

### Cisco Nexus 9000 Series NX-OS Virtual Machine Tracker Configuration Guide, Release 6.x

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#### **Americas Headquarters**

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# **Preface**

This preface includes the following sections:

- Audience, page v
- Document Conventions, page v
- Related Documentation for Cisco Nexus 9000 Series Switches, page vi
- Documentation Feedback, page vi
- Obtaining Documentation and Submitting a Service Request, page vii

# **Audience**

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This publication is for network administrators who install, configure, and maintain Cisco Nexus switches.

# **Document Conventions**

Command descriptions use the following conventions:

Convention	Description
bold	Bold text indicates the commands and keywords that you enter literally as shown.
Italic	Italic text indicates arguments for which the user supplies the values.
[x]	Square brackets enclose an optional element (keyword or argument).
[x   y]	Square brackets enclosing keywords or arguments separated by a vertical bar indicate an optional choice.
$\{x \mid y\}$	Braces enclosing keywords or arguments separated by a vertical bar indicate a required choice.

Convention	Description
[x {y   z}]	Nested set of square brackets or braces indicate optional or required choices within optional or required elements. Braces and a vertical bar within square brackets indicate a required choice within an optional element.
variable	Indicates a variable for which you supply values, in context where italics cannot be used.
string	A nonquoted set of characters. Do not use quotation marks around the string or the string will include the quotation marks.

Examples use the following conventions:

Convention	Description
screen font	Terminal sessions and information the switch displays are in screen font.
boldface screen font	Information you must enter is in boldface screen font.
italic screen font	Arguments for which you supply values are in italic screen font.
<>	Nonprinting characters, such as passwords, are in angle brackets.
[]	Default responses to system prompts are in square brackets.
!,#	An exclamation point (!) or a pound sign (#) at the beginning of a line of code indicates a comment line.

## **Related Documentation for Cisco Nexus 9000 Series Switches**

The entire Cisco Nexus 9000 Series switch documentation set is available at the following URL:

http://www.cisco.com/en/US/products/ps13386/tsd\_products\_support\_series\_home.html

# **Documentation Feedback**

To provide technical feedback on this document, or to report an error or omission, please send your comments to nexus9k-docfeedback@cisco.com. We appreciate your feedback.

## **Obtaining Documentation and Submitting a Service Request**

For information on obtaining documentation, using the Cisco Bug Search Tool (BST), submitting a service request, and gathering additional information, see *What's New in Cisco Product Documentation* at: http://www.cisco.com/c/en/us/td/docs/general/whatsnew/whatsnew.html.

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CHAPTER

# **New and Changed Information**

• New and Changed Information, page 1

# **New and Changed Information**

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The following table provides an overview of the significant changes made to this configuration guide. The table does not provide an exhaustive list of all changes made to this guide or all new features in a particular release.

Feature	Description	Added or Changed in Release	Where Documented
Virtual Machine Tracker	Initial Virtual Machine Tracker support.	6.1(2)I3(1)	This document.



## **Overview**

This chapter contains the following sections:

- Information About Virtual Machine Tracker, page 3
- Virtual Machine Tracker and VMware vCenter, page 3

## **Information About Virtual Machine Tracker**

Virtual Machine Tracker (VM Tracker) works together with VMware vCenter and enables you to do the following:

- · Identify the Cisco Nexus 9000 Series port that is used for each VM
- Identify the VLAN requirements of each VM
- Track the movement of VMs from one host (ESXi) to another
- Track VM configuration changes such as additions, deletions, or modifications of VLANs, and configure VLANs on Cisco Nexus 9000 Series ports accordingly
- Track the additions or deletions of VMs and hosts, and configure VLANs on Cisco Nexus 9000 Series ports accordingly
- Track the state of VMs and dynamically provisions VLANs on the Cisco Nexus 9000 server facing physical ports.

### Virtual Machine Tracker and VMware vCenter

VM Tracker synchronizes with VMware vCenter to retrieve the following information:

- The host on which the VMs exist.
- The Cisco Nexus 9000 Series ports through which the VM traffic flows.
- The virtual network interface card (vNIC) that connects the VM to a virtual switch.
- The power state of the VM.

- The VLAN information of port groups or distributed virtual switch (DVS) port groups.
- The port groups or DVS port groups that are required for the VM.



# **Configuring Virtual Machine Tracker**

This chapter contains the following sections:

- Information About Virtual Machine Tracker, page 5
- Enabling Virtual Machine Tracker, page 6
- Creating a New Connection to vCenter, page 6
- Synchronizing Information with VMware vCenter, page 7
- Compatibility Checking on a VPC Topology, page 8
- Verifying the Virtual Machine Tracker Configuration, page 9
- Enabling Virtual Machine Tracker on Specific Interfaces, page 10
- Configuring Dynamic VLAN Creation, page 10
- Example of VM Tracker Information, page 11
- Example Configuration for Virtual Machine Tracker, page 18

# **Information About Virtual Machine Tracker**

### **Guidelines and Limitations for VM Tracker**

VM Tracker has the following guidelines and limitations:

- show commands with the internal keyword are not supported.
- VM Tracker supports up to four vCenter connections.
- VM Tracker supports high availability and the fault tolerance features of vCenter.
- VM Tracker is only supported on ESXi 5.0, 5.1, and 5.5 versions of VMware vCenter.
- You must connect a host directly to the port of a Cisco Nexus 9000 Series switch. Host connectivity through fabric interconnect, another switch, or chassis is not supported.



Connecting a host through a fabric extender (FEX) is supported by a Cisco Nexus 9000 Series switch.

# **Enabling Virtual Machine Tracker**

By default, the VM Tracker feature is enabled on all interfaces.

#### Procedure

	Command or Action	Purpose
Step 1	switch# configure terminal	Enters global configuration mode.
Step 2	switch(config)# <b>[no] feature</b> <b>vmtracker</b>	Enables the VM Tracker feature on all interfaces. The <b>no</b> form of the command disables the VM Tracker feature on all interfaces.

This example shows how to enable VM Tracker:

switch# configure terminal
switch(config)# feature vmtracker
switch(config)#

# **Creating a New Connection to vCenter**

#### Procedure

	Command or Action	Purpose
Step 1	switch# configure terminal	Enters global configuration mode.
Step 2	<pre>switch(config)# [no] vmtracker connection connection-name</pre>	Enters VM Tracker connection configuration mode for the connection name specified.
		The <b>no</b> form of the command disables the connection.
Step 3	<pre>switch(config-vmt-conn)# [no] remote {ip address ip_address   port port_number   vrf}</pre>	Configures remote IP parameters.
Step 4	switch(config-vmt-conn)# username username password password	Verifies the username and password to connect to vCenter.
Step 5	<pre>switch(config-vmt-conn)# [no] connect</pre>	Connects to vCenter.

Command or Action	Purpose
	The <b>no</b> form of the command disconnects VM Tracker from vCenter.

This example shows how to create a new connection to VMware vCenter:

```
switch# configure terminal
switch(config)# vmtracker connection conn1
switch(config-vmt-conn)# remote ip address 20.1.1.1 port 80 vrf management
switch(config-vmt-conn)# username user1 password abc1234
switch(config-vmt-conn)# connect
```

# Synchronizing Information with VMware vCenter

By default, VM Tracker tracks all asynchronous events from VMware vCenter and updates the switchport configuration immediately. Optionally, you can also configure a synchronizing mechanism that synchronizes all host, VM, and port group information automatically with VMware vCenter at a specified interval.

Command	Purpose
[no] set interval find-new-host val	Sets the interval, in seconds, for finding hosts that are newly connected to vCenter. The <b>no</b> form of the command disables the previously configured interval. The default duration is 3600 seconds.
[no] set interval sync-full-info val	Sets the interval, in seconds, for synchronizing all host, VM, and port group related information with vCenter. The <b>no</b> form of the command disables the previously configured interval. The default duration is 3600 seconds.
vmtracker connection connection-name refresh	Synchronizes all host, VM, and port group related information with vCenter immediately for the specified connection.

This example shows how to set an interval for finding hosts that are newly connected to vCenter:

switch(config-vmt-conn) # set interval find-new-host 300

This example shows how to set an interval for synchronizing all host, VM, and port group information with vCenter:

switch(config-vmt-conn)# set interval sync-full-info 120

This example shows how to immediately synchronize all host, VM, and port group information with vCenter:

switch(config-vmt-conn) # vmtracker connection conn1 refresh

## **Compatibility Checking on a VPC Topology**

On a VPC topology, VM Tracker performs a Type 2 compatibility checking. The checking ensures that for a particular connection name, the following fields match across the VPC peers:

- The vCenter IP address that VM Tracker should connect to.
- The vCenter port number that VM Tracker should connect on.
- The allowed VLAN range for that particular connection.
- The username/password combination that VM Tracker should use to connect to the vCenter Server.

To determine if the VPC checking was successful, use the show vpc consistency-parameters global command.

To ensure that the VM Tracker compatibility checking was successful, use the **show system internal vmtracker info vpc-sync-config** command. This command provides information about consistency parameter checking.

The following is an example of VPC checking:

switch# show vpc consistency-parameters global

```
Legend:
```

Type 1 : vPC will be suspended in case of mismatch

Name	Туре	Local Value	Peer Value
Vlan to Vn-segment Map	1	No Relevant Maps	No Relevant Maps
STP Mode	1	Rapid-PVST	Rapid-PVST
STP Disabled	1	None	None
STP MST Region Name	1		
STP MST Region Revision	1	0	0
STP MST Region Instance to	1		
VLAN Mapping			
STP Loopquard	1	Disabled	Disabled
STP Bridge Assurance	1	Enabled	Enabled
STP Port Type, Edge	1	Normal, Disabled,	Normal, Disabled,
BPDUFilter, Edge BPDUGuard		Disabled	Disabled
STP MST Simulate PVST	1	Enabled	Enabled
Interface-vlan admin up	2	1-8	1-8
Interface-vlan routing	2	1-8	1-8
capability			
vmtracker connection	2	conn1, 10.193.174.215,	conn1, 10.193.174.215,
params		80, 1-4094	80, 1-4094
Allowed VLANs	-	1-100	1-100
Local suspended VLANs	-	-	-
switch#			

#### The following is an example of VM Tracker compatibility:

switch# sho	w system internal	vmtracker info	vpc-sync-config	
Conn Name	Conn IP	Conn Port	Allowed Vlan-Range	
conn1 switch#	10.193.174.2	15 80	1-4094	

# **Verifying the Virtual Machine Tracker Configuration**

Use the following commands to display and verify VM Tracker configuration information:

Command	Purpose
show running-config vmtracker [all]	Displays the VM Tracker configuration.
<pre>show vmtracker [connection conn_name] {{info [interface intf_id]{summary   detail   host   vm   port-group}}   event-history}</pre>	Displays the VM Tracker configuration based on the following: • Connection • Interface • Event history
show vmtracker [connection conn_name] status	Displays the IP address and connection status of the vCenter connection specified.
show logging level vmtracker	Displays the logging level of the syslog messages for VM Tracker.
show system internal vmtracker info all show system internal vmtracker {info [all   counters   dvs-info   event-history   host-cdp   host-dvs-portgroup   host-dvs-switch   host-lldp   host-portgroup   host-unconnected   host-vm   host-vswitch   switch   switch-device-id   time-info   vpc-sync-config]	<ul> <li>Displays the configuration information of VM Tracker based on the following:</li> <li>All configuration information.</li> <li>Counter information.</li> <li>DVS information.</li> <li>DVS information.</li> <li>Event history information.</li> <li>Host CDP information.</li> <li>Host DVS portgroup information.</li> <li>Host DVS Switch information.</li> <li>Host LLDP information.</li> <li>Host portgroup information.</li> <li>Host which are not connected.</li> <li>Host vSwitch information.</li> <li>Host vSwitch information.</li> <li>Switch device IDs.</li> <li>Information related to the duration of various events.</li> <li>vPC related connection information.</li> </ul>

# **Enabling Virtual Machine Tracker on Specific Interfaces**

When VM Tracker is enabled by using the **[no] feature vmtracker** command, it is enabled on all interfaces by default. You can optionally disable and enable it on specific interfaces by using the **[no] vmtracker enable** command.

#### Procedure

	Command or Action	Purpose
Step 1	switch# configure terminal	Enters global configuration mode.
Step 2	<pre>switch(config)# interface type slot/port</pre>	Enters the interface configuration mode for the specified interface.
Step 3	switch(config-if)# [no] vmtracker enable	Enables the VM Tracker feature on the specified interface.
		The <b>no</b> form of the command disables the VM Tracker feature on the specified interface.

This example shows how to enable VM Tracker on a specified interface:

```
switch# configure terminal
switch(config)# interface ethernet 1/3/1
switch(config-if)# vmtracker enable
```

# **Configuring Dynamic VLAN Creation**

### **Enabling Dynamic VLAN Creation**

Dynamic creation and deletion of VLANs globally is enabled by default. When dynamic VLAN creation is enabled, if a VM is moved from one host to another and the VLAN required for this VM does not exist on the switch, the required VLAN is automatically created on the switch. You can also disable this capability. However, if you disable dynamic VLAN creation, you must manually create all the required VLANs.

#### **Before You Begin**

Ensure that the VM Tracker feature is enabled.

#### Procedure

	Command or Action	Purpose
Step 1	switch# configure terminal	Enters global configuration mode.

	Command or Action	Purpose
Step 2	<pre>switch(config)# vmtracker connection connection-name</pre>	Enters VM Tracker connection configuration mode for the connection name specified.
Step 3	switch(config-vmt-conn)# [no] autovlan enable	Enables dynamic VLAN creation and deletion. The <b>no</b> form of the command disables dynamic VLAN creation and deletion.

This example shows how to enable dynamic VLAN creation:

```
switch# configure terminal
switch(config)# vmtracker connection conn1
switch(config-vmt-conn)# autovlan enable
```

### **Configuring an Allowed VLAN List**

By default, all VLANs can be configured dynamically on interfaces. You can also define a restricted list of such VLANs.

#### **Before You Begin**

Ensure that the VM Tracker feature is enabled.

#### **Procedure**

	Command or Action	Purpose
Step 1	switch# configure terminal	Enters global configuration mode.
Step 2	<pre>switch(config)# vmtracker connection connection-name</pre>	Enters VM Tracker connection configuration mode for the connection name specified.
Step 3	switch(config-vmt-conn)# allowed-vlans {allow-vlans   add add-vlans   except except-vlans   remove remove-vlans   all}	Configures a list of VLANs that can be dynamically configured on interfaces.

This example shows how to configure a list of allowed VLANs:

```
switch# configure terminal
switch(config)# vmtracker connection test
switch(config-vmt-conn)# allowed-vlans 100-101
```

## **Example of VM Tracker Information**

This example uses the **show system internal vmtracker info detail** command to display VM Tracker information.

switch# show system internal vmtracker info all

VM-Interface Mag	pping (Device:50	87:89:	al:f0:de)			
Interface	Host	VMNIC	VM	State	PortGroup	VLAN-Range
port-channel2 port-channel2 VM-Interface Mag	10.193.174.213 10.193.174.213 pping (Device:50)	vmnic7 vmnic7 :87:89:	Site-1-Hos Site-1-Hos al:f0:df)	on on	dvPortGrou dvPortGrou	1-100 1-100
Interface	Host	VMNIC	VM	State	PortGroup	VLAN-Range
port-channel3 port-channel3 VM-Interface Map	10.193.174.214 10.193.174.214 pping (Device:50)	vmnic7 vmnic7 :87:89:	Site-1-Hos Site-1-Hos al:f0:e1)	on on	dvPortGrou dvPortGrou	1-100 1-100
Interface	Host	VMNIC	VM	State	PortGroup	VLAN-Range
Host VM Info (C	onn:conn1 IP:10.1	L93.174	.215)			
Host	VM		State	Port	tGroup	
10.193.174.213 10.193.174.213 10.193.174.213 10.193.174.213 10.193.174.213 10.193.174.213 10.193.174.213 10.193.174.213 10.193.174.213 10.193.174.213 10.193.174.213 10.193.174.213 10.193.174.213 10.193.174.214	Site-1-Host-1-VN Site-1-Host-1-VN Site-1-Host-1-VN Site-1-Host-1-VN Site-1-Host-1-VN Site-1-Host-1-VN Site-1-Host-1-VN Site-1-Host-1-VN Site-1-Host-1-VN Site-1-Host-2-VN Site-1-Host-2-VN Site-1-Host-2-VN Site-1-Host-2-VN Site-1-Host-2-VN Site-1-Host-2-VN Site-1-Host-2-VN Site-1-Host-2-VN Site-1-Host-2-VN Site-1-Host-2-VN Site-1-Host-2-VN Site-1-Host-2-VN Site-1-Host-2-VN Site-1-Host-2-VN Site-1-Host-2-VN	4-1-Ubu: 4-1-Ubu: 4-2-Ubu: 4-3-Ubu: 4-3-Ubu: 4-5-Ubu: 4-5-Ubu: 4-6-Ubu: 4-9-Ubu: 4-9-Ubu: 4-9-Ubu: 4-2-Ubu: 4-2-Ubu: 4-5-Ubu:	ntu on ntu on	VM 1 dvPd VM 1 dvPd VM 1 dvPd VM 1 VM 1 VM 1 VM 1 dvPd dvPd dvPd VM 1 dvPd VM 1 dvPd VM 1 dvPd VM 1 dvPd VM 1 dvPd VM 1 VM 1 VM 1 VM 1 VM 1 VM 1 VM 1 VM 1	Network ortGroup Network DrtGroup Network Network Network Network Network Network Network Network DrtGroup Network Network Network Network Network Network Network Network Network Network	
Host CDP INIO (	Switch	.193.17	4.213)  Port		VMNTC	Status
			-			
Host LLDP Info	(Conn:conn1 IP:10	).193.1	74.215)			
Host	Switch		Port		VMNIC	Status
10.193.174.213 10.193.174.213 10.193.174.214 10.193.174.214	50:87:89:al:f0:c 50:87:89:al:f0:c 50:87:89:al:f0:c 50:87:89:al:f0:c	lf de el	Ethernet1/2 Ethernet1/1 Ethernet1/4 Ethernet1/3		vmnic5 vmnic7 vmnic5 vmnic7	connected connected connected connected
Host vSwitch Po	rt Group Info (Co	onn:con	n1 IP:10.193	.174.23	 15)	
Host	vSwitch		PortGroup	p		
10.193.174.213 10.193.174.213 10.193.174.214 10.193.174.214	vSwitch0 vSwitch0 vSwitch0 vSwitch0 vSwitch0		Managemen VM Networ Managemen VM Networ	nt Netw rk nt Netw rk	work work	

Host vSwit	ch VMN	NIC Ir	nfo (	Conn:conn1	IP:10	.193.1	74.215	)				
Host			vSwi	tch		VMNIC						
10.193.174 10.193.174	.213 .214		vSwi vSwi	tch0 tch0		vmnic vmnic	:6 :6					
Host DVS S	witch	Port	Grou	p Info (Conr	n:con	n1 IP:	10.193	.174.2	 15)			
Host		DVS-N	Jame		Port	Group					Vlan-Rar	nge
10.193.174 10.193.174 10.193.174 10.193.174	.213 .213 .214 .214	dvSwi dvSwi dvSwi dvSwi	tch- tch- tch- tch-	1-Site-1 1-Site-1 1-Site-1 1-Site-1	dvPo dvSw dvPo dvSw	rtGrou itch-1 rtGrou itch-1	p -Site- p -Site-	-DVUpl -DVUpl	inks-	 464 464	1-100 1-100 1-100 1-100	
Host DVS S	witch	VMNIC	C Inf	o (Conn:conr	n1 IP	:10.19	3.174.	215)				
Host			DVS-	Name			VMNIC					
10.193.174 10.193.174 10.193.174 10.193.174 10.193.174 10.193.174 10.193.174 10.193.174	.213 .213 .213 .213 .214 .214 .214 .214		dvSw dvSw dvSw dvSw dvSw dvSw dvSw dvSw	itch-1-Site- itch-1-Site- itch-1-Site- itch-1-Site- itch-1-Site- itch-1-Site- itch-1-Site-	-1 -1 -1 -1 -1 -1 -1 -1 -1		vmnic3 vmnic4 vmnic5 vmnic7 vmnic3 vmnic4 vmnic5 vmnic7					
Host Port	Group	Info	(Con	n:conn1 IP:1	 10.19	 3.174.	215)					
Host				PortGroup					VL	an An		
10.193.174 10.193.174 10.193.174 10.193.174	.213 .213 .214 .214			Management VM Network Management VM Network	Netw Netw	ork ork			0 0 0 0			
Distribute	d Swit	ch Ir	nfo (	Conn:conn1	IP:10	.193.1	74.215	)				
DVS Name			Port	Group			VLAN R	ange				
dvSwitch-1 dvSwitch-1 dvSwitch2 dvSwitch2	-Site- -Site-	-1 -1	dvPo dvSw dvPo dvSw	rtGroup itch-1-Site- rtGroup itch2-DVUpl:	DVU	 plink 221	1-100 1-100 12-12 0-4094					
Event Hist	ory (C	Conn:c	conn1	NumEv:6 IP:	:10.1	93.174	.215)					
EventId	Time				 E	vent M	lsg					
19631	Sep (	)2 201	4 11	:34:53:79910	61 N t c	etwork s: "2/ 4b b0	conne 00 d1 13 83	ctivit 2c 50 bf".	y res Oc d6 Physi	tore 4c cal	ed on DVI f6-48 6e NIC vmni	Por 3 ic5
19630 19624	Sep ( Sep (	)2 201 )2 201	4 11 4 11	:34:52:89090 :31:17:45352	65 P 23 N t c	is up. hysica etwork s: "2/ 4b b0	l NIC conne 00 d1 13 83	vmnic5 ctivit 2c 50 bf".	link y res Oc d6 Physi	stat tore 4c cal	e is up d on DVF f6-48 66 NIC vmni	, ?or ≥ 3 ic5
19618	Sep (	)2 201	4 01	:44:08:66653	3 N t c	⊥s up. etwork s: "2/ 4b b0	conne 00 d1 13 83	ctivit 2c 50 bf".	y res Oc d6 Physi	tore 4c cal	ed on DVI f6-48 6e NIC vmni	?or ≥ 3 ic5
19612	Sep (	)2 201	.4 01	:32:04:93093	19 N t c	⊥s up. etwork s: "2/ 4b b0	conne 00 d1 13 83	ctivit 2c 50 bf".	y res Oc d6 Physi	tore 4c cal	ed on DVI f6-48 6e NIC vmni	?or ≥ 3 ic5

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is 19611 Sep 02 2014 01:32:04:930862 Phys	up. sical NIC vmnic5 linkstate is up.
Time Info (Conn:conn1 IP:10.193.174.215)	
Туре	Time (ms)
Total Fetching Time for All Host Total Fetching Time for All DVS Max Time to Sync Full Host Info Max Time to Sync vShield Info Max Time to Check unconnected Host Info Max Time to Sync Host Info Max Time to get one Host info Max Time to get one Virtual Machine info Max Time to get one CDP info Max Time to get VM port group Info Max Time to get task info Max Time to process recv event Max Time to get dvs info Max Time to get dvs port group info	: 660 : 112 : 57882 : 0 : 3091 : 15162 : 3152 : 3080 : 3102 : 3580 : 0 : 0 : 3021 : 3043
Counters Info (Conn:conn1 IP:10.193.174.215)	
Туре	Counter
Property Retrieval Fail Wait for Update Fail Wait for Update Timeout Create Task Collector Fail Create Event Collector Fail Create Event Filter Fail CDP Info Retrieval Fail Connect to vCenter Fail SOAP Memory Alloc Fail Num Datacenter Property Retrieval Num Connection Verification Num Host Property Retrieval Num VM Property Retrieval Num CDP/LLDP Info Retrieval Num DVS Info Retrieval Num DVS Info Retrieval Num JVS PG Info Retrieval Num Interface Configuration Time Num of VLAN Creation Time Num of VLAN Removal Time Wait for Update Success Num Recv Event VmPoweredOnEvent Num Recv Event VmBeingHotMigratedEvent Num Recv Event VmFailedMigrateEvent Num Recv Event VmFailedMigrateEvent Num Recv Event VmCreatedEvent Num Recv Event VmCreatedEvent	: 0 : 0 : 7157 : 0 : 0 : 0 : 0 : 0 : 0 : 0 : 0
Num Recv Event VmClonedEvent Num Recv Event VmRenamedEvent Num Recv Event VmRemovedEvent Num Recv Event VmRemovedEvent Num Recv Event VmRelocatedEvent Num Recv Event TaskEvent Num Recv Event HostConnectionLostEvent Num Recv Event HostConnectedEvent Num Recv Event HostConnectedEvent Num Recv Event HostSchutdownEvent Num Recv Event HostShutdownEvent Num Recv Event HostShutdownEvent Num Recv Event HostIpChangedEvent Num Recv Event DVPortgroupCreatedEvent Num Recv Event DVPortgroupDestroyedEvent.	: 0 : 0 : 0 : 0 : 0 : 0 : 10 : 10 : 0 : 0 : 0 : 0 : 0 : 0 : 0 :

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Num Recv Num Recv Num Recv Num Recv Num Recv Num Recv Num Recv Num Recv	Event DVPortgroupRenam Event DvsCreatedEvent Event DvsDestroyedEvent Event DvsReconfiguredE Event DvsReconfiguredE Event DvsMergedEvent Task UpdateNetworkConf Task UpdatePortGroup Task RemovePortGroup Task UpdateVirtualSwit	edEvent t vent ig .ch			0 0 0 0 0 0 0 0 0 0 0 0		
Global Co	ounters Info						
Туре 					Counter		
Num Elem Num Elem	VMTrackerElemRoot VMTrackerElemConn VMTrackerElemHost VMTrackerElemHost VMTrackerElemHostCDP VMTrackerElemHostLLDP VMTrackerElemHostVM VMTrackerElemHostvSwit VMTrackerElemHostvSwit VMTrackerElemHostVSwit VMTrackerElemHostDVSSw VMTrackerElemHostDVSSw VMTrackerElemHostDVSSw VMTrackerElemHostVirtW VMTrackerElemHostVirtW VMTrackerElemHostVirtW VMTrackerElemDvSPortGr VMTrackerElemDVSPortGr VMTrackerElemDvSPortGr VMTrackerElemDvSPortGr VMTrackerElemDvSPortGr VMTrackerElemDvicePor VMTrackerElemDevicePor VMTrackerElemDevicePor VMTrackerElemDevicePor VMTrackerElemDevicePor VMTrackerElemDevicePor VMTrackerElemDevicePor VMTrackerElemDevicePor VMTrackerElemSwitchDev VMTrackerElemSwitchDev VMTrackerElemSwitchDev	tGroup ch chVMNIC chPortGroup ritch ritchVMNIC fire alNic roup roupVlanRang t tHost tVM tVMPortGrou tVMPortGrou riceID ficeIntf Root d	e p pVlanRan	: : : : : : : : : : : : : : : : : : :	3 1 0 3 0 4 19 23 2 2 4 4 4 2 8 0 0 0 2 4 4 4 4 4 8 8 8 8 8 8 2 87 1 4		
Num Elem	VMTrackerElemItSwitchF	ort		:	4		
Unconnect	ed Host Info (Conn:con	n1 IP:10.19	3.174.21	5)			
Host Name							
172.23.40	.129						
Dev-Id	Intf	IfIndex	Member	of PO	NativeVlan	VMT Enable	bia-mac
SAL1819SA	LX Ethernet1/1	1a000000	port-ch	annel2	1	1	
SAL1819SA	LX Ethernet1/10	1a001200			1	1	
SAL1819SA	LX Ethernet1/11	1a001400			1	1	
SAL1819SA	LX Ethernet1/12	1a001600			1	1	
SAL1819SA	LX Ethernet1/13	1a001800			1	1	
SAL1819SA	LX Ethernet1/14	1a001a00			1	1	
SAL1819SA 50:87:89:	LX Ethernet1/15 al:f0:ec	1a001c00			1	1	

SAL1819SALX	Ethernet1/16	1a001e00		1	1
SAL1819SALX	Ethernet1/17	1a002000		1	1
50:87:89:a1: SAT.1819SAT.X	f0:ee Ethernet1/18	1a002200		1	1
50:87:89:a1:	f0:ef	10002200		-	-
SAL1819SALX 50:87:89:a1:1	Ethernet1/19 f0:f0	1a002400		1	1
SAL1819SALX	Ethernet1/2	1a000200	port-channel2	1	1
SU:87:89:41:1 SAL1819SALX	Ethernet1/20	1a002600		1	1
50:87:89:a1:	f0:f1 Ftherpet1/21	1 - 002800		1	1
50:87:89:a1:	f0:f2	14002000		T	T
SAL1819SALX 50:87:89:a1:1	Ethernet1/22 f0:f3	1a002a00		1	1
SAL1819SALX	Ethernet1/23	1a002c00		1	1
SAL1819SALX	Ethernet1/24	1a002e00		1	1
50:87:89:a1: sat.1819sat.x	f0:f5 Ethernet1/25	1a003000		1	1
50:87:89:a1:	f0:f6	1 000000		-	-
SAL1819SALX 50:87:89:a1:1	Ethernet1/26 f0:f7	1a003200		Ţ	1
SAL1819SALX	Ethernet1/27	1a003400		1	1
SAL1819SALX	Ethernet1/28	1a003600		1	1
50:87:89:a1: SAL1819SALX	f0:f9 Ethernet1/29	1a003800		1	1
50:87:89:a1:	f0:fa	1 - 0 0 0 4 0 0		1	1
50:87:89:a1:	f0:e0	1a000400	port-channel3	Ţ	1
SAL1819SALX 50.87.89.a1.1	Ethernet1/30	1a003a00		1	1
SAL1819SALX	Ethernet1/31	1a003c00		1	1
50:87:89:al: SAL1819SALX	f0:fc Ethernet1/32	1a003e00		1	1
50:87:89:a1:1	f0:fd Ftherpet1/33	1 - 004000		1	1
50:87:89:a1:	f0:fe	10004000		-	-
SAL1819SALX 50:87:89:a1:1	Ethernet1/34 f0:ff	1a004200		1	1
SAL1819SALX	Ethernet1/35	1a004400		1	1
SAL1819SALX	Ethernet1/36	1a004600		1	1
50:87:89:a1: SAL1819SALX	f1:01 Ethernet1/37	1a004800		1	1
50:87:89:a1:	f1:02	1 - 00 4 - 00		-	-
50:87:89:a1:	f1:03	1a004a00		Ţ	1
SAL1819SALX 50•87•89•a1•1	Ethernet1/39	1a004c00		1	1
SAL1819SALX	Ethernet1/4	1a000600	port-channel3	1	1
50:87:89:al: SAL1819SALX	Ethernet1/40	1a004e00		1	1
50:87:89:a1:	f1:05	1 - 0.0 5 0.0 0		1	1
50:87:89:a1:	f1:06	14005000		T	T
SAL1819SALX 50:87:89:a1:1	Ethernet1/42 f1:07	1a005200		1	1
SAL1819SALX	Ethernet1/43	1a005400		1	1
SAL1819SALX	Ethernet1/44	1a005600		1	1
50:87:89:a1: SAL1819SALX	f1:09 Ethernet1/45	1a005800		1	1
50:87:89:a1:1	f1:0a	1 005 00		-	±
SALI819SALX 50:87:89:a1:1	Etnernet1/46 f1:0b	1a005a00		T	1
SAL1819SALX 50.87.80.31.4	Ethernet1/47	1a005c00		1	1
SAL1819SALX	Ethernet1/48	1a005e00		1	1
50:87:89:a1: SAL1819SALX	fl:0d Ethernet1/5	1a000800		1	1

I

50:87:89:a1:f0:e2				
SAL1819SALX Ethernet1/6	1a000a00		1	1
SAL1819SALX Ethernet1/7	1a000c00		1	1
50:87:89:a1:f0:e4				
SAL1819SALX Ethernet1/8 50:87:89:a1:f0:e5	1a000e00		1	1
SAL1819SALX Ethernet1/9	1a001000		1	1
SAL1819SALX Ethernet2/1	1a006000		1	1
SAL1819SALX Ethernet2/10	1a007200		1	1
SAL1819SALX Ethernet2/11	1a007400		1	1
/c:69:f6:Uf:eb:2a SAL1819SALX Ethernet2/12	1a007600		1	1
/C:69:16:01:eb:2b SAL1819SALX Ethernet2/2	1a006200	port-channel1	1	1
7c:69:f6:0f:eb:21 SAL1819SALX Ethernet2/3	1a006400	port-channel1	1	1
7c:69:f6:0f:eb:22 SAL1819SALX Ethernet2/4	1a006600	port-channel1	1	1
7c:69:f6:0f:eb:23 SAL1819SALX Ethernet2/5	1a006800	port-channel1	1	1
7c:69:f6:0f:eb:24	1-006-00	nort channell	1	1
7c:69:f6:0f:eb:25	14000400	port-channell	Ţ	Ţ
SAL1819SALX Ethernet2/7	1a006c00		1	1
SAL1819SALX Ethernet2/8	1a006e00		1	1
SAL1819SALX Ethernet2/9	1a007000		1	1
SAL1819SALX Vlan1	9010001		0	1
00:00:7c:3d:fe:09 SAL1819SALX Vlan2	9010002		0	1
00:00:7c:3d:fe:09 SAL1819SALX Vlan3	9010003		0	1
00:00:7c:3d:fe:09 SAL1819SALX Vlan4	9010004		0	1
00:00:7c:3d:fe:09 SAL1819SALX Vlan5	9010005		0	1
00:00:7c:3d:fe:09 SAL1819SALX Vlan6	9010006		0	1
00:00:7c:3d:fe:09	9010007		0	1
00:00:7c:3d:fe:09	0010009		0	1
00:00:7c:3d:fe:09	9010008		0	Ţ
SAL1819SALX ii1/1/1	4a000000		0	1
SAL1819SALX ii1/1/10	4a000009		0	1
00:00:00:00:00:00 Sal1819SalX ii1/1/11	42000002		0	1
00:00:00:00:00:00	1000000		0	-
SAL1819SALX ii1/1/12 00:00:00:00:00:00	4a00000b		0	1
SAL1819SALX ii1/1/2 00:00:00:00:00:00	4a000001		0	1
SAL1819SALX ii1/1/3	4a000002		0	1
SAL1819SALX ii1/1/4	4a000003		0	1
SAL1819SALX ii1/1/5	4a000004		0	1
SAL1819SALX ii1/1/6	4a000005		0	1
SAL1819SALX ii1/1/7	4a000006		0	1
00:00:00:00:00:00 SAL1819SALX ii1/1/8	4a000007		0	1
00:00:00:00:00:00 SAL1819SALX ii1/1/9	4a000008		0	1
00:00:00:00:00:00	1000000		č	1

SAL1819SALX	lc-eth0/1	6201000	0	1
SAL1819SALX	mgmt0	5000000	0	1
SAL1819SALX	port-channel1	1600000	1	1
SAL1819SALX 00:00:00:00:00:00:	port-channel2 00	1600001	1	1
SAL1819SALX 00:00:00:00:00:00:	port-channel3 00	1600002	1	1
SAL1819SALX 00:00:7c:3d:fe:	sup-eth0 09	1500000	0	1
SAL1819SALX 00:00:00:00:00:00:	sup-eth1 00	15010000	0	1

switch#

### **Example Configuration for Virtual Machine Tracker**

This example shows how to create a connection with vCenter:

```
switch# configure terminal
switch(config)# feature vmtracker
switch(config) # vmtracker connection test
switch (config-vmt-conn) # remote ip address 20.1.1.1 port 80 vrf management
switch(config-vmt-conn) # username user1 password abc@123
switch(config-vmt-conn)# connect
switch(config-vmt-conn)# show vmtracker status
Connection
               Host/IP
                                               status
       _____
                       -----
                                                      _____
test
                 20.1.1.1
                                               Connected
switch(config-vmt-conn)# show vmtracker info detail
      _____
Interface Host
                         VMNIC VM State PortGroup VLAN-Range
            _____
Ethernet1/3/1 20.2.2.2
                         vmnic4 No-OS1
                                         on PGroup100 100
_____
switch(config-vmt-conn) # show running-config vmtracker
!Command: show running-config vmtracker
!Time: Mon Mar 10 09:07:47 2014
version 6.0(2)U3(1)
feature vmtracker
vmtracker connection test
remote ip address 20.1.1.1 port 80
username user1 password abc@123
connect
switch(config-vmt-conn)# show running-config interface ethernet 1/3/1
!Command: show running-config interface Ethernet1/3/1
!Time: Mon Mar 10 09:09:13 2014
version 6.0(2)U3(1)
interface Ethernet1/3/1
switchport mode trunk
switchport trunk allowed vlan 1,100
```



VLAN 1 is the native VLAN on interface Ethernet1/3/1.

This example shows how to verify VM Tracker information after you power off the VM on vCenter:

```
switch(config-vmt-conn)# show vmtracker info detail
```

Interface	Host	VMNIC	VM	State	PortGroup	VLAN-Range
Ethernet1/3/1	20.2.2.2	vmnic4	No-OS1	off	PGroup100	100

```
switch(config-vmt-conn)# show running-config interface ethernet 1/3/1
!Command: show running-config interface Ethernet1/3/1
!Time: Mon Mar 10 09:09:13 2014
version 6.0(2)U3(1)
interface Ethernet1/3/1
switchport mode trunk
switchport trunk allowed vlan 1, 100
```

This example shows how to verify VM Tracker information after you add a new VLAN through vCenter:

switch(config-vmt-conn) # show vmtracker info detail

Interface	Host	VMNIC	VM	State	PortGroup	VLAN-Range
Ethernet1/3/1	20.2.2.2	vmnic4	No-OS1	on	PGroup100	100
Ethernet1/3/1	20.2.2.2	vmnic4	No-OS1	on	PGroup103	103

```
switch(config-vmt-conn)# show running-config interface ethernet 1/3/1
!Command: show running-config interface Ethernet1/3/1
!Time: Mon Mar 10 09:11:06 2014
version 6.0(2)U3(1)
interface Ethernet1/3/1
switchport mode trunk
switchport mode trunk
switchport trunk allowed vlan 1,100,103
```

This example shows how verify VM Tracker event-history information:

switch(config-vmt-conn)# show vmtracker event-history Event History (Connection:test NumEv:6 IP:20.1.1.1) EventId Event Msg 77870 Reconfigured No-OS1 on 20.2.2.2 in N3K-VM 77867 No-OS1 on 20.2.2.2 in N3K-VM is powered on 77863 Reconfigured No-OS1 on 20.2.2.2 in N3K-VM 77858 No-OS1 on 20.2.2.2 in N3K-VM is powered off

This example shows how to display all internal information about VM Tracker:

switch(config)# show system internal vmtracker info all VM-Interface Mapping (Device:FOC1727R115)

Interface	Host	VMNIC	VM	State	PortGroup	VLAN-Range
Ethernet1/3/1	20.2.2.2	vmnic4	No-OS1	on	PGroup100	100

------Host VM Info (Conn:dc1 IP:20.1.1.1) VM Host State PortGroup \_\_\_\_\_ 20.2.2.2 No-OS1 on PGroup100 20.2.2.2 VM-L--2 VM Network on 20.2.2.2 VM-PROD VM Network on \_\_\_\_\_ Host CDP Info (Conn:dc1 IP:20.1.1.1) Host Switch Port VMNIC Status \_\_\_\_\_ \_\_\_\_\_ 20.2.2.2 FOC1727R115 Ethernet1/3/1 vmnic4 connected \_\_\_\_\_ Host vSwitch Port Group Info (Conn:dc1 IP:20.1.1.1) \_\_\_\_\_ Host vSwitch PortGroup \_\_\_\_\_ \_\_\_\_\_ 20.2.2.2 vSwitch0 Management Network 20.2.2.2 VM Network vSwitch0 20.2.2.2 vSwitch1 PGroup100 20.2.2.2 vSwitch1 PGroup101 20.2.2.2 vSwitchl PGroup102 20.2.2.2 PGroup103 vSwitch1 20.2.2.2 vSwitch1 PGroup11 20.2.2.2 vSwitch1 PGroup200 20.2.2.2 vSwitch1 PGroup201 20.2.2.2 PGroup202 vSwitch1 20.2.2.2 vSwitch1 PGroup22 20.2.2.2 PGroup301 vSwitch1 20.2.2.2 vSwitch1 PGroup302 20.2.2.2 vSwitch1 PGroup33 20.2.2.2 vSwitch1 PGroup44 Host vSwitch VMNIC Info (Conn:dc1 IP:20.1.1.1) vSwitch VMNIC Host \_\_\_\_\_ 20.2.2.2 vSwitch0 vmnic5 20.2.2.2 vSwitch1 vmnic4 \_\_\_\_\_ Host DVS Switch Port Group Info (Conn:dc1 IP:20.1.1.1) \_\_\_\_\_ DVS-Name PortGroup Host Vlan-Range \_\_\_\_\_ \_\_\_\_\_ 20.2.2.2dvSwitchNEWdvPortGroup20.2.2.2dvSwitchNEWdvPortGroup dvPortGroup2 1000-1300 dvSwitchNEW dvSwitchNEW-DVUplinks-1329 0-4094 20.2.2.2 \_\_\_\_\_ Host DVS Switch VMNIC Info (Conn:dc1 IP:20.1.1.1) \_\_\_\_\_ \_\_\_\_\_ ------VMNTC Host DVS-Name \_\_\_\_\_ 20.2.2.2 dvSwitchNEW \_\_\_\_\_ Host Port Group Info (Conn:dc1 IP:20.1.1.1) \_\_\_\_\_ Host PortGroup VLAN \_\_\_\_\_ 20.2.2.2 0 Management Network 100 20.2.2.2 PGroup100 20.2.2.2 PGroup101 101 20.2.2.2 PGroup102 1021 20.2.2.2 PGroup103 113 20.2.2.2 PGroup11 11 20.2.2.2 PGroup123456789123456789 1112 20.2.2.2 PGroup200 200

20.2.2.2	PGroup201				201
20.2.2.2	PGroup202				202
20.2.2.2	PGroup22				22
20.2.2.2	PGIOUPSOI PGroup302				302
20.2.2.2	PGroup33				33
20.2.2.2	PGroup44				44
20.2.2.2	VM Network				0
Distributed Switch In	nio (Conn:dcl IP:20.	· ⊥ • ⊥ • ⊥ )			
DVS Name	PortGroup		VLAN Ran	ае	
dvSwitch	dvPortGroup				
dvSwitch	dvSwitch-DVUplinks-	-911	0-4094		
dvSwitch2	dvPortGroup	1000	0 4004		
dvSwitch2	dvSwitch2-DVUplinks	5-1099	0-4094		
dvSwitchNEW	dvPortGroup?		1000-130	0	
dvSwitchNEW	dvSwitchNEW-DVUplin	uks-132	0-4094	0	
	arenizeennen bropien		0 1001		
Event History (Conn:	dc1 NumEv:1 IP:20.1.	1.1)			
EventId Time		Event I	Msg		
107990 Mar 27 20	14 14•56•24•798698	Reconf	igured No	-051 or	20 2 2 2
10,990 Hat 2, 20.	1 11.00.21.,00000	in N3K-	-VM	001 01	20.2.2.2
Time Info (Conn:dc1 )	IP:20.1.1.1)				
					(ma)
туре				TIMe	(IIIS)
Total Fetching Time	for All Host			• 7122	
Total Fetching Time :	for All DVS			: 2500	
Max Time to Sync Full	l Host Info			: 0	
Max Time to Check und	connected Host Info			: 0	
Max Time to Sync Host	t Info			: 0	
Max Time to get one I	Host info			: 1031	
Max Time to get one	Virtual Machine inic	)		: 1011	
Max Time to get VM p	ort group Info			• 52	
Max Time to get task	info			. 02	
Max Time to process :	recv event			: 56	
Max Time to get dvs :	info			: 48	
Max Time to get dvs p	port group info			: 52	
Countrate Info (Conner					
Counters Info (Conn:	dci iP:20.1.1.1)				
Type				Count	er
Property Retrieval Fa	ail			: 0	
Wait for Update Fail				: 0	
Wait for Update Time	out			: 11	
Create Task Collecto:	r Fail			: 0	
Create Event Collecto	Dr rall Fail			: U • 0	
CDP Info Retrieval F	ail			: 5	
Connect to vCenter Fa	ail			: 0	
SOAP Memory Alloc Fa	il			: 0	
Num Datacenter Prope:	rty Retrieval			: 22	
Num Connection Verif:	ication			: 4	
Num Host Property Ret	trieval			: 12	
Num CDP Info Potriour	leval			: 4 • 1 2	
Num Task Info Petrica	ai Wal			• ⊥∠ • ∩	
Num DVS Info Retrieva	al			: 3	
Num DVS PG Info Retr	ieval			: 7	
Num Switch Info Retra	ieval			: 0	

Num of VI Num of VI	AN Creation Time		0
Num of VI		:	0
	AN Removal Time	:	0
Wait for	Update Success	:	3
Num Recv	Event VmPoweredOnEvent	:	0
Num Recv	Event VmPoweredOffEvent	:	0
Num Recv	Event VmBeingHotMigratedEvent		0
Num Recv	Event VmMigratedEvent		0
Num Recv	Event VmFailedMigrateEvent	:	0
Num Recty	Event VmPeconfiguredEvent	:	1
Num Pogu	Event VmCrostodEvent	:	1 0
Num Dogu	Event VmCleadevent	:	0
Nulli Recv		·	0
Num Recv	Event vmRenamedEvent	:	0
Num Recv	Event VmRemovedEvent	:	0
Num Recv	Event VmSuspendedEvent	:	0
Num Recv	Event VmRelocatedEvent	:	0
Num Recv	Event TaskEvent	:	1
Num Recv	Event EventEx	:	0
Num Recv	Event HostConnectionLostEvent	:	0
Num Recv	Event HostDisconnectedEvent	:	0
Num Recv	Event HostConnectedEvent	:	0
Num Recv	Event HostShutdownEvent		0
Num Recti	Event HostPerovedEvent	:	0
Num Pogu	Event HestInChangedEvent	:	0
Num Door	Event DVDertgroupCreatedEvent	:	0
Num D	Event DVPortgrouptreateatevent	:	0
Num Recv	Event DVPortgroupReconfiguredEvent	:	0
Num Recv	Event DVPortgroupDestroyedEvent	:	0
Num Recv	Event DVPortgroupRenamedEvent	:	0
Num Recv	Event DvsCreatedEvent	:	0
Num Recv	Event DvsDestroyedEvent	:	0
Num Recv	Event DvsRenamedEvent	:	0
Num Recv	Event DvsReconfiguredEvent	:	0
Num Recv	Event DvsMergedEvent	:	0
	Task UpdateNetworkConfig	÷	0
Num Recv		•	0
Num Recv	Task UndatePortGroup		0
Num Recv Num Recv	Task UpdatePortGroup	:	0
Num Recv Num Recv Num Recv	Task UpdatePortGroup Task RemovePortGroup	:	0
Num Recv Num Recv Num Recv Num Recv	Task UpdatePortGroup Task RemovePortGroup Task UpdateVirtualSwitch	::	0 0 0
Num Recv Num Recv Num Recv Num Recv	Task UpdatePortGroup Task RemovePortGroup Task UpdateVirtualSwitch	:	0 0 0
Num Recv Num Recv Num Recv Global Co	Task UpdatePortGroup Task RemovePortGroup Task UpdateVirtualSwitch	:	0 0 0
Num Recv Num Recv Num Recv Slobal Cc	Task UpdatePortGroup Task RemovePortGroup Task UpdateVirtualSwitch	::	
Num Recv Num Recv Num Recv Slobal Cc Type	Task UpdatePortGroup Task RemovePortGroup Task UpdateVirtualSwitch	:	0 0 0  Counter
Num Recv Num Recv Num Recv Num Recv Global Cc Type	Task UpdatePortGroup Task RemovePortGroup Task UpdateVirtualSwitch	:	0 0 0 Counter
Num Recv Num Recv Num Recv Global Cc Type Num Elem	Task UpdatePortGroup Task RemovePortGroup Task UpdateVirtualSwitch 	:	0 0 0 Counter 3
Num Recv Num Recv Num Recv Global Cc Type Num Elem Num Elem	Task UpdatePortGroup Task RemovePortGroup Task UpdateVirtualSwitch 	:	0 0 0 Counter 3 1
Num Recv Num Recv Num Recv Global Cc Type Num Elem Num Elem Num Elem	Task UpdatePortGroup Task RemovePortGroup Task UpdateVirtualSwitch 	: : :  : : :	0 0 0 Counter 3 1 12
Num Recv Num Recv Num Recv Num Recv Global Co Type Num Elem Num Elem Num Elem Num Elem	Task UpdatePortGroup Task RemovePortGroup Task UpdateVirtualSwitch 	: : : : : : : : : : : :	0 0 0 Counter 3 1 12 1
Num Recv Num Recv Num Recv Global Co Type Num Elem Num Elem Num Elem Num Elem	Task UpdatePortGroup Task RemovePortGroup Task UpdateVirtualSwitch 	: : : : : : : : : : : : : : : : : : :	0 0 0 Counter 3 1 12 1 3
Num Recv Num Recv Num Recv Global Cc Type Num Elem Num Elem Num Elem Num Elem Num Elem	Task UpdatePortGroup Task RemovePortGroup Task UpdateVirtualSwitch 		0 0 0 Counter 3 1 12 1 3 3
Num Recv Num Recv Num Recv Global Cc Type Num Elem Num Elem Num Elem Num Elem Num Elem Num Elem	Task UpdatePortGroup Task UpdateVirtualSwitch Dunters Info VMTrackerElemRoot VMTrackerElemHost VMTrackerElemHostCDP VMTrackerElemHostVMPortGroup VMTrackerElemHostVMPortGroup VMTrackerElemHostVMPortGroup		0 0 0 Counter 3 1 12 1 3 3 2
Num Recv Num Recv Num Recv Global Co Type Num Elem Num Elem Num Elem Num Elem Num Elem Num Elem Num Elem	Task UpdatePortGroup Task RemovePortGroup Task UpdateVirtualSwitch 		0 0 0 Counter 3 1 12 1 3 3 2 2
Num Recv Num Recv Num Recv Global Co Type Num Elem Num Elem Num Elem Num Elem Num Elem Num Elem Num Elem Num Elem	Task UpdatePortGroup Task RemovePortGroup Task UpdateVirtualSwitch 		0 0 0 Counter 3 1 12 1 3 3 2 2 2
Num Recv Num Recv Num Recv Global Co Type Num Elem Num Elem Num Elem Num Elem Num Elem Num Elem Num Elem Num Elem Num Elem Num Elem	Task UpdatePortGroup Task RemovePortGroup Task RemovePortGroup Task UpdateVirtualSwitch 		0 0 0 Counter 3 1 12 1 3 3 2 2 2 16
Num Recv Num Recv Num Recv Global Co Type Num Elem Num Elem	Task UpdatePortGroup Task RemovePortGroup Task UpdateVirtualSwitch Dunters Info VMTrackerElemRoot VMTrackerElemHost VMTrackerElemHostCDP VMTrackerElemHostVM VMTrackerElemHostVMPortGroup VMTrackerElemHostvSwitch VMTrackerElemHostvSwitchVMNIC VMTrackerElemHostvSwitchPortGroup VMTrackerElemHostvSwitchPortGroup VMTrackerElemHostvSwitchPortGroup VMTrackerElemHostvSwitchPortGroup		0 0 0 Counter 3 1 12 1 3 3 2 2 16 16 16
Num Recv Num Recv Num Recv Num Recv Global Co Type Num Elem Num Elem	Task UpdatePortGroup Task RemovePortGroup Task UpdateVirtualSwitch 		0 0 0 Counter 3 1 12 1 3 3 2 2 16 16 1 6 1
Num Recv Num Recv Num Recv Global Co Type Num Elem Num Elem	Task UpdatePortGroup Task RemovePortGroup Task UpdateVirtualSwitch 		0 0 0 Counter 3 1 12 1 3 3 2 2 2 16 16 16 1 0
Num Recv Num Recv Num Recv Global Cc Type Num Elem Num Elem	Task UpdatePortGroup Task RemovePortGroup Task UpdateVirtualSwitch 		0 0 0 Counter 3 1 12 1 3 3 2 2 2 16 16 16 16 1 0 3
Num Recv Num Recv Num Recv Num Recv Global Cc Type Num Elem Num Elem	Task UpdatePortGroup Task RemovePortGroup Task UpdateVirtualSwitch Dunters Info VMTrackerElemRoot VMTrackerElemConn VMTrackerElemHost VMTrackerElemHostCDP VMTrackerElemHostVM VMTrackerElemHostVMPortGroup VMTrackerElemHostVSwitch VMTrackerElemHostVSwitch VMTrackerElemHostPortGroup VMTrackerElemHostDVSswitch VMTrackerElemHostDVSswitch VMTrackerElemHostDVSswitch VMTrackerElemHostDVSswitchVMNIC VMTrackerElemHostDVSswitch VMTrackerElemHostDVSswitchVMNIC VMTrackerElemHostDVSswitchVMNIC VMTrackerElemDVS VMTrackerElemDVS VMTrackerElemDVS VMTrackerElemDVSPortGroup		0 0 0 Counter 3 1 12 1 3 3 2 2 16 16 16 16 3 7
Num Recv Num Recv Num Recv Num Recv Global Co Type Num Elem Num Elem	Task UpdatePortGroup Task RemovePortGroup Task UpdateVirtualSwitch 		0 0 0 Counter 3 1 12 1 3 3 2 2 16 16 16 16 16 1 0 3 7 4
Num Recv Num Recv Num Recv Num Recv Global Co Type Num Elem Num Elem	Task UpdatePortGroup Task RemovePortGroup Task UpdateVirtualSwitch 		0 0 0 Counter 3 1 12 1 3 3 2 2 2 16 16 16 16 1 0 3 7 4 1
Num Recv Num Recv Num Recv Num Recv Global Co Type Num Elem Num Elem	Task UpdatePortGroup Task RemovePortGroup Task UpdateVirtualSwitch 		0 0 0 Counter 3 1 12 1 3 3 2 2 2 16 16 16 16 1 0 3 7 4 1 1
Num Recv Num Recv Num Recv Num Recv Global Cc Type Num Elem Num Elem	Task UpdatePortGroup Task RemovePortGroup Task UpdateVirtualSwitch Dunters Info VMTrackerElemRoot VMTrackerElemConn VMTrackerElemHost VMTrackerElemHostCDP VMTrackerElemHostVM VMTrackerElemHostVMPortGroup VMTrackerElemHostVSwitch VMTrackerElemHostvSwitchVMNIC VMTrackerElemHostDVSwitch VMTrackerElemHostDVSwitch VMTrackerElemHostDVSSwitch VMTrackerElemHostDVSSwitch VMTrackerElemDVS VMTrackerElemDVS VMTrackerElemDVSPortGroup VMTrackerElemDVSPortGroup VMTrackerElemDVSPortGroup VMTrackerElemDVSPortGroup VMTrackerElemDVSPortGroup VMTrackerElemDvSPortGroup VMTrackerElemDvSPortGroup VMTrackerElemDvSPortGroup VMTrackerElemDviceID VMTrackerElemDvicePort VMTrackerElemDvicePort		0 0 0 Counter 3 1 12 1 3 3 2 2 16 16 16 16 1 0 3 7 4 1 1 1
Num Recv Num Recv Num Recv Num Recv Global Co Type Num Elem Num Elem	Task UpdatePortGroup Task RemovePortGroup Task UpdateVirtualSwitch Dunters Info VMTrackerElemRoot VMTrackerElemHost VMTrackerElemHost VMTrackerElemHostVM VMTrackerElemHostVM VMTrackerElemHostVSwitch VMTrackerElemHostvSwitchVMNIC VMTrackerElemHostDVSwitchVMNIC VMTrackerElemHostDVSwitch VMTrackerElemHostDVSwitch VMTrackerElemHostDVSwitch VMTrackerElemHostDVSwitch VMTrackerElemHostDVSwitch VMTrackerElemHostDVSwitch VMTrackerElemHostDVSwitch VMTrackerElemDvS VMTrackerElemDVS VMTrackerElemDVS VMTrackerElemDVSportGroup VMTrackerElemDVSportGroup VMTrackerElemDvSportGroup VMTrackerElemDvSportGroup VMTrackerElemDvSportGroup VMTrackerElemDvSportGroup VMTrackerElemDvSportGroup VMTrackerElemDvscePort VMTrackerElemDvicePort VMTrackerElemDevicePortHost		0 0 0 Counter 3 1 12 1 3 3 2 2 16 16 16 16 16 16 1 0 3 7 4 1 1 1 1 1 1 1 1 1 1 1 1 1
Num Recv Num Recv Num Recv Num Recv Global Co Type Num Elem Num Elem	Task UpdatePortGroup Task RemovePortGroup Task UpdateVirtualSwitch Dunters Info VMTrackerElemRoot VMTrackerElemRoot VMTrackerElemHost VMTrackerElemHost VMTrackerElemHostCDP VMTrackerElemHostVM VMTrackerElemHostVSwitch VMTrackerElemHostvSwitch VMTrackerElemHostvSwitchVMNIC VMTrackerElemHostDVSwitch VMTrackerElemHostDVSswitch VMTrackerElemHostDVSswitch VMTrackerElemDvSPortGroup VMTrackerElemDVSPortGroup VMTrackerElemDVSPortGroup VMTrackerElemDVSPortGroup VMTrackerElemDVSPortGroup VMTrackerElemDvSPortGroup VMTrackerElemDvSPortGroup VMTrackerElemDvSPortGroup VMTrackerElemDvSPortGroup VMTrackerElemDvSPortGroup VMTrackerElemDvSPortGroup VMTrackerElemDvicePort VMTrackerElemDevicePort VMTrackerElemDevicePortVM VMTrackerElemDevicePortVM		0 0 0 Counter 3 1 12 1 3 3 2 2 2 16 16 16 16 1 0 3 7 4 1 1 1 1 1 1 1 1 1 1 1 1 1
Num Recv Num Recv Num Recv Num Recv Global Co Type Num Elem Num Elem	Task UpdatePortGroup Task RemovePortGroup Task UpdateVirtualSwitch 		0 0 0 Counter 3 1 12 1 3 3 2 2 2 16 16 16 16 16 16 1 0 3 7 4 1 1 1 1 1 1 1 1 1 1 1 1 1
Num Recv Num Recv Num Recv Num Recv Global Co Type Num Elem Num Elem	Task UpdatePortGroup Task RemovePortGroup Task UpdateVirtualSwitch Dunters Info VMTrackerElemRoot VMTrackerElemConn VMTrackerElemHost VMTrackerElemHostCDP VMTrackerElemHostCDP VMTrackerElemHostVMPortGroup VMTrackerElemHostVSwitch VMTrackerElemHostvSwitchVMNIC VMTrackerElemHostDVSwitch VMTrackerElemHostDVSwitch VMTrackerElemHostDVSwitch VMTrackerElemHostDVSwitch VMTrackerElemHostDVSwitch VMTrackerElemDvS VMTrackerElemDvS VMTrackerElemDvS VMTrackerElemDVS VMTrackerElemDvSportGroup VMTrackerElemDvSportGroup VMTrackerElemDvSportGroup VMTrackerElemDvSevTHost VMTrackerElemDvicePort VMTrackerElemDevicePortVM VMTrackerElemDevicePortVM VMTrackerElemDevicePortVMPortGroupVlanRange		0 0 0 Counter 3 1 12 1 3 3 2 2 2 16 16 16 16 1 0 3 7 4 1 1 1 1 1 1 1 1 1 1 1 1 1
Num Recv Num Recv Num Recv Num Recv Global Co Type Num Elem Num Elem	Task UpdatePortGroup Task RemovePortGroup Task UpdateVirtualSwitch Dunters Info VMTrackerElemRoot VMTrackerElemHost VMTrackerElemHost VMTrackerElemHost VMTrackerElemHostVM VMTrackerElemHostVM VMTrackerElemHostVSwitch VMTrackerElemHostvSwitch VMTrackerElemHostPortGroup VMTrackerElemHostDVSswitch VMTrackerElemHostDVSswitch VMTrackerElemHostDVSswitch VMTrackerElemHostDVSswitch VMTrackerElemHostDVSswitch VMTrackerElemHostDVSswitch VMTrackerElemHostDVSswitch VMTrackerElemDvS VMTrackerElemDvSportGroup VMTrackerElemDvSportGroup VMTrackerElemDvSportGroup VMTrackerElemDvSportGroup VMTrackerElemDvSportGroup VMTrackerElemDvSportGroup VMTrackerElemDvicePort VMTrackerElemDevicePortVM VMTrackerElemDevicePortVM VMTrackerElemDevicePortVM VMTrackerElemDevicePortVMPortGroup VMTrackerElemDevicePortVMPortGroup VMTrackerElemDevicePortVMPortGroup VMTrackerElemDevicePortVMPortGroup VMTrackerElemDevicePortVMPortGroup VMTrackerElemDevicePortVMPortGroup VMTrackerElemSwitchDeviceID		0 0 0 Counter 3 1 12 1 3 3 2 2 16 16 16 16 16 1 0 3 7 4 1 1 1 1 1 2 2
Num Recv Num Recv Num Recv Num Recv Global Co Type Num Elem Num Elem	Task UpdatePortGroup Task RemovePortGroup Task UpdateVirtualSwitch 		0 0 0 Counter 3 1 12 1 3 3 2 2 2 16 16 16 16 16 1 0 3 7 4 1 1 1 1 1 2 73
Num Recv Num Recv Num Recv Num Recv Control Recv Global Co Type Num Elem Num Elem	Task UpdatePortGroup Task RemovePortGroup Task UpdateVirtualSwitch 		0 0 0 Counter 3 1 12 1 3 3 2 2 2 16 16 16 16 16 1 0 3 7 4 1 1 1 1 1 2 7 3 1 1 1 1 1 1 1 1 1 1 1 1 1
Num Recv Num Recv Num Recv Num Recv Global Co Type Num Elem Num Elem	Task UpdatePortGroup Task RemovePortGroup Task UpdateVirtualSwitch Dunters Info VMTrackerElemRoot VMTrackerElemConn VMTrackerElemHost VMTrackerElemHost VMTrackerElemHostCDP VMTrackerElemHostVM VMTrackerElemHostVSwitch VMTrackerElemHostvSwitchVMNIC VMTrackerElemHostvSwitchPortGroup VMTrackerElemHostDVSSwitch VMTrackerElemHostDVSSwitch VMTrackerElemHostDVSSwitch VMTrackerElemDvS VMTrackerElemDvS VMTrackerElemDvS VMTrackerElemDvS VMTrackerElemDvS VMTrackerElemDvS VMTrackerElemDvS VMTrackerElemDvS VMTrackerElemDvS VMTrackerElemDvSertGroup VMTrackerElemDvSertGroup VMTrackerElemDvicePort VMTrackerElemDvicePort VMTrackerElemDevicePortVM VMTrackerElemDevicePortVM VMTrackerElemDevicePortVM VMTrackerElemDevicePortVM VMTrackerElemDevicePortVM VMTrackerElemSwitchDeviceID VMTrackerElemSwitchDeviceIntf VMTrackerElemSwitchDeviceIntf VMTrackerElemIfRunTimeRoot VMTrackerElemIfEunTimeRoot		0 0 0 Counter 3 1 12 1 3 3 2 2 2 16 16 16 16 1 0 3 7 4 1 1 1 1 1 1 1 1 1 1 1 1 1
Num Recv Num Recv Num Recv Num Recv Num Recv Global Co Type Num Elem Num Elem	Task UpdatePortGroup Task RemovePortGroup Task UpdateVirtualSwitch 		0 0 0 0 Counter 3 1 12 1 3 3 2 2 16 16 16 16 16 1 0 3 7 4 1 1 1 1 1 1 1 1 1 1 1 1 1

Host Name					
20.1.1.2 20.1.1.3 20.1.1.4 20.1.1.5 20.1.1.6 20.1.1.7 20.1.1.8 20.1.1.9 20.1.1.10 20.1.1.11 20.1.1.11					
Dev-Id	Intf	IfIndex	Member of PO	NativeVlan	VMT Enable
FOC1727R115 FOC1727R115 FOC1727R115 FOC1727R115 FOC1727R115 FOC1727R115 FOC1727R115 FOC1727R115 FOC1727R115 FOC1727R115 FOC1727R115 FOC1727R115	Ethernet1/1/1 Ethernet1/1/2 Ethernet1/1/3 Ethernet1/3/1 Ethernet1/3/2 Ethernet1/3/4 Ethernet1/4/1 Ethernet1/4/2 Ethernet1/4/3 Ethernet1/4/4	1a000000 1a001000 1a002000 1a008000 1a009000 1a00b000 1a00b000 1a00c000 1a00c000 1a00c000 1a00c000 1a00c000	port-channel300 port-channel20 port-channel300	1 1 1 200 1 1 1 1 1 1 1 1	1 1 1 1 1 1 1 1 1 1 1 1 1

This example shows how to disconnect from vCenter:

```
switch(config) # vmtracker connection test
switch(config-vmt-conn)# no connect
switch(config-vmt-conn)# show vmtracker status
              Host/IP
Connection
                                         status
_____
test
              20.1.1.1
                                         No Connect
switch(config-vmt-conn)# sh running-config interface ethernet 1/3/1
!Command: show running-config interface Ethernet1/3/1
!Time: Mon Mar 10 09:15:43 2014
version 6.0(2)U3(1)
interface Ethernet1/3/1
switchport mode trunk
switchport trunk allowed vlan 1
switch(config-vmt-conn) # show vmtracker info detail
_____
                      VMNIC VM State PortGroup VLAN-Range
Interface Host
_____
```

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