatency	*
Interval(10-100000)	100	

Note: The Interval is measured in seconds.

- 4 Click to select the **Parameter** and **Topic** for the Performance Parameter.
- 5 Type the **Interval** for the Performance Parameter.
- **6** Click **Publish**. The Performance Parameter is published to the Endpoint and is now visible in the Performance Parameters list.

cisco Videoscape Cisco Control Suite Management	🛣 Serv	The performance parameter published success.	essage Infrastructure 🔻
ndpoint Settings	1	- OK	
Performance Parameters			
Remove 🔄 Add 🚈 Retrieve Performand	e Parameters		
Parameter Name 1 🗹 DroppedPackets	Topic Name NetworkLatency	Interval 100	
erformance Attributes			
Parameter Topic 10	•		
Publish Back			

7 Click **OK** to close the **The performance parameter published success** message.

Retrieving a Performance Parameter from an Endpoint

1 Choose Services > Endpoint Management > Endpoint Settings. The Endpoint Settings window opens.

dpoint Settings	
coss Endpoint	
Endpoint ID C Endpoint JID	
New Edit Delete Search Debug	Monitor Manage Watches Installed Items Manage Configurations Reboot Log Files Restore
indpoint System Wide Settings	
Registration Status	
Enable/Disable Registration Evaluate Dynamic	Groups Clear ALL Debug History
latch Load Endpoints	
Batch Load	

2 Type an **Endpoint ID** and click **Monitor**. The Performance Parameter window opens.

ndpoint Settings	Services 🔻	Operate Configure Administration Message Infrastructure
Performance Parameters		
Remove 😤 Add 😤 Retrieve Perform	mance Parameters	
Parameter Name	Topic Name	Interval
		No data available

3 On the top, right portion of the window, click **monitor**. The Performance Parameters window opens.

4 Click **Retrieve Performance Parameters**. The Performance Parameters of the Endpoint are displayed.

	🏠 Services 🔻 C	Operate Configure Administration Message Infrastructure	
dpoint Settings			
rformance Parameters			
Remove 9 Add 9 Retrieve Performan	ce Parameters		
Parameter Name	Topic Name	Interval	
DroppedPackets	NetworkLatency	100	

Removing a Performance Parameter from an Endpoint

1 Choose Services > Endpoint Management > Endpoint Settings. The Endpoint Settings window opens.

cisco Control Suite Management		1 2001
cisco controi suite management	Services * Reports * Operate * Configure * Administration * Message Infrastructure *	
dpoint Settings		
Access Endpoint		
Endpoint ID C Endpoint JID		
New Edit Delete Search Debug Monitor	Manage Watches Installed Items Manage Configurations Reboot Log Files Restore	
Endpoint System Wide Settings		
Registration Status		
Enable/Disable Registration Evaluate Dynamic Groups	Clear ALL Debug History	
Ensure character negatives of the second contraction of the second secon	Constraints Shoody History	
Batch Load Engoonts		
Batch Load		
Endpoint Reports		
Endpoint ID/JID Mapping Endpoint/Group Association		

2 Type an **Endpoint ID** and click **Monitor.** The Performance Parameters window opens.

cisco Videoscape Cisco Videoscape Control Su		root 👻 🔎 🗸
cisco Videoscape Control Su	lite Management	
ndpoint Settings		
Performance Parameters		
Remove 👷 Add 👷 Retrieve Per	formance Parameters	
Parameter Name	Topic Name	Interval
		No data available



- **3** Click **Retrieve Performance Parameters**. The Performance Parameters of the Endpoint are displayed.
- **4** Choose the Performance Parameter to delete by clicking on the check-box next to the Parameter.

	sco Control Suite Management		Services 🔻	Operate 🔻	Configure 🔻	Administration 🔻	Message Infrastructure
Ind	point Settings						
Port	ormance Parameters						
1. Ch	ormance Parameters						
	temove 😤 Add 😤 Retrieve Performance Parameters						
		Topic Nam	ne		In	terval	

5 Click **Remove**. The Performance Parameter is removed from the Endpoint and is no longer visible in the Performance Parameter List.

Displaying the Active Performance Parameter List

The Active Performance Parameter List displays a listing of active Performance Parameters set on Endpoints.

Choose Services > Endpoint Management > Performance Parameters. The Performance Parameters List window opens.

cisco Videoscape Cisco Control Suite Management	Services Operate	Configure Administration Message Infrastructure
Endpoint Settings		
	ca Daramatare	
Kemove 🔤 Add 🤗 Retrieve Performance	ce raidilieters	
Remove 99 Add 95 Retrieve Performanc Parameter Name	Topic Name	Interval
Remove 9 Add 9 Retrieve Performanc Parameter Name VODFailures	a construction of the second sec	Interval 120

Endpoint Debug Commands

Debug commands are used by the EPM in order to assist in troubleshooting issues on an Endpoint. The Videoscape Control Suite server does not know what the debug commands are for each Endpoint device, so it has to query each Endpoint in order to discover the supported debug commands. Once the commands are discovered, they can be selected for execution.

Retrieving Debug Commands from an Endpoint

1 Choose Services > Endpoint Management > Endpoint Settings. The Endpoint Settings window opens.

ujuju, Gisco Videoscape	1005 1
Cisco Control Suite Management	
Endpoint Settings	
Acoms Endpoint	
© Endpoint ID ○ Endpoint IID	
New Edit Deinte Search Debug Monitor Manage Watches Installed Items Manage Configurations Reboot Log Files Restore	
Endpoint System Wide Settings	
Registration Status	
Enable/Disable Registration	
Batch Load Engrounts	
Batch Load	
Endpoint Reports	
Endpoint ID/IID Mapping Endpoint/Group Association	

2 Type an **Endpoint ID** and click **Debug**. The Debug Command History List opens.

cisco Videoscape Cisco Videoscape Contr	or Suite Management	Services	Operate Configure	Administration •	Message Infrastructure	٣
ndpoint Settings						
 Debug Command History List 	st					
Command	Response					Creat
			No data available			
-						
end New Debug Command to	o Endpoint					_
Send New Debug Command to	o Endpoint					

3 Click **Retrieve Debug Commands**. The Endpoint displays a list of available debug commands.

Available Commands	blinkLed	Ŧ	
Parameters		Para	ameter
	1		ameter

4 Click the drop-down arrow to the right of the **Available Commands** field to see a list of all available debug commands.

Sending Debug Commands to an Endpoint

1 Choose Services > Endpoint Management > Endpoint Settings. The Endpoint Settings window opens.

Clasto Videoscape Crisco Cantrol Suite Management Services Y Reports * Operate * Configure * Administration * Message Infrastructure *	1005 11
dpoint Settings	
Access Endpoint	
Endpoint ID C Endpoint JID	
New Edit Delete Search Debug Monitor Manage Watches Installed Items Manage Configurations Reboot Log Files Restore	
Endpoint System Wide Settings	
Registration Status	
Enable/Disable Registration Evaluate Dynamic Groups Clear ALL Debug History	
Batch Load Engoonts	
Patch Load	
Endpoint Reports	
Endpoint ID/IID Mapping Endpoint/Group Association	

2 Type an **Endpoint ID** and click **Debug**. The Debug Command History List opens.

Message Infrastructure 🔻	-
Total C	-
Creation Time	

Send Back Retrieve Debug Commands Clear Debug History

3 From the **Send New Debug Command to Endpoint** section, select the required command from the **Available Commands** drop-down list.

Available	Commands	blinkLed	τ	
	Parameters			🕂 Parameter

4 Enter any required parameters and click **Send**.

Clear Debug History from an Endpoint

- **1** Navigate to **Services > Endpoint Settings**.
- 2 Enter the Endpoint ID and click Debug.
- 3 Click Clear Debug History.

Results: All Debug responses to a previous command are deleted for the Endpoint.

Manage Installed Items

EPM provides support for lifecycle management of binary data on Endpoints. Through EPM, the operator can access information for installed items that are resident on an Endpoint. Additionally, the operator can delete installed items.

Retrieve an Installed Item

1 Choose Services > Endpoint Management > Endpoint Settings.

uludir. Cisco Videoscape CISCO Control Suite Management		1005.1
CISCO Control Solice Humagement	Services * Reports * Operate * Configure * Administration * Message Infrastructure *	
ndpoint Settings		
Access Endpoint		
Endpoint ID Endpoint JID		
New Edit Delete Search Debug	Monitor Manage Watches Installed Items Manage Configurations Reboot Log Files Restore	
Endpoint System Wide Settings		
Registration Status		
Enable/Disable Registration Evaluate Dynamic G	oups Clear ALL Debug History	
Batch Load Endpoints		
Batch Load		
Endpoint Reports		
Endpoint ID/JID Mapping Endpoint/Group Associa	tion	

2 Enter an **Endpoint ID** and click **Installed Items**. The Current Installed Items list is displayed.

ndpoint Settings			
Current Installed Items			
🗶 Delete 🥜 View 🧳 Retrieve Installed I	Items Back		
Installed Item Name	Installed Item Current Version	Current Upgrade Time	Installed Item Last Version
		No data available	

1

3 Click Retrieve Installed Items.

cisco Control Suite Management		Services *	Operate 🔻	Configure •	Administration •	Message Infrastructure	
Endpoint Settings							
Current Installed Items							
X Delete / View / Retrieve Installed Items	Back						
Installed Item Name	Instal	led Item Current V	ersion	Cu	rrent Upgrade Time		Installed I

Result: The system displays a list of installed items.

cisco Control Suite Management	Services • Operate •	Configure Administration Message Infrastr	ucture *	* 8 0
indpoint Settings				÷.
🕺 Detete 🧳 View 🧳 Retrieve Installed Ite	ems Back			
	ems Back Installed Item Current Version	Current Upgrade Time	Installed Item Last Version	Last Upgrade Time
and a second second		Current Upgrade Time 2013-03-22110:14:13.000-04:00	Installed Item Last Version dSimV2.0	

Delete an Installed Item

- **1** Choose the item that you want to delete from the list of installed items.
- 2 Click **Delete**. The system deletes the item.

cisco Videoscape Cisco Control Suite Management	▲ Services ▼ Operate ▼	Configure Administration Message Infrastr	ucture 🔻
Endpoint Settings			
X Delete / View / Retrieve Installed Items Back			
Installed Item Name	Installed Item Current Version	Current Upgrade Time	Installed Item Last
1 ClSimV21img	2.1	2013-03-22T10:14:13.000-04:00	dSimV2.0
2 IOSSplashScreen	1.0.0	2013-03-22T10:14:13.000-04:00	iosV1.0.0

Manage Reboot Log Files

EPM allows for the storing of reboot logs generated when the Endpoint receives a trap, and then reboots. The user can view or delete these logs by accessing the Endpoint.

Note: See *Installing COP Files for the Videoscape Control Suite* (part number OL-27753) for instructions on installing the EPMFiler service. For EPM to store Reboot files from Endpoints, the EPM Filer COP file needs to have been previously installed.

- 1 Choose Services > Endpoint Settings.
- 2 Enter the Endpoint ID and then click Reboot Log Files.
- **3** Click an entry in the Log Files List and then click **View**. The user can now browse the contents of the log file for the cause of the reboot.

Cisco Videoscape Cisco Control Suite Management	Services *	Reports * Operate *	Configure * Administration	Message Infrastructure
Endpoint Settings				
Log File List				
X Delete / View Back				
File Name 1 cientsim2@management.com_conductor_a10ac 2 cientsim2@management.com_conductor_c31ac				
Reboot Log File clientsim2@management.com_conduc		364-821488b70896_epmFile	rTest.log	
[Aug 19, 2013 12:59:22 PM] This is a sat [Aug 19, 2013 12:59:22 PM] This is a sat	mple log file from th mple log file from th mple log file from th	e Client Simulator. e Client Simulator. e Client Simulator.	This is only a test f This is only a test f	ile ile ile

4 If you want to delete a Reboot Log File, select the log file and click **Delete**.

Manage Endpoint Restore

EPM allows an Endpoint to be restored with the configurations it received from the group of which it is a member so long as the group still contains the configuration. The Endpoint will also be restored with its original configurations as long as those configurations have not been canceled from the Endpoint.

- 1 Click Services and then click Endpoint Settings.
- 2 Enter the **Endpoint ID**.
- 3 Click Restore.

Endpoint Application Images

The addition of a new file to EPM requires that the manifest, which is prepended, be read and used to populate the Videoscape Code Version Table (vsCVT). The vsCVT will be published to one or more group PubSubs in order to signal the client that this image is available for download. Currently, the file with the associated manifest data, is generated outside of the Videoscape system by the software creation process of the Endpoint manufacturer.

Uploading an Image File

1 Choose Services > Endpoint Management > Application Images. The Application Image List opens.

cisco Videoscape Con	trol Suite Management	Services V Open	ate Configure Administration	Message Infrastructure	
Application Images					
Application Image List					
X Delete Upload Associate	Disassociate vsCVT Send				
File Name	File Description	Device Type	Environment	Group	

- 2 Click Upload. The Select Image pop-up window opens.
- 3 Browse the Select Image window and choose the image that you want to upload.
- 4 Click Upload. A security warning appears.
- 5 Click **Continue**. The image uploads and is displayed on the Application Image List.

CISC	Videoscape Control Suite Management	Services V Operate V Confi	igure Administration	Message Infrastructure 🔻
pplic	ation Images			
Applica	ation Image List			
Applica X Dele				
		Device Type E	nvironment	Group

Associating an Image with a Group

1 Choose Services > Endpoint Manager > Application Images. The Application Image List window opens containing the newly uploaded image.

cisco Videoscape Control Suite Management	▲ Services ▼ Operate ▼	Configure Administration	Message Infrastructure
pplication Images			
Application Image List			
Application Image List X Delete Upload Associate Disassociate vsCVT Send			
Application Image List Delete Upload Associate Disassociate vsCVT Send File Name File Description	Device Type	Environment	Group

2 Choose the image that you want to associate with a group and click **Associate**. The Associate Image pop-up window opens.

3 Click the arrow to choose the desired group from the drop-down list and click **OK**.

oplication Image List	File Name File Description	Device Type	Environment	
Celete Upload Associate Disassociate vsCVT Send File Name File Description Device Type Environment Group ✓ Release13 test unknown inux	Delete Upload Associate Disassociate vsCVT Send File Name File Description	Device Type	Environment	
File Name. File Description Device Type Environment Group Release13 test unknown inux	File Name File Description	Device Type	Environment	
Associate Image		unknown		Group
Associate Image		шокломи	linux	
Associate Image				
Associate Image				
Associate Image 🛛				
Associate Image				
Associate Image 🛛 🖂				
			Associate Im	age 20
Course Default				
Group Default			Group Defa	
				Ok Cancel

Disassociating an Image From a Group

1 Choose Services > Endpoint Management > Application Images. The Application Image List window opens containing a list of uploaded images.

cisco		nagement		G	Services •	Operate 🔻	Configure 🔻	Administration 🔻	Message Infrastructure	
	tion Images									
X Delete	e Upload Associate	Disassociate	vsCVT	Send						
	File Name	Fi	le Descripti	on	ſ	Device Type		Environment	Gro	pup
1 🗆	Release13	te	st		L	inknown		linux		

2 Choose the image that you want to disassociate from a group and click **Disassociate**. The Disassociate Image pop-up window opens.

File Name File Description Device Type Environment Group	pplication Images		
	Delete Upload Associate Disassociate vs	sCVT Send	
			Group

3 Click the arrow to select the Group from which the image is to be disassociated and click **OK**.

Deleting an Image From the Image List

Note: You cannot delete an image if it is associated with a group. The image needs to be first disassociated from the group if it is to be deleted.

- 1 Choose Services > Endpoint Management > Application Images. The Application Image List appears.
- **2** Choose the image that you want to delete and click **Delete**. The system deletes the image.

(1), Cisco Videoscape cisco Videoscape Control Suite Management			root * D _*
cisco Videoscape Control Suite Management	Services Operat	e 🔻 Configure 🔻 Administratio	n 🔻 Message Infrastructure 🔻
Application Images			
Application Image List			Selected 1 Total
X Delete Upload Associate Disassociate vsCVT Send			
File Name File Description	Device Type	Environment	Group
1 🗹 Release13 test	unknown	linux	

Manage vsCVTs

The term vsCVT refers to the process whereby software is made available to Endpoints to download. When an application file is made available to one or more Endpoint clients, the EPM updates the vsCVT to include the information on the application file and notifies the clients of one or more groups via a PubSub. The clients will be subscribed to the PubSub by the EPM and receive notification messages with the attached vsCVT.

Adding an Image to the vsCVT List

Important: Prior to adding an image to the vsCVT list, the image must be associated with a group. See *Associating an Image with a Group* (on page 45) for details.

- 1 Choose Services > Endpoint Management > Application Images. The Application Image List opens.
- **2** Choose the image you require and click **vsCVT**. The Image vsCVTs pop-up window opens.
- **3** Click the drop-down menu to select the group for which you intend to build the vsCVT and then click **OK**.



Publishing a vsCVT to a Group

- 1 Choose Services > Endpoint Management > Application Images. The Application Image List opens.
- 2 Click vsCVT. The Image vsCVTs pop-up window opens.



3 Choose the Group that you want to publish the vsCVT, and click **OK**. The vsCVT List appears.

CISC	cisco Videoscape Control Suite Management		企	Services ¥	Operate 🔻	Configure •	Administration •	Message Infrastructure 🔻
Applic	ation Images							
Application Images								
vsCVT	List							
vsCVT								
		Associated Components						

- 4 Choose the vsCVT and click **Configure** (at the top of the window).
- 5 Enter or select the desired **Type** of download.

Notes:

- Select one of the following download Types:
 - **Emergency** The client starts the download immediately.
 - Immediate The client should start the download as soon as possible.
 - Normal Download occurs when the client determines that there is no impact to any video service the subscriber has requested, such as scheduled DVR events.
 - Forced The clients are required to download the specified application/component immediately even if this application is identical to the installed application.
 - Delete The client removes the indicated application/component from the installed set.

- The Download Start Time field (in the next step) specifies the start time, in UTC, of the window when the client should download the application/image.
- The Download Stop Time field (in the next step) specifies the stop time, in UTC, of the window when the client should download the application/image.
- 6 Click to select the **Download Start Time** and the **Download Stop Time**.

Application Image	s				
Urgency	Normal	-			
Download Start Time	03/15/2013 04:29 PM	(Mm/dd/yyyy hh:mm AM/PM)			
Download Stop Time	03/15/2013 04:37 PM	(Mm/dd/yyyy hh:mm AM/PM)			

7 Click **Publish**. The vsCVT publishes to the Group.

Sending a vsCVT to an Endpoint

- 1 Click Services.
- **2** Under Endpoint Management Settings, choose Application Images. The Send Image vsCVTs to Endpoint dialog window opens.

pplication Images				
pplication Image List				
Delete Upload Associate	Disassociate vsCVT Send			
File Name	File Description	Device Type	Environment	Group
1 🗹 Release13	test	unknown	linux	
		Send Image vsCVTs to E	ndpoint	X
		Send Image vsCVTs to E Endpoint ID	ndpoint	×
		Endpoint ID	ndpoint Normal •]
		Endpoint ID	Normal]
		Endpoint ID Urgency	Normal +]

- 3 Enter the Endpoint ID, Urgency, Download Start Time, and Download Stop Time.
- 4 Click Ok. The vsCVT is sent to the Endpoint.

Note: A vsCVT cannot be directly sent to an Endpoint. **CSCuj66170** addresses this issue.

Endpoint Notification Access

EPM provides the capability to query a specific notification for information that occurred within a start and stop time. It also provides access to the entire contents of any notification.

Notification information includes the Endpoint JID value, a time stamp, and the type of notification for each entry.

Notes:

- A notification is tied to a Topic.
- The notification source consists of an Event, a Performance, or a Watch.
 Note: In the case of the Event notification source, the service provider provides this information in the client code. The operator needs to know the events supported by the clients in advance, and then create Topics for those events. Once the Topics have been created, EPM receives the Event notifications from the Endpoints.
- 1 Choose Services > Endpoint Management > Notifications. The Endpoint Notifications window opens.

cisco Videoscape cisco Videoscape Control Suite M					D.
the second second second	anagement	Services * Operation	të 🔻 Configure 🕈 Admin	stration * Message Infrastructure *	÷
ndpoint Logs					
Topic	-				
Log Source Event	+				
Log Start Time	(Mm/dd/yyyy hh:mm AM/PM)				
Log End Time	(Mm/dd/yyyy hh:mm AM/PM)				
View Reset Clear Logs					
Log Entries					Saveries 0 Instal 0
					Show All *
100	UTC	Eenent	Type	Data	
				No data available	

2 Select the **Topic**, **Notification Source**, **Notification Start Time**, and **Notification** End Time.

Cisco Videoscape Contro	Suite Management	Services • Opt	rate * Configure * Admin	istration • Message Infrastructure •	vers D.	
ndpoint Logs						
Topic Hardware	ault v					
Log Source Event						
Log Start Time 03/08/2013	02:47 PM	M/PMj				
Log End Time 03/15/2013	02:47 PMm (Mm/dd/yyyy hh:mm A	M/PM)				
View Reset Clear Logs						
og Entries					Enlargier	a tant 0 .
					Show AI	. 10
	UTC	Element	Type	Data		

3 Click **View**. The EPM displays the notification entries.

cisco Videoscape Cisco Videoscape Control Suite Ma					
	inagement	Services • Operate •	Configure Administration	Message Infrastructure:	4
ndpoint Logs					
Topic HardwareFault					
Log Source Event					
Log Start Time 03/08/2013 02:44 PM	(Mm/dd/yyyy hh:mm AM/PM)				
Log End Time 03/15/2013 02:44 PM	(Mm/dd/yyyy hin:mm AM/PM)				
Mew Reset Class Logs					
					Designation () These planet
Log Entries					
					Show All T
JID	UTC	Element	Type	Data	
1 O clientsim@covm18570.cisco.com	2013-03-13710:23:38-0400	ID=00:50:56:A0:30:18, Error=Report,	Event		
		Reason=MemoryFoult			
2 O clastsimilicium16570.cisco.com	2013-03-13710:23-45-0400	ID=00:50:56:A0:30:18, Envor=Retboat.	Event		
		Ristson > MemoryFault			
3 C clastomilicovm18970 class.com	2013-03-13110:24:02-0400	ID=00:50:56:A0:30:18, Empr=Reboot.	Event		
		Reason = MemoryFault			
4 O chertstmillesvim16570.ctxco.com	2013-03-13710:24-44-0400	ID=00:50:56:A0:30:18, Envor=Reboot,	Event		
		Repson - Memory Pault			

Note: The notification includes the Endpoint JID, the time the notification was sent, and element/reason for the notification, as well as the Notification Source Type.

4 Click **Clear Logs** to clear all notifications.

Endpoint Analytics

Prime Analytics reports real and historical data for Events, Performance, and Watch notifications. Refer to the **Install the Data Analytics** chapter of *Installing COP Files for the Videoscape Control Suite* (part number OL-27753) for more information on installing and configuring Prime Analytics.

Query Type	Dashboard	Feature	Notes
Real Time Graph	EPM Event – Real Time	Show total number of Events by Topic and Error Name.	Data point every 5s. Drop-down selections for Topic, Error Name.
	EPM Parameter – Real Time	Show Performance Parameters received by Topic, Parameter Name, Device Type, Function Type (Total or Min/Max/Avg).	Data point every 5s. Drop-down selections for Topic, Parameter Name, Device Type, Function Type.
	EPM Watch – Real Time	Show total number of Watch events by Topic and Watch Name.	Data point every 5s. Drop-down selections for Topic, Watch Name.
Historical Graph	EPM Event - Last Day	Show total number of Events by Topic and Error Name for selected time ranges in the last 24 hours.	Drop-down Selections for Time Range, Topic, Error Name.
	EPM Parameter – Last Day	Show Performance Parameters received by Topic, Parameter Name, Device Type, Function Type (Total or Min/Max/Avg) for selected time ranges in the last 24 hours.	Drop-down selections for Time Range, Topic, Parameter Name, Device Type, Function Type.
	EPM Watch - Last Day	Show total number of Watch events by Topic and Watch Name for selected time ranges in the last 24 hours.	Drop-down selections for Time Range, Topic, Watch Name.

To view data in the Real Time or Historical Dashboard, Endpoints have to be currently sending notifications to view the real-time data, or have previously sent notifications to view the historical data.

From the **Services** menu, navigate to the **Endpoint Management** section and click **Analytics**.



• To view real-time data for Watch notifications, click **Real Time EPM Watch**.



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 PPH Analytice Watch Events Lask Day:

 Time Range:

 Image:

 Watch Name:

 All Yaco
- To view Historic EPM Watch notifications, click Historic EPM Watch.

Notes:

- Filter on **Time Range**, **Topic Name**, or **Watch Name**.
- The user can see real-time performance parameters by specific Topic Name, Parameter Name, Device Type, and function type of "total" or "min-maxavg".
- To view real-time data for Parameter notifications by "total", click Real Time EPM Parameter. Then, filter on Topic Name, Parameter Name, and Device Type. Select Function Type "total".



To view real-time data for Parameter notifications by "min-max-avg", click Real Time EPM Parameter. Then, filter on Topic Name, Parameter Name, and Device Type. Select Function Type min-max-avg.



• To view Historic data for Parameter notifications, click **Historic EPM Parameter**.

cisco Videoscape Cisco Control Suite Management	Sen	ices • Reports •	Operate · Configure	Administration	Message Infrastructure		ωx- ρ,	
alytics Back								
PM Analytics - Performance Parameters	- Last Day							
Time Range: In .	15,000	Total Value	of Performance Param	eters for Topic: AllTo	opics and Parameter: AllParan	neters and Device Type: AllDe	vices - Last Hour	
Торіс Name: Анторка *	15.000 14.000 13.000 12.000		/	14,719	0 15.000	@14,671	0 14,845	
Parameter AliParameters •	11.000 - 10.000 - 8.000 - 7.000 -	€10,284						
Device Type: AllDevices •	6,000 A.000 6,000 3,000							
Function total _	1,000 1,000 6	Survey and Sta	1. Alexandre	P	100 Million	10 an and	and in the second	

• To view real-time data for Event notifications, click **Real Time EPM Event**.

Error Event Notification - Real Time



To view Historic data for Event notifications, click Historic EPM Event. Filter on TIme Range, Topic Name, or Error Name to see specific data.



Endpoint Diagnostics

The EPM Dashboard window provides configuration and key resource utilization information for the following items:

- vsCVT
- Application Files
- Endpoint Configurations
- Endpoint Debugs
- Dynamic Groups
- Endpoints
- Fixed Groups
- Endpoint Logs
- Endpoint Parameters
- Active Publish Records
- Group Rules
- Topics
- Watches
- Configuration Deployment (to a device within the last 1, 6, 12, or 24 hours)
- Watch Deployment (to a device within the last 1, 6, 12, or 24 hours)
- Performance Parameter Deployment (to a device within the last 1, 6, 12, or 24 hours)

To access the Dashboard, choose **Services > Endpoint Management > Dashboard**.

	Videoscape					not +	<i>p</i> .
isco Conti	Videoscape rol Suite Managemer	t 🙆 Services * Reports * Operate * Configure	Administration Mes	sage Infrastructure			
hboard							
High-Availabi	lity Endpoint Manager	Instances	Configuration Deploy	ment			
Role	IP Address	JID	Device Type		-		
Primary	10.90.185.67	endpointmgr_005056A05259_1@evc.csvm18569.cisco.com/conductor	Name	Lest Hour	Last 6 Hours	Last 12 Hours	Last 24 Hou
Albernate	10.90.185.68	endpointmgr_005056A0525F_1@svc.csvm18569.cisco.com/conductor	1 the second sec		No data available		
Endpoint Mar	nager System State						
Endpoint Ma	nager System State	Total Microber	Watch Deployment				
		Total Number			*		
Application I	Files	Total Number 1 5	Device Type	Last Hour	v Last 6 Hours	Last 12 Hours	Last 24 Hou
Application I Endpoint Co	Files	1		Last Hour	* Last 6 Hours No data available	Last 12 Hours	Last 24 Hou
Application I Endpoint Co Endpoint De	Files nfigurations bugs	1	Device Type	Last Hour	Last 6 Hours	Last 12 Hours	Last 24 Hou
Application I Endpoint Co Endpoint De Dynamic Gro	Files nfigurations bugs	1 5 1	Device Type	Last Hour	Last 6 Hours	Last 12 Hours	Last 24 Ho
Application I Endpoint Co Endpoint De Dynamic Gro Endpoints	Files nfigurations bugs sups	1 5 1 2	Device Type	Last Hour	Last 6 Hours	Last 12 Hours	Last 24 Hou
Application I Endpoint Co Endpoint De Dynamic Gro Endpoints Fixed Group	Files Infigurations bugs sups s	1 5 1 2 10001	Device Type	Last Hour	Last 6 Hours	Last 12 Hours	Last 24 Hou
Application I Endpoint Co Endpoint De Dynamic Gro Endpoints Fixed Group Endpoint No	Files Infigurations bugs bugs s tifications	1 5 1 2 10001 2	Device Type	Last Hour	Last 6 Hours	Last 12 Hours	Last 24 Ho
Application I Endpoint Co Endpoint De Dynamic Gro Endpoints Fixed Group Endpoint No Endpoint Pa Active Publis	Files offgurations bugs supps tifications rameters sh Objects	1 5 1 2 10001 2 48	Device Type	Last Hour	Last 6 Hours	Last 12 Hours	Last 24 Ho
Application I Endpoint Co Endpoint De Dynamic Gro Endpoints Fixed Group Endpoint No Endpoint Pa Active Publis Group Rules	Files offgurations bugs supps tifications rameters sh Objects	1 5 1 2 10001 2 48 48 1 0 0	Device Type	Last Hour	Last 6 Hours	Last 12 Hours	Last 24 Hou
Application I Endpoint Co Endpoint De Dynamic Gro Endpoints Fixed Group Endpoint No Endpoint Pa Active Publis Group Rules Topics	Files offgurations bugs supps tifications rameters sh Objects	1 5 1 2 10021 2 48 1 1 0 100 5	Device Type	Last Hour	Last 6 Hours	Last 12 Hours	Last 24 Hou
Application I Endpoint Co Endpoint De Dynamic Gro Endpoint S Fixed Group Endpoint No Endpoint Pa Active Public Group Rules Topics	Files offgurations bugs supps tifications rameters sh Objects	1 5 1 2 10001 2 48 48 1 0 0	Device Type		Last 6 Hours	Last 12 Hours	Last 24 Hou
Application I Endpoint Co Endpoint De Dynamic Gro Endpoint S Fixed Group Endpoint No Endpoint Pa Active Public Group Rules Topics	Files offgurations bugs supps tifications rameters sh Objects	1 5 1 2 10021 2 48 1 1 0 100 5	Device Type		Last 6 Hours	Last 12 Hours	Last 24 Hou
Application I Endpoint Co Endpoint Co Endpoint Co Endpoint Co Endpoint No Endpoint No Endpoint No Endpoint No Endpoint No Endpoint No Watches	Files offgurations bugs supps tifications rameters sh Objects	1 5 1 2 10021 2 48 1 1 0 100 5	Device Type		Last 6 Hours No data available	Last 12 Hours	Last 24 Hou

Endpoint Management Settings

The Endpoint Management Settings window allows the user to set the **Message Level** in the EndpointManager and server logs. Message levels are INFO, WARN, DEBUG, ERROR, and TRACE.

cisco Videoscape	Control Suite Management	1	Services • Op	perate 🔻 Configu	ire 🔻 Administr	ation 🔻	Message Infrastructure
ndpoint Manageme	nt Settings						
 Endpoint Managemer 	nt Message Level						
Message Level INFO							
Update Cancel							
 Endnoint Managemer 	nt Maximum Configuration Providion						
	nt Maximum Configuration Provision			ī			
 Endpoint Management Configurations 	nt Maximum Configuration Provision	Groups Per Endpoint	20				
		Groups Per	20				
Configurations	1000	Groups Per Endpoint					
Configurations Watches	1000 20	Groups Per Endpoint Group Rules	13				
Configurations Watches Groups Application Images Parameters Per	1000 20 100	Groups Per Endpoint Group Rules Publish Objects Parameters Debugs Per	13 10000 5000				
Configurations Watches Groups Application Images	1000 20 200	Groups Per Endpoint Group Rules Publish Objects Parameters	13 10000		urs		

- **INFO** The INFO level identifies informational messages that highlight the progress of the application at a coarse-grained level.
- WARN The WARN level identifies potentially harmful situations.
- DEBUG The DEBUG Level shows fine-grained informational events that are most useful to debug an application.
- ERROR The ERROR level identifies error events that might still allow the application to continue running.
- TRACE The TRACE Level shows finer-grained informational events than the DEBUG level.

To change the levels, click the arrow to the right of the **Message Level** tab and choose the desired level. Then, click **Update**.

Endpoint Management Maximum Configuration Provision

The Endpoint Management Maximum Configuration Provision section displays the default configuration of Endpoint Manager.

To change the configuration values, enter the new value and select **Save**.

Note: The current default value and maximum settings are as follows:

Variable Name	Default Value	Maximum Setting	Туре
BatchLoadRecordMaximum	10.000	100,000	Integer
GroupMaximumPerEndpoint	20	200	Integer
WatchCountMaximum	20	200	Integer
GroupRuleMaximum	13	100	Integer
GroupMaximum	100	1000	Integer
ApplicationStoredMaximum	100	200	Integer
ParameterPerConfigurationMaximum	100	500	Integer
PublishObjectsMaximum	10,000	100,000	Integer
TimeUpdateValue	24 hours	N/A	Integer
DebugEntryMaximum (per Endpoint)	100	500	Integer
TopicMaximum	500	1000	Integer
ParameterMaximum	5,000	10,000	Integer
Configuration Maximum.	1,000	1,000	Integer

SNMP Alarms

EPM currently implements two alarms: communication errors with the database and errors encountered when subscribing to the ClientDirectory. Alarms are displayed using the Alarm Summary icons at the bottom right corner of the CMC UI.

1 In the main Videoscape Control Suite window, click **Alarm Summary** (at the bottom of the window). The Alarm Summary window opens.

		Alarm Summary	
	Critical	Major	Minor
Alarm Summary	19	0	0
Explorer Controller	0	0	0
Videoscape Control Suite Node	17	0	0
Videoscape Control Suite Service	2	0	0
VMC	0	0	0
()++

2 Click **Videoscape Control Suite Service**. The window updates to show alarms associated with the Videoscape Control Suite service.

cisco Videoscape Co	é introl Suite Managem	ent 💮 Services 🔻 Op	erate 🔻 Configure 🔻 Administration	Message Infrastructure		root v 🖉 🖉 🍓 🖨	
Alarms Searched By - Category : V	ideoscape Control Suite S	iervice - Reset				Balaistead O Total 2 🛞 🎡 .	
Generation 💁 Assi	gn Annotation	Delete 🔐 Troubleshoot					
Severity	Status	Source	Timestamp	- Category	Owner	Message	
🗌 🕨 🔇 Critical	Not Acknowledged	161.44.174.103:conductor://alertmgr	2013-Mar-14, 12:39:54 EDT	Videoscape Control Suit		There are unmatched AlertCodes for user DbUsers [oid=4e064db5-95fc-4f	
🗆 🕨 😵 Critical	Not Acknowledged	161.44.174.103:conductor://endpointmgr	2013-Mar-13, 08:10:51 EDT	Videoscape Control 5	iuit.	Endpoint Manager can't subscribe to Client Directory PubSub node	

3 Click the arrow to the left of an alarm to see the details for that alarm.

Jarms Searched By - Category : Videoscape Control Suite Service - I	eset							Selected 0
🕑 Change Status 🧏 Assign 🔛 Annotation 💥 Delete	Troub!	eshoot						
Severity Status Sou	ce		Timestamp		- Category	Owner	Message	
Critical Not Acknowledged 161.	Not Acknowledged 161.44.174.103:conduct			ctor://alertmgr 2013-Mar-14, 12:39:54 EDT		Control Suit	There are unmatched AlertCodes for user DbUsers [oid=4e064db5-95fc-	
Image: Solution Critical Not Acknowledged 161.	Not Acknowledged 161.44.174.103:condi			10:51 EDT	Videoscape	Control Suit	Endpoint Manager can't subscribe to Client Directory PubSub node	
General Info	eral Info 🛛 🚱 🗸 😓 🗸			Messages				
Failure Source Endpoint Manager:Conductor Owner	Endpoint Manager can't subscribe to Client Directory PubSub node							
Acknowledged false Category Videoscape Control Suite Service				Annotations				
Created Wed Mar 13 2013 08:10:51 EDT		Message	Posted By	Date/Time	•			
Modified Wed Mar 13 2013 08:10:51 EDT			No data availabl	8				
Generated By Conductor Service								
Severity 🙁 Critical								
Previous Severity 🕜 Cleared								

Notes:

- To acknowledge, unacknowledge, or clear an alarm, choose the alarm and click Change Status.
- To assign an alarm, choose the alarm and click **Assign**.
- To annotate an alarm, choose the alarm and click **Annotation**.
- To delete an alarm, choose the alarm and click **Delete**.
- To ping or perform a traceroute operation upon an alarm, choose the alarm and click **Troubleshoot**.

Manage Endpoint Manager Logs

Endpoint Manager writes to two logs: EndpointManager.log and server.log.

1 To see a listing of available logs, type the following command at the **admin** prompt and then press **Enter**.

```
file list activelog jboss
```

Result: The system returns a list of available logs.

```
Example:
```

```
EndpointManager.log.1
                                        EndpointManager.log.10
EndpointManager.log.2
                                        EndpointManager.log.3
EndpointManager.log.4
                                        EndpointManager.log.5
                                        EndpointManager.log.7
EndpointManager.log.6
                                        EndpointManager.log.9
EndpointManager.log.8
boot.log
server.log
server.log.2013-03-29.log.1.gz
                                        server.log.2013-03-30.log.1.gz
server.log.2013-03-31.log.1
                                        server.log.2013-04-01.log.1
server.log.2013-04-01.log.2
                                        server.log.2013-04-02.log.1.gz
server.log.2013-04-02.log.2
                                        server.log.2013-04-03.log.1
server.log.2013-04-04
                                        server.log.2013-04-04.log.1
dir count = 2, file count = 34
```

Notes:

- Files with a .log extension are the most recent.
- Files with a .log.1 extension are the next most recent, and so on.
- Files that have been compressed (.gz extension) cannot be uncompressed from the CLI. They need to be transferred to a desktop server, uncompressed, and viewed from there.

```
2 To view a log file, type the following command and press Enter.
```

```
file view activelog jboss/[server.log]
Note: Replace [server.log] with the name of any log file from the output of step
1.
```

- 3 To tail a log, type the following command and press Enter. file tail activelog jboss/EndpointManager.log
- 4 To search through a log, type the following command and press Enter. file search activelog jboss/EndpointManager.log jid Note: In this example, jid is the string you are looking for in the EndpointManager.log file.
- **5** To transfer a log file to another server, type the following command and press **Enter**.

```
file transfer secure-export [local-src-file-path]
[user@host:file_path]
Example:
file transfer secure-export jboss/EndpointManager.log
ftpuser@10.90.187.251:/home/ftpuser
```
3

Troubleshooting the Endpoint Manager Service

Introduction

Refer to this chapter for information that can help you troubleshoot the Endpoint Manager service.

In This Chapter

Endpoint Manager Troubleshooting

EPM HTTP Error Codes

The standard HTTP error codes that EPM returns are as follows:

- 200 Ok
- 201 Created
- 400 Bad Request
- 401 Unauthorized
- 404 Not Found
- 405 Method Not Allowed
- 500 Internal Error; a status object is returned and the error message is populated upon error.

Registration Flag Red, Service Instance Green, Unable to Create Endpoints (1)

Possible Cause: Incorrect IP addresses entered for NOSQLCB during EndpointManager COP file install

1 View the server.log file for NOSQLCB connection errors.

```
admin:file dump activelog jboss/server.log
Sample output:
14:28:27,083 INFO [stdout] (pool-1160-thread-1) 2012-11-09
14:28:27,083 ERROR [root]
CouchbaseConnection.openConnection() Exception while trying to
connect to Couchbase Cluster null
14:28:27,083 INFO [stdout] (pool-1160-thread-1) 2012-11-09
14:28:27,083 WARN [root]
ConductorAlarmMgrSingleton.raisePersistenceAlarm(): Conductor
SNMP framework not intialized
14:28:27,083 INFO [stdout] (pool-1160-thread-1) 2012-11-09
14:28:27,083 ERROR [root] EPMInstancePoolDAO.getAndLock()
Couldn't establish a connection with Couchbase Server
14:28:27,083 INFO [stdout] (pool-1160-thread-1) 2012-11-09
14:28:27,083 ERROR [root] CheckLeadershipTask.run(): Unknow
execption while trying to read instance pool object: Couldn't
establish a connection with Couchbase Server
14:28:32,087 ERROR [stderr] (pool-1160-thread-1) 2012-11-09
14:28:32.087 WARN
com.couchbase.client.vbucket.ConfigurationProviderHTTP:
Connection problems with URI http://10.90.187.30:8091/pools
... skipping
14:28:32,088 ERROR [stderr] (pool-1160-thread-1)
java.net.ConnectException: Connection refused
```

- 2 Enter the correct NOSQLCB IP address(es) in the Endpoint Manager configuration file.
- **3** Uninstall and then reinstall the Endpoint Manager service, using the correct NOSQLCB IP address(es).

Registration Flag Red, Service Instance Green, Unable to Create Endpoints (2)

Possible Cause: NOSQLCB password mismatch

1 View the server.log file for HTTP response 401 errors.

```
admin:file dump activelog jboss/server.log
Sample output:
15:14:18,893 ERROR [stderr] (pool-1344-thread-1) 2012-11-09
15:14:18.893 WARN
com.couchbase.client.vbucket.ConfigurationProviderHTTP:
Connection problems with URI http://10.90.187.31:8091/pools
...skipping
15:14:18,894 ERROR [stderr] (pool-1344-thread-1)
java.io.IOException: Server returned HTTP response code: 401
for URL: http://10.90.187.31:8091/pools
```

- **2** Check to ensure that the NOSQLCB password entered during the Endpoint Manager COP file installation matches the password used when creating the bucket in NOSQLCB.
- **3** View the Endpoint Manager configuration file and compare the password in the file to the password used in creating the NOSQLCB bucket.

Sample output:

```
<?xml version="1.0" encoding="UTF-8"?><configuration><node-
attributes><serviceJID>epmjid@svc.csvm18725.cisco.com</service
JID><clientDirVSNS>clientdirectort</clientDirVSNS><clientDirJI
D>client@cisco.com</clientDirJID><couchbasePrimaryIP>10.90.187
.31</couchbasePrimaryIP><couchbaseSecondaryIP>10.90.187.32</co
uchbaseSecondaryIP><couchbasePort>8092</couchbasePort><binding
Jsm>jsm-1.rtr-svc25-
2</bindingJsm><password>cisco123</password><userID>endpoint</u
```

```
servicePassword>epmpasswd</servicePassword><pubsubDomai
n>pubsub.features</pubsubDomain><mccHost>10.90.187.26</mccHost
><fileProxyServer>10.90.187.251</fileProxyServer><jsmHost>10.9
0.187.26</jsmHost></node-attributes></configuration>
```

4 If there is a password mismatch, edit the Endpoint Manager configuration file. Then, uninstall and reinstall Endpoint Manager.

Endpoint Manager Fails to Start, Registration Flag is red, Service Instance is Red

Possible Cause: The SVC password was changed for the SVC JID in the Endpoint Manager Configuration file.

1 Check the server.log file.

```
file dump activelog jboss/server.log
Sample output:
12:36:53,039 INFO [stdout] (MSC service thread 1-5) 2012-07-
23 12:36:53,039 INFO [root] EndpointManagerMBean.start()
Starting EndpointMgr Conductor Service thread under virtual
service ns: conductor://endpointmgr
12:36:53,269 INFO
[com.cisco.conductor.servicesdk.backend.ConductorService] (MSC
service thread 1-5) EndpointManagerConductorService service is
initialized successfully
12:36:53,281 INFO [stdout] (MSC service thread 1-5) 2012-07-
23 12:36:53,281 ERROR [root] EndpointManagerMBean.start()
Exception while trying to start Endpoint Conductor Service:
SASL authentication DIGEST-MD5 failed: not-authorized:
12:36:53,281 ERROR [stderr] (MSC service thread 1-5)
java.lang.Exception: SASL authentication DIGEST-MD5 failed:
not-authorized
```

- **2** Edit the Endpoint Manager configuration file and change the password back to the correct password.
- 3 Uninstall and then reinstall Endpoint Manager.

The Default Group is Missing When an Endpoint is Created

- 1 Check the management console UI to determine whether the DefaultGroupPubSub is present.
 - a Log into the management console UI and navigate to the PubSub list:
 Message Infrastruture > PubSub Management > pubsub.features
 - **b** If the DefaultGroupPubSub is present, delete it along with the following pubsubs:
 - DownloadApplicationFinish
 - DownloadApplicationStart
 - EndpointProvison
- 2 Uninstall and then reinstall Endpoint Manager.

No Endpoint Log Information Stored for Endpoints

Possible causes:

- Logging is not enabled on the relevant Endpoint(s).
 Solution: Enable logging on the Endpoint(s).
- There is no PubSub created for the desired Topic Log Source.
 Solution: Create the appropriate Topic for Events, Watches, or Performances.

4

Troubleshooting EPM Analytics

Introduction

Refer to this chapter for information that can help you troubleshoot EPM Analytics.

In This Chapter

EPM Analytics	Troubleshooting.	 C

EPM Analytics Troubleshooting

- Start the EPM analytics application
 cd /opt/cisco/vcs/analytics/connectors/epm/epm && ./start.sh
- Stop the EPM analytics application
 cd /opt/cisco/vcs/analytics/connectors/epm/epm && ./stop.sh
- EPM install log /opt/cisco/vcs/analytics/logs/epm/da install.log
- Uninstall log /var/da_uninstall.log

Database Purge

The database has tables that are purged each day. To keep the database from growing too large, a script removes data older than 24 hours from all tables that belong to EPM. A notice is sent to the root email account (smtp).

- Script location: /etc/cron.d/epm_purge_archives.cron
- Cron entry: 00 01 * * * root /opt/cisco/vcs/analytics/scripts/epm/epm_purge_archives.sh epm all 1
- To review events in the database

psql -C -U epm

To review the primary stream

```
cqdb=> select date, Cmd from endpoint_events; (Ctrl-C to end)
```

	ct date, Cmd from endpoint_events; date cmd
2013-08-31	10:35:02.54-04 TimeMarker
2013-08-31	10:35:07.543-04 TimeMarker
2013-08-31	10:35:12.546-04 TimeMarker
2013-08-31	10:35:17.55-04 TimeMarker
2013-08-31	10:35:18.661-04 EndpointEventNotification
2013-08-31	10:35:22.551-04 TimeMarker
2013-08-31	10:35:25.685-04 EndpointEventNotification
2013-08-31	10:35:27.612-04 TimeMarker
2013-08-31	10:35:32.615-04 TimeMarker

Notes:

- Heartbeat (TimeMarker): Database commit every 10 records
- Events: Database commit every 500 records

Review Derived Streams and Archive Tables

Derived stream tables for 5 s, 1 m, 5 m, 15 m, 30 m, 60 m

Example:

1 m Derived Stream - endpoint events 1m

1 m Archive - endpoint events 1m archive

cqdb=> select * from endpoint events 1m archive;

_time | count | topicname | cmd | parametername | parametertmin | parametermax | parametersum | eventerror | eventerason | watchname | watchcount | devicetype

				account of the second s							
2013-08-30 09:53:00-04	12	TimeMarker	ŧ	1	1	1	1	1	1	0	
2013-08-30 09:54:00-04	12	TimeMarker	+	1	1	0.0	1	1	T	0	
2013-08-22 16:45:00-04	12	TimeMarker	- F	1	1	- 1 I	E.	- 1	T	0	
2013-08-22 16:45:00-04	3	EPM TOPIC HardwareF	rdwareFault EndpointEventNotification				1		1	- 1	HDDFault BadSector 0
2013-08-22 16:45:00-04	3	EPM TOPIC ServiceErro	eError EndpointEventNotification				1	, di	l.	1	ServiceURLError N/A 0
2013-08-22 16:46:00-04	3	EPM TOPIC HardwareF	ault End	lpointEve	ntNotifica	ation	1		1	I.	Reboot MemoryFault 0

5

Customer Information

If You Have Questions

If you have technical questions, contact Cisco Services for assistance. Follow the menu options to speak with a service engineer.

Access your company's extranet site to view or order additional technical publications. For accessing instructions, contact the representative who handles your account. Check your extranet site often as the information is updated frequently.



Introduction

This appendix defines a typical set of operational scenarios that employ the Endpoint Manager.

In This Appendix

Endpoint Manager Overview	76
Typical Endpoint Scenarios	78

Endpoint Manager Overview

The EPM software is intended to operate on the Videoscape Control Suite platform interconnected to the other system components with XMPP. EPM provides the system configuration and lifecycle management of the software on the attached clients. In addition, EPM provides the capability to monitor the status of Endpoints and log this information for reference by an external system.

This appendix defines a number of typical scenarios that an operator will perform to manage a normal EPM system. Included in this is the monitoring of Endpoint performance, software lifecycle operations, and the set-up of groups of Endpoints to standard configurations.

Endpoint Manager Features

Endpoint Groups – Endpoint Groups allow the division of the entire population of Endpoints into subsets. This provides the capability to apply configurations to geographic areas, Endpoint types, or to specially defined test groups, i.e. "friendlies". Groups may be cascaded, one under another, to provide flexible configurations of Endpoints. Dynamic Groups use Rules to determine which Endpoint is part of a Group.

Topics – A Topic is defined as part of a data collection system where Endpoints send data that requires monitoring. Each Topic has a corresponding PubSub node to which Events, Watches, or Logs on Endpoints can publish. The associated data is recorded and handled by components of the EPM Videoscape system for access by external systems.

Endpoint Parameters – A Parameter is defined as a value in an Endpoint that needs to be monitored or configured. An example is the amount of RAM in use. Endpoint Parameters are assigned to Endpoints based upon the software resident in the Endpoint.

Endpoint Watches – A Watch is defined as a trigger that occurs when one or more conditions have been met. When a trigger occurs, the Endpoint will publish data matching the conditions to the specified PubSub. A condition is composed of a Parameter value, an operation, and a value. Conditions may be concatenated using logical operators.

Endpoint Configurations – An Endpoint Configuration is composed of one-to-N Parameters. A Configuration can be used to configure a single Endpoint or a Group of Endpoints. In addition, the capability to publish a Configuration to the PubSub associated with a Group is defined. The Configuration may be composed of the merger of high to low-level sets of Parameters.

Monitor Endpoint Performance — Endpoint Performance monitoring is used to provide data on a Parameter at a selected rate. A Parameter is selected for monitoring with an operator-defined interval, and the Endpoint will publish the data at the specified rate to a Topic PubSub. The Endpoint is responsible for the actions required to monitor the parameter and returns the information to the EPM after each interval has elapsed.

Debug – EPM provides the capability to query an Endpoint for a list of commands that are applicable to it. EPM performs the transmission of debug commands to Endpoints and receives the associated responses.

Image/Application Download — The process for distributing applications or images to the population of clients within the Videoscape system is divided into three major areas:

- Conversion of an image file into the format used by the EPM subsystem
- Loading of the file into Videoscape storage for later distribution to clients
- Signaling to the client population that images are available for download using the Videoscape Code Version Table (vsCVT)

Rule – A Rule is an expression that is composed of a Parameter, an operation, and a value, which evaluates to either True or False. Currently the Parameter list is composed of:

- TypeID
- JID
- TimeZone
- LocationCode
- BillingID
- MetadataID.

The set of operations that may be included is:

- GreaterThan
- LessThan
- EqualTo
- NotEqualTo
- StartsWith
- Contains

Typical Endpoint Scenarios

During the normal operation of the Endpoint Manager, there are sets of typical operations that will be required to be executed by an operator. This section describes these scenarios using the operations defined earlier in this guide.

Watch Creation/Deployment

These are the steps required to create and deploy a Watch to an Endpoint, and then to gather any data that is generated by the Endpoint.

1 Create Parameter

Reference the *Endpoint Parameters* (on page 16) section to perform a create operation for a new Parameter. This Parameter should correspond to a value that is defined by the vendor of the Endpoint software and must be specified by a unique name. Enter the unique name and type of the value, either integer or string.

2 Create Topic

Reference the *Endpoint Topics* (on page 27) section to perform a create operation for a new Topic. Specify the name and description.

3 Create Watch

Reference the *Endpoint Watches* (on page 28) section to perform a create operation for a new Watch. Specify a unique name for the Watch and optionally enter a description. Using the drop-down list, select the Topic created in the last step. Define a logical operation using the Parameter created in the first step. For example, this operation can include equality/inequality with respect to a value.

4 Deploy Watch to Endpoint

Reference the *Endpoint Settings* (on page 29) section to perform a deploy operation for the Watch that was created in the previous step. Select the Endpoint that is to receive the Watch by entering the Endpoint ID. Select from the list of available Watches the Watch created in the last step and have the EPM deploy it to the Endpoint.

5 Alternate Deploy Watch to a Group

Reference the *Endpoint Watches* (on page 28) section to perform a deploy operation for the Watch that was created. Select the Publish Watch and then from the drop-down list, select the Group that is to receive the Watch.

6 Access Watch Data

Reference the *Endpoint Notification Access* (on page 51) section to see any data that may have been generated by the Watch. Select an existing Topic, and for the log source, select "Watch". Select a time interval to examine for entries by entering a start and stop time. Because a Watch only generates data when the condition is true, there may be no data present.

Event Data Collection

These are the steps required to create the Topic used to gather data that is generated by an Endpoint Event. Events are defined by the vendor of the Endpoint software and include a predefined, well-known Topic value.

1 Create Topic

Reference the *Endpoint Topics* (on page 27) section to perform a create operation for a new Topic. Specify the Name value that is part of the software embedded in the Endpoint, and, if needed, a Description.

Note: The Event will be active as soon as an Endpoint is part of the system, but data will only be collected when a corresponding Topic is created.

2 Access Event Data

Reference the *Endpoint Log Access* (on page 51) section to see any data that may have been generated by the Event. Select an existing Topic, and for the log source select "Event." Select a time interval to examine for entries by entering a start and stop time. Because an Event only generates data when the condition is true, there may be no data present.

Log Performance Creation/Deployment

These are the steps required to create and deploy a Log Performance data monitor to an Endpoint, and then to examine any data that is generated by the Endpoint.

1 Create Parameter

Reference the *Endpoint Parameters* (on page 16) section to perform a create operation for a new Parameter. This Parameter should correspond to a value that is defined by the vendor of the Endpoint software, and must be specified by a unique name. Enter the unique name and type of the value, either integer or string.

2 Create Topic

Reference the *Endpoint Topics* (on page 27) section to perform a create operation for a new Topic. Specify the name and description.

3 Deploy Log Performance to Endpoint

Reference the *Endpoint Settings* (on page 29) section to perform an edit operation for an existing Endpoint. Select the Endpoint that is to have a Performance Parameter monitored by entering the Endpoint ID. Select the Parameter created in the first step from the drop-down list. Select the Topic created in the previous step from the drop-down list. Enter an interval between samples, in milliseconds.

Important: If the update interval is very short and/or a large number of Endpoints are selected, then a very large amount of data will be generated.

4 Access Log Performance Data

Reference the *Endpoint Log Access* (on page 51) section to see any data that may have been generated by the Log Performance. Select an existing Topic, and for the log source, select "Log Performance." Select a time interval to examine for entries by entering a start and stop time. If no data is present, then either the interval selected is prior to the start of the Log Performance, or the update rate is very slow.

Dynamic Group Creation

These are the steps required to create a Dynamic Group, and to allocate Endpoints to it.

1 Create Group Rule(s)

Reference the *Endpoint Group Rules* (on page 21) section to perform a create operation for each new Rule required to define a Group. Select a parameter from the drop-down list, then an operation, and finally a value to complete the Rule expression. Give each Rule a unique name with an optional description.

2 Create Group

Reference the *Endpoint Groups* (on page 23) section to perform a create operation for a new Dynamic Group. Select one or more of the Rules defined in the previous step and add them to the Select Rules area. Give each Group a unique name, with an optional description.

Note: The Dynamic group created will be the product of the Rules selected. Each Rule that is added will narrow the number of Endpoints contained in the Dynamic Group.

3 Activate Dynamic Group

Reference the *Endpoint Groups* (on page 23) section to perform an activate operation for an existing Dynamic Group. Select the Dynamic Group created in the last step. Click on the **Activate/Deactivate** button for this Group. The EPM will begin determining which Endpoints from the entire population are a member of the Dynamic Group.

Simple Configuration

These are the steps required to create and deploy a Configuration to an Endpoint.

1 Create Parameter

Reference the *Endpoint Parameters* (on page 16) section to perform a create operation for a new Parameter. This Parameter should correspond to a value that is defined by the vendor of the Endpoint software, and be specified by a unique name. Enter the value to which to set the Parameter. Enter the unique name and type of the value, either integer or string.

2 Create Configuration

Reference the *Endpoint Configurations* (on page 17) section to perform a create operation for a new Configuration. This Parameter should correspond to a value that is defined by the vendor of the Endpoint software, and must be specified by a unique name. Enter the unique name and type of the value, either integer or string.

3 Associate Configuration with Endpoint

Reference the *Endpoint Settings* (on page 29) section to perform an edit operation for an existing Endpoint. Add the Configuration created in the previous step to the Endpoint.

4 Configure Endpoint

Reference the *Endpoint Settings* (on page 29) section to transmit the Configuration to the Endpoint selected in the previous step. The Endpoint will receive a message with the Configuration value and perform the indicated Setting.

Simple Configuration -- Published

These are the steps required to create and deploy a Configuration to a group of Endpoints.

1 Create Parameter

Reference the *Endpoint Parameters* (on page 16) section and perform a create operation for a new Parameter. This Parameter should correspond to a value that is defined by the vendor of the Endpoint software and be specified by a unique name. Enter the value to which to set the Parameter. Enter the unique name and type of the value, either integer or string.

2 Create Configuration

Reference the *Endpoint Configurations* (on page 17) section and perform a create operation for a new Configuration. Enter the unique name and type of the value, either integer or string.

3 Select Configuration

Reference the *Endpoint Groups* (on page 23) section and select a Group from the list of those available. Then, click on the Edit icon. From the Available Configurations window, select the one created in the previous step and click on Add. Then **save** the Group information.

4 Publish Configuration

Reference the *Endpoint Groups* (on page 23) section and select the Group that has the Configuration associated with it. Click on the **Publish Configuration** icon. This will send the Configuration to the PubSub associated with the Group and distribute it to all the Endpoints in the Group.

5 Unpublished Configurations

In the *Endpoint Groups* (on page 23) section there is a list of unpublished Configurations. These correspond to Configurations that have been associated with a Group, but not pushed down to the PubSub for distribution to the Endpoints.

Cancel Configuration

These are the steps that are required to remove a Configuration that has been published to a group of Endpoints.

1 Cancel Configuration

Using the *Endpoint Groups* (on page 23) section, select the Group from the previous *Simple Configuration - Published* (on page 81). Click on the **Cancel Configuration** icon. This will send a Cancel message to the PubSub associated with the Group and distribute it to all the Endpoints in the Group.

2 Endpoints

The Endpoints will receive the Cancel message and delete all references to the Configuration and its associated Parameter settings.

Complex Configuration

These are the steps required to configure a group of Endpoints using more than one Configuration. This example will apply them to the Endpoints associated with multiple Groups.

1 Create Group Rules

Reference the *Endpoint Group Rules* (on page 21) section to perform a create operation for a Rule that defines TypeID equal to "X." Give this Rule a unique name, with an optional description.

2 Create Groups

Reference the *Endpoint Groups* (on page 23) section to perform a create operation for a new Dynamic Group. Select the first Rule defined in the previous step and add it to the Select Rules area. Give the Group a unique name, with an optional description.

3 Create Parameter

Reference the *Endpoint Parameters* (on page 16) section and perform a create operation for a new Parameter. This Parameter should correspond to a value that is defined by the vendor of the Endpoint software and be specified by a unique name. Enter the value to which to set the Parameter. Enter the unique name and type of the value, either integer or string.

4 Create Configuration

Reference the *Endpoint Configurations* (on page 17) section and perform a create operation for a new Configuration. Enter the unique name and type of the value, either integer or string.

5 Select Configuration

Reference the *Endpoint Groups* (on page 23) section and select the Dynamic Group from step 2. Then click on the **Edit** icon. From the **Available Configurations**, select the one created in the previous step and click **Add**. Then, **Save** the Group information.

6 Create Second Configuration

Repeat steps 3 through 5 with a different Parameter name.

7 Activate Dynamic Groups

Reference the *Endpoint Groups* (on page 23) section to perform an activate operation for both Dynamic Groups. Select the Dynamic Groups created in the previous step. Click on the **Activate/Deactivate** button for each Group. The EPM will begin determining which Endpoints from the entire population are a member of each Dynamic Group.

8 Publish Configuration

Reference the *Endpoint Groups* (on page 23) section and select the Group that has the Configurations associated with it. Click on the **Publish Configuration** icon. This will send the Configurations to the PubSub associated with the Group and distribute it to all the Endpoints in the Group.

Image Download

These are the steps required to load an image into the Endpoint Manager and to signal its availability to a set of Endpoints.

1 Load Image

Reference the *Endpoint Application Images* (on page 45) section to perform an upload operation. If the Image is correctly formatted with the proper manifest then it will be successfully loaded into the application image list.

2 Create Group Rule(s)

Reference the *Endpoint Group Rules* (on page 21) section to perform a create operation for each new Rule required to define a Group. Select a parameter from the drop-down list, then an operation, and finally a value to complete the Rule expression. Give each Rule a unique name, with an optional description.

3 Create Group

Reference the *Endpoint Groups* (on page 23) section to perform a create operation for a new Dynamic Group. Select one or more of the Rules defined in the previous step and add them to the Select Rules area. Give each Group a unique name, with an optional description.

Note: The Dynamic group created will be the product of the Rules selected. Each Rule that is added will narrow the number of Endpoints contained in the Dynamic Group.

4 Activate Dynamic Group

Reference the *Endpoint Groups* (on page 23) section to perform an activate operation for an existing Dynamic Group. Select the Dynamic Group created in the previous step. Click on the Activate/Deactivate button for this Group. The EPM will begin determining which Endpoints from the entire population are a member of the Dynamic Group.

5 Associate Image to Group

Reference the *Endpoint Application Images* (on page 45) section to select the image loaded in the first step. Perform the association operation for the Group defined in the third step. The EPM will update (or, if needed, create) the vsCVT associated with the Group.

6 Publish vsCVT to Group

Reference the *Endpoint Application Images* (on page 45) section to select the image loaded in the first step. Select the vsCVT created in the previous step and associated with the Group from the second step. Enter the download Type and a download time window for the Endpoints in the Group to attempt to retrieve the Image. This vsCVT will be published to the PubSub that is part of the Group.

7 Image Retrieval

As specified in the vsCVT, the Endpoints will retrieve the Image from the EPM.

Endpoint Restore

These are the steps that are used to trigger an Endpoint to match the Configuration data that EPM has for it.

1 Select Endpoint

Reference the *Endpoint Settings* (on page 29) section and enter either an Endpoint ID or an Endpoint JID value.

2 Command Restore

On the Endpoint Settings page, select the **Restore** button.

3 Endpoints

The Endpoints will receive the Restore message;= and delete all references to all Configurations. Then, the Endpoint will receive the Configurations associated with any Group that the Endpoint is part of and the Configurations assigned specifically to it.

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