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

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Preface

This preface includes the following sections:

Audience

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	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

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New and Changed Information

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New and Changed Information

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

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

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.

Note 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)# **[no] feature vmtracker**	Enables the VM Tracker feature on all interfaces. The **no** 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	switch(config)# **[no] vmtracker connection** *connection-name*	Enters VM Tracker connection configuration mode for the connection name specified. The **no** form of the command disables the connection.
Step 3	switch(config-vmt-conn)# **[no] remote** {**ip address** *ip_address* | **port** *port_number* | **vrf**}	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	switch(config-vmt-conn)# **[no] connect**	Connects to vCenter.

	Command or Action	Purpose
		The **no** 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 **no** 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 **no** 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                        Type   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 Loopguard               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# show system internal vmtracker info vpc-sync-config
----------------------------------------------------------------------
Conn Name       Conn IP        Conn Port      Allowed Vlan-Range
----------------------------------------------------------------------
conn1           10.193.174.215 80             1-4094
switch#
```

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.
show vmtracker [**connection** *conn_name*] {{**info** [**interface** *intf_id*]{**summary**	**detail**	**host**	**vm**	**port-group**}}	**event-history**}	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**]	Displays the configuration information of VM Tracker based on the following: • All configuration information. • Counter information. • DVS information. • Event history information. • Host CDP information. • Host DVS portgroup information. • Host DVS Switch information. • Host LLDP information. • Host portgroup information. • Host which are not connected. • Host Virtual Machine information. • Host vSwitch information. • Switch information. • Switch device IDs. • Information related to the duration of various events. • vPC related connection information.

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	switch(config)# **interface** *type slot/port*	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 **no** 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	switch(config)# **vmtracker connection** *connection-name*	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 **no** 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	switch(config)# **vmtracker connection** *connection-name*	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 Mapping (Device:50:87:89:a1:f0:de)
--------------------------------------------------------------------------------
Interface       Host            VMNIC   VM           State PortGroup  VLAN-Range
--------------------------------------------------------------------------------
port-channel2   10.193.174.213  vmnic7  Site-1-Hos on     dvPortGrou 1-100
port-channel2   10.193.174.213  vmnic7  Site-1-Hos on     dvPortGrou 1-100
VM-Interface Mapping (Device:50:87:89:a1:f0:df)
--------------------------------------------------------------------------------
Interface       Host            VMNIC   VM           State PortGroup  VLAN-Range
--------------------------------------------------------------------------------
port-channel3   10.193.174.214  vmnic7  Site-1-Hos on     dvPortGrou 1-100
port-channel3   10.193.174.214  vmnic7  Site-1-Hos on     dvPortGrou 1-100
VM-Interface Mapping (Device:50:87:89:a1:f0:e1)
--------------------------------------------------------------------------------
Interface       Host            VMNIC   VM           State PortGroup  VLAN-Range
--------------------------------------------------------------------------------


--------------------------------------------------------------------------------
Host VM Info (Conn:conn1 IP:10.193.174.215)
--------------------------------------------------------------------------------
Host            VM                          State      PortGroup
--------------------------------------------------------------------------------
10.193.174.213  Site-1-Host-1-VM-1-Ubuntu on          VM Network
10.193.174.213  Site-1-Host-1-VM-1-Ubuntu on          dvPortGroup
10.193.174.213  Site-1-Host-1-VM-10-Ubunt on          VM Network
10.193.174.213  Site-1-Host-1-VM-2-Ubuntu on          VM Network
10.193.174.213  Site-1-Host-1-VM-2-Ubuntu on          dvPortGroup
10.193.174.213  Site-1-Host-1-VM-3-Ubuntu on          VM Network
10.193.174.213  Site-1-Host-1-VM-4-Ubuntu on          VM Network
10.193.174.213  Site-1-Host-1-VM-5-Ubuntu on          VM Network
10.193.174.213  Site-1-Host-1-VM-6-Ubuntu on          VM Network
10.193.174.213  Site-1-Host-1-VM-7-Ubuntu on          VM Network
10.193.174.213  Site-1-Host-1-VM-8-Ubuntu on          VM Network
10.193.174.213  Site-1-Host-1-VM-9-Ubuntu on          VM Network
10.193.174.213  Site-1-vCenter-Server     on          VM Network
10.193.174.214  Site-1-Host-2-VM-1-Ubuntu on          VM Network
10.193.174.214  Site-1-Host-2-VM-1-Ubuntu on          dvPortGroup
10.193.174.214  Site-1-Host-2-VM-2-Ubuntu on          VM Network
10.193.174.214  Site-1-Host-2-VM-2-Ubuntu on          dvPortGroup
10.193.174.214  Site-1-Host-2-VM-3-Ubuntu on          VM Network
10.193.174.214  Site-1-Host-2-VM-4-Ubuntu on          VM Network
10.193.174.214  Site-1-Host-2-VM-5-Ubuntu on          VM Network
10.193.174.214  Site-1-Host-2-VM-6-Ubuntu on          VM Network
10.193.174.214  Site-1-Host-2-VM-7-Ubuntu on          VM Network
10.193.174.214  Site-1-Host-2-VM-8-Ubuntu on          VM Network


--------------------------------------------------------------------------------
Host CDP Info (Conn:conn1 IP:10.193.174.215)
--------------------------------------------------------------------------------
Host            Switch              Port              VMNIC    Status
--------------------------------------------------------------------------------


--------------------------------------------------------------------------------
Host LLDP Info (Conn:conn1 IP:10.193.174.215)
--------------------------------------------------------------------------------
Host            Switch              Port              VMNIC    Status
--------------------------------------------------------------------------------
10.193.174.213  50:87:89:a1:f0:df   Ethernet1/2       vmnic5   connected
10.193.174.213  50:87:89:a1:f0:de   Ethernet1/1       vmnic7   connected
10.193.174.214  50:87:89:a1:f0:e1   Ethernet1/4       vmnic5   connected
10.193.174.214  50:87:89:a1:f0:e0   Ethernet1/3       vmnic7   connected


--------------------------------------------------------------------------------
Host vSwitch Port Group Info (Conn:conn1 IP:10.193.174.215)
--------------------------------------------------------------------------------
Host              vSwitch            PortGroup
--------------------------------------------------------------------------------
10.193.174.213    vSwitch0           Management Network
10.193.174.213    vSwitch0           VM Network
10.193.174.214    vSwitch0           Management Network
10.193.174.214    vSwitch0           VM Network
```

```
--------------------------------------------------------------------------------
Host vSwitch VMNIC Info (Conn:conn1 IP:10.193.174.215)
--------------------------------------------------------------------------------
Host                vSwitch            VMNIC
--------------------------------------------------------------------------------
10.193.174.213      vSwitch0           vmnic6
10.193.174.214      vSwitch0           vmnic6


--------------------------------------------------------------------------------
Host DVS Switch Port Group Info (Conn:conn1 IP:10.193.174.215)
--------------------------------------------------------------------------------
Host            DVS-Name            PortGroup                   Vlan-Range
--------------------------------------------------------------------------------
10.193.174.213  dvSwitch-1-Site-1   dvPortGroup                 1-100
10.193.174.213  dvSwitch-1-Site-1   dvSwitch-1-Site--DVUplinks-464 1-100
10.193.174.214  dvSwitch-1-Site-1   dvPortGroup                 1-100
10.193.174.214  dvSwitch-1-Site-1   dvSwitch-1-Site--DVUplinks-464 1-100


--------------------------------------------------------------------------------
Host DVS Switch VMNIC Info (Conn:conn1 IP:10.193.174.215)
--------------------------------------------------------------------------------
Host                DVS-Name            VMNIC
--------------------------------------------------------------------------------
10.193.174.213      dvSwitch-1-Site-1   vmnic3
10.193.174.213      dvSwitch-1-Site-1   vmnic4
10.193.174.213      dvSwitch-1-Site-1   vmnic5
10.193.174.213      dvSwitch-1-Site-1   vmnic7
10.193.174.214      dvSwitch-1-Site-1   vmnic3
10.193.174.214      dvSwitch-1-Site-1   vmnic4
10.193.174.214      dvSwitch-1-Site-1   vmnic5
10.193.174.214      dvSwitch-1-Site-1   vmnic7


--------------------------------------------------------------------------------
Host Port Group Info (Conn:conn1 IP:10.193.174.215)
--------------------------------------------------------------------------------
Host                    PortGroup                   VLAN
--------------------------------------------------------------------------------
10.193.174.213          Management Network          0
10.193.174.213          VM Network                  0
10.193.174.214          Management Network          0
10.193.174.214          VM Network                  0


--------------------------------------------------------------------------------
Distributed Switch Info (Conn:conn1 IP:10.193.174.215)
--------------------------------------------------------------------------------
DVS Name            PortGroup               VLAN Range
--------------------------------------------------------------------------------
dvSwitch-1-Site-1   dvPortGroup             1-100
dvSwitch-1-Site-1   dvSwitch-1-Site--DVUplink 1-100
dvSwitch2           dvPortGroup             12-12
dvSwitch2           dvSwitch2-DVUplinks-221 0-4094


--------------------------------------------------------------------------------
Event History (Conn:conn1 NumEv:6 IP:10.193.174.215)
--------------------------------------------------------------------------------
EventId   Time                        Event Msg
--------------------------------------------------------------------------------
19631     Sep 02 2014 11:34:53:799161 Network connectivity restored on DVPor
                                      ts: "2/00 d1 2c 50 0c d6 4c f6-48 6e 3
                                      c 4b b0 13 83 bf". Physical NIC vmnic5
                                       is up.
19630     Sep 02 2014 11:34:52:890965 Physical NIC vmnic5 linkstate is up.
19624     Sep 02 2014 11:31:17:453523 Network connectivity restored on DVPor
                                      ts: "2/00 d1 2c 50 0c d6 4c f6-48 6e 3
                                      c 4b b0 13 83 bf". Physical NIC vmnic5
                                       is up.
19618     Sep 02 2014 01:44:08:66653  Network connectivity restored on DVPor
                                      ts: "2/00 d1 2c 50 0c d6 4c f6-48 6e 3
                                      c 4b b0 13 83 bf". Physical NIC vmnic5
                                       is up.
19612     Sep 02 2014 01:32:04:930919 Network connectivity restored on DVPor
                                      ts: "2/00 d1 2c 50 0c d6 4c f6-48 6e 3
                                      c 4b b0 13 83 bf". Physical NIC vmnic5
```

```
                                                    is up.
19611       Sep 02 2014 01:32:04:930862  Physical NIC vmnic5 linkstate is up.


    --------------------------------------------------------------------------------
    Time Info (Conn:conn1 IP:10.193.174.215)
    --------------------------------------------------------------------------------
    Type                                              Time (ms)
    --------------------------------------------------------------------------------
    Total Fetching Time for All Host                : 660
    Total Fetching Time for All DVS                 : 112
    Max Time to Sync Full Host Info                 : 57882
    Max Time to Sync vShield Info                   : 0
    Max Time to Check unconnected Host Info         : 3091
    Max Time to Sync Host Info                      : 15162
    Max Time to get one Host info                   : 3152
    Max Time to get one Virtual Machine info        : 3080
    Max Time to get one CDP info                    : 3102
    Max Time to get VM port group Info              : 3580
    Max Time to get task info                       : 0
    Max Time to process recv event                  : 0
    Max Time to get dvs info                        : 3021
    Max Time to get dvs port group info             : 3043


    --------------------------------------------------------------------------------
    Counters Info (Conn:conn1 IP:10.193.174.215)
    --------------------------------------------------------------------------------
    Type                                              Counter
    --------------------------------------------------------------------------------
    Property Retrieval Fail                         : 0
    Wait for Update Fail                            : 0
    Wait for Update Timeout                         : 7157
    Create Task Collector Fail                      : 0
    Create Event Collector Fail                     : 0
    Create Event Filter Fail                        : 0
    CDP Info Retrieval Fail                         : 0
    Connect to vCenter Fail                         : 0
    SOAP Memory Alloc Fail                          : 0
    Num Datacenter Property Retrieval               : 88
    Num Connection Verification                     : 2227
    Num Host Property Retrieval                     : 1311
    Num VM Property Retrieval                       : 11267
    Num CDP/LLDP Info Retrieval                     : 1248
    Num Task Info Retrieval                         : 0
    Num DVS Info Retrieval                          : 1228
    Num DVS PG Info Retrieval                       : 2456
    Num Switch Info Retrieval                       : 0
    Num Interface Configuration Time                : 0
    Num of VLAN Creation Time                       : 0
    Num of VLAN Removal Time                        : 0
    Wait for Update Success                         : 10
    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 Recv Event VmReconfiguredEvent              : 0
    Num Recv Event VmCreatedEvent                   : 0
    Num Recv Event VmClonedEvent                    : 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                        : 0
    Num Recv Event EventEx                          : 10
    Num Recv Event HostConnectionLostEvent          : 0
    Num Recv Event HostDisconnectedEvent            : 0
    Num Recv Event HostConnectedEvent               : 0
    Num Recv Event HostShutdownEvent                : 0
    Num Recv Event HostRemovedEvent                 : 0
    Num Recv Event HostIpChangedEvent               : 0
    Num Recv Event DVPortgroupCreatedEvent          : 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
Num Recv Task UpdateNetworkConfig                         : 0
Num Recv Task UpdatePortGroup                             : 0
Num Recv Task RemovePortGroup                             : 0
Num Recv Task UpdateVirtualSwitch                         : 0


--------------------------------------------------------------------------------
Global Counters Info
--------------------------------------------------------------------------------
Type                                                      Counter
--------------------------------------------------------------------------------
Num Elem VMTrackerElemRoot                                : 3
Num Elem VMTrackerElemConn                                : 1
Num Elem VMTrackerCluster                                 : 0
Num Elem VMTrackerElemHost                                : 3
Num Elem VMTrackerElemHostCDP                             : 0
Num Elem VMTrackerElemHostLLDP                            : 4
Num Elem VMTrackerElemHostVM                              : 19
Num Elem VMTrackerElemHostVMPortGroup                     : 23
Num Elem VMTrackerElemHostvSwitch                         : 2
Num Elem VMTrackerElemHostvSwitchVMNIC                    : 2
Num Elem VMTrackerElemHostvSwitchPortGroup                : 4
Num Elem VMTrackerElemHostPortGroup                       : 4
Num Elem VMTrackerElemHostDVSSwitch                       : 2
Num Elem VMTrackerElemHostDVSSwitchVMNIC                  : 8
Num Elem VMTrackerVirtWire_Type                           : 0
Num Elem VMTrackerElemHostVirtWire                        : 0
Num Elem VMTrackerElemHostVirtualNic                      : 0
Num Elem VMTrackerElemDVS                                 : 2
Num Elem VMTrackerElemDVSPortGroup                        : 4
Num Elem VMTrackerElemDVSPortGroupVlanRange               : 4
Num Elem VMTrackerElemDeviceID                            : 4
Num Elem VMTrackerElemDevicePort                          : 4
Num Elem VMTrackerElemDevicePortHost                      : 4
Num Elem VMTrackerElemDevicePortVM                        : 8
Num Elem VMTrackerElemDevicePortVMPortGroup               : 8
Num Elem VMTrackerElemDevicePortVMPortGroupVlanRange      : 8
Num Elem VMTrackerElemSwitchDeviceID                      : 2
Num Elem VMTrackerElemSwitchDeviceIntf                    : 87
Num Elem VMTrackerElemIfRunTimeRoot                       : 1
Num Elem VMTrackerElemIfDeviceId                          : 4
Num Elem VMTrackerElemIfSwitchPort                        : 4


--------------------------------------------------------------------------------
Unconnected Host Info (Conn:conn1 IP:10.193.174.215)
--------------------------------------------------------------------------------
Host Name
--------------------------------------------------------------------------------
172.23.40.129


--------------------------------------------------------------------------------
Dev-Id          Intf          IfIndex    Member of PO    NativeVlan  VMT Enable bia-mac

--------------------------------------------------------------------------------
SAL1819SALX     Ethernet1/1   1a000000   port-channel2   1           1
50:87:89:a1:f0:de
SAL1819SALX     Ethernet1/10  1a001200                   1           1
50:87:89:a1:f0:e7
SAL1819SALX     Ethernet1/11  1a001400                   1           1
50:87:89:a1:f0:e8
SAL1819SALX     Ethernet1/12  1a001600                   1           1
50:87:89:a1:f0:e9
SAL1819SALX     Ethernet1/13  1a001800                   1           1
50:87:89:a1:f0:ea
SAL1819SALX     Ethernet1/14  1a001a00                   1           1
50:87:89:a1:f0:eb
SAL1819SALX     Ethernet1/15  1a001c00                   1           1
50:87:89:a1:f0:ec
```

```
SAL1819SALX     Ethernet1/16    1a001e00                    1         1
50:87:89:a1:f0:ed
SAL1819SALX     Ethernet1/17    1a002000                    1         1
50:87:89:a1:f0:ee
SAL1819SALX     Ethernet1/18    1a002200                    1         1
50:87:89:a1:f0:ef
SAL1819SALX     Ethernet1/19    1a002400                    1         1
50:87:89:a1:f0:f0
SAL1819SALX     Ethernet1/2     1a000200   port-channel2    1         1
50:87:89:a1:f0:df
SAL1819SALX     Ethernet1/20    1a002600                    1         1
50:87:89:a1:f0:f1
SAL1819SALX     Ethernet1/21    1a002800                    1         1
50:87:89:a1:f0:f2
SAL1819SALX     Ethernet1/22    1a002a00                    1         1
50:87:89:a1:f0:f3
SAL1819SALX     Ethernet1/23    1a002c00                    1         1
50:87:89:a1:f0:f4
SAL1819SALX     Ethernet1/24    1a002e00                    1         1
50:87:89:a1:f0:f5
SAL1819SALX     Ethernet1/25    1a003000                    1         1
50:87:89:a1:f0:f6
SAL1819SALX     Ethernet1/26    1a003200                    1         1
50:87:89:a1:f0:f7
SAL1819SALX     Ethernet1/27    1a003400                    1         1
50:87:89:a1:f0:f8
SAL1819SALX     Ethernet1/28    1a003600                    1         1
50:87:89:a1:f0:f9
SAL1819SALX     Ethernet1/29    1a003800                    1         1
50:87:89:a1:f0:fa
SAL1819SALX     Ethernet1/3     1a000400   port-channel3    1         1
50:87:89:a1:f0:e0
SAL1819SALX     Ethernet1/30    1a003a00                    1         1
50:87:89:a1:f0:fb
SAL1819SALX     Ethernet1/31    1a003c00                    1         1
50:87:89:a1:f0:fc
SAL1819SALX     Ethernet1/32    1a003e00                    1         1
50:87:89:a1:f0:fd
SAL1819SALX     Ethernet1/33    1a004000                    1         1
50:87:89:a1:f0:fe
SAL1819SALX     Ethernet1/34    1a004200                    1         1
50:87:89:a1:f0:ff
SAL1819SALX     Ethernet1/35    1a004400                    1         1
50:87:89:a1:f1:00
SAL1819SALX     Ethernet1/36    1a004600                    1         1
50:87:89:a1:f1:01
SAL1819SALX     Ethernet1/37    1a004800                    1         1
50:87:89:a1:f1:02
SAL1819SALX     Ethernet1/38    1a004a00                    1         1
50:87:89:a1:f1:03
SAL1819SALX     Ethernet1/39    1a004c00                    1         1
50:87:89:a1:f1:04
SAL1819SALX     Ethernet1/4     1a000600   port-channel3    1         1
50:87:89:a1:f0:e1
SAL1819SALX     Ethernet1/40    1a004e00                    1         1
50:87:89:a1:f1:05
SAL1819SALX     Ethernet1/41    1a005000                    1         1
50:87:89:a1:f1:06
SAL1819SALX     Ethernet1/42    1a005200                    1         1
50:87:89:a1:f1:07
SAL1819SALX     Ethernet1/43    1a005400                    1         1
50:87:89:a1:f1:08
SAL1819SALX     Ethernet1/44    1a005600                    1         1
50:87:89:a1:f1:09
SAL1819SALX     Ethernet1/45    1a005800                    1         1
50:87:89:a1:f1:0a
SAL1819SALX     Ethernet1/46    1a005a00                    1         1
50:87:89:a1:f1:0b
SAL1819SALX     Ethernet1/47    1a005c00                    1         1
50:87:89:a1:f1:0c
SAL1819SALX     Ethernet1/48    1a005e00                    1         1
50:87:89:a1:f1:0d
SAL1819SALX     Ethernet1/5     1a000800                    1         1
```

```
50:87:89:a1:f0:e2
SAL1819SALX     Ethernet1/6     1a000a00                        1        1
50:87:89:a1:f0:e3
SAL1819SALX     Ethernet1/7     1a000c00                        1        1
50:87:89:a1:f0:e4
SAL1819SALX     Ethernet1/8     1a000e00                        1        1
50:87:89:a1:f0:e5
SAL1819SALX     Ethernet1/9     1a001000                        1        1
50:87:89:a1:f0:e6
SAL1819SALX     Ethernet2/1     1a006000                        1        1
7c:69:f6:0f:eb:20
SAL1819SALX     Ethernet2/10    1a007200                        1        1
7c:69:f6:0f:eb:29
SAL1819SALX     Ethernet2/11    1a007400                        1        1
7c:69:f6:0f:eb:2a
SAL1819SALX     Ethernet2/12    1a007600                        1        1
7c:69:f6:0f: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
SAL1819SALX     Ethernet2/6     1a006a00   port-channel1  1        1
7c:69:f6:0f:eb:25
SAL1819SALX     Ethernet2/7     1a006c00                        1        1
7c:69:f6:0f:eb:26
SAL1819SALX     Ethernet2/8     1a006e00                        1        1
7c:69:f6:0f:eb:27
SAL1819SALX     Ethernet2/9     1a007000                        1        1
7c:69:f6:0f:eb:28
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
SAL1819SALX     Vlan7           9010007                         0        1
00:00:7c:3d:fe:09
SAL1819SALX     Vlan8           9010008                         0        1
00:00:7c:3d:fe:09
SAL1819SALX     ii1/1/1         4a000000                        0        1
00:00:00:00:00:00
SAL1819SALX     ii1/1/10        4a000009                        0        1
00:00:00:00:00:00
SAL1819SALX     ii1/1/11        4a00000a                        0        1
00:00:00:00:00:00
SAL1819SALX     ii1/1/12        4a00000b                        0        1
00:00:00:00:00:00
SAL1819SALX     ii1/1/2         4a000001                        0        1
00:00:00:00:00:00
SAL1819SALX     ii1/1/3         4a000002                        0        1
00:00:00:00:00:00
SAL1819SALX     ii1/1/4         4a000003                        0        1
00:00:00:00:00:00
SAL1819SALX     ii1/1/5         4a000004                        0        1
00:00:00:00:00:00
SAL1819SALX     ii1/1/6         4a000005                        0        1
00:00:00:00:00:00
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
```

```
SAL1819SALX     lc-eth0/1      6201000                  0          1
00:00:7c:3d:fe:09
SAL1819SALX     mgmt0          5000000                  0          1

SAL1819SALX     port-channel1  16000000                 1          1
00:00:00:00:00:00
SAL1819SALX     port-channel2  16000001                 1          1
00:00:00:00:00:00
SAL1819SALX     port-channel3  16000002                 1          1
00:00:00:00:00:00
SAL1819SALX     sup-eth0       15000000                 0          1
00:00:7c:3d:fe:09
SAL1819SALX     sup-eth1       15010000                 0          1
00:00:00:00:00:00


-------------------------------------------------------------------------------
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
```

Note   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 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)
--------------------------------------------------------------------------------
Host            VM                      State       PortGroup
--------------------------------------------------------------------------------
20.2.2.2        No-OS1                  on          PGroup100
20.2.2.2        VM-L--2                 on          VM Network
20.2.2.2        VM-PROD                 on          VM Network

--------------------------------------------------------------------------------
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        vSwitch0            VM Network
20.2.2.2        vSwitch1            PGroup100
20.2.2.2        vSwitch1            PGroup101
20.2.2.2        vSwitch1            PGroup102
20.2.2.2        vSwitch1            PGroup103
20.2.2.2        vSwitch1            PGroup11
20.2.2.2        vSwitch1            PGroup200
20.2.2.2        vSwitch1            PGroup201
20.2.2.2        vSwitch1            PGroup202
20.2.2.2        vSwitch1            PGroup22
20.2.2.2        vSwitch1            PGroup301
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)
--------------------------------------------------------------------------------
Host            vSwitch             VMNIC
--------------------------------------------------------------------------------
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)
--------------------------------------------------------------------------------
Host            DVS-Name            PortGroup                       Vlan-Range
--------------------------------------------------------------------------------
20.2.2.2        dvSwitchNEW         dvPortGroup
20.2.2.2        dvSwitchNEW         dvPortGroup2                    1000-1300
20.2.2.2        dvSwitchNEW         dvSwitchNEW-DVUplinks-1329      0-4094
--------------------------------------------------------------------------------
Host DVS Switch VMNIC Info (Conn:dc1 IP:20.1.1.1)
--------------------------------------------------------------------------------
Host            DVS-Name            VMNIC
--------------------------------------------------------------------------------
20.2.2.2        dvSwitchNEW

--------------------------------------------------------------------------------
Host Port Group Info (Conn:dc1 IP:20.1.1.1)
--------------------------------------------------------------------------------
Host                PortGroup                   VLAN
--------------------------------------------------------------------------------
20.2.2.2            Management Network          0
20.2.2.2            PGroup100                   100
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                    PGroup301                              3011
20.2.2.2                    PGroup302                              302
20.2.2.2                    PGroup33                               33
20.2.2.2                    PGroup44                               44
20.2.2.2                    VM Network                             0


----------------------------------------------------------------------------------
Distributed Switch Info (Conn:dc1 IP:20.1.1.1)
----------------------------------------------------------------------------------
DVS Name            PortGroup               VLAN Range
----------------------------------------------------------------------------------

dvSwitch            dvPortGroup
dvSwitch            dvSwitch-DVUplinks-911   0-4094
dvSwitch2           dvPortGroup
dvSwitch2           dvSwitch2-DVUplinks-1099  0-4094
dvSwitchNEW         dvPortGroup
dvSwitchNEW         dvPortGroup2             1000-1300
dvSwitchNEW         dvSwitchNEW-DVUplinks-132 0-4094


----------------------------------------------------------------------------------
Event History (Conn:dc1 NumEv:1 IP:20.1.1.1)
----------------------------------------------------------------------------------
EventId    Time                       Event Msg
----------------------------------------------------------------------------------

107990    Mar 27 2014 14:56:24:798698  Reconfigured No-OS1 on 20.2.2.2
                                       in N3K-VM


----------------------------------------------------------------------------------
Time Info (Conn:dc1 IP:20.1.1.1)
----------------------------------------------------------------------------------
Type                                              Time (ms)
----------------------------------------------------------------------------------
Total Fetching Time for All Host              : 7122
Total Fetching Time for All DVS               : 2500
Max Time to Sync Full Host Info               : 0
Max Time to Check unconnected Host Info        : 0
Max Time to Sync Host Info                     : 0
Max Time to get one Host info                  : 1031
Max Time to get one Virtual Machine info       : 1011
Max Time to get one CDP info                   : 77
Max Time to get VM port group Info             : 52
Max Time to get task info                      : 0
Max Time to process recv event                 : 56
Max Time to get dvs info                       : 48
Max Time to get dvs port group info            : 52


----------------------------------------------------------------------------------
Counters Info (Conn:dc1 IP:20.1.1.1)
----------------------------------------------------------------------------------
Type                                              Counter
----------------------------------------------------------------------------------
Property Retrieval Fail                       : 0
Wait for Update Fail                          : 0
Wait for Update Timeout                       : 11
Create Task Collector Fail                    : 0
Create Event Collector Fail                   : 0
Create Event Filter Fail                      : 0
CDP Info Retrieval Fail                       : 5
Connect to vCenter Fail                       : 0
SOAP Memory Alloc Fail                        : 0
Num Datacenter Property Retrieval             : 22
Num Connection Verification                   : 4
Num Host Property Retrieval                   : 12
Num VM Property Retrieval                     : 4
Num CDP Info Retrieval                        : 12
Num Task Info Retrieval                       : 0
Num DVS Info Retrieval                        : 3
Num DVS PG Info Retrieval                     : 7
Num Switch Info Retrieval                     : 0
```

```
        Num Interface Configuration Time                    : 0
        Num of VLAN Creation Time                           : 0
        Num of VLAN 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 Recv Event VmReconfiguredEvent                  : 1
        Num Recv Event VmCreatedEvent                       : 0
        Num Recv Event VmClonedEvent                        : 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 Recv Event HostRemovedEvent                     : 0
        Num Recv Event HostIpChangedEvent                   : 0
        Num Recv Event DVPortgroupCreatedEvent              : 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
        Num Recv Task UpdateNetworkConfig                   : 0
        Num Recv Task UpdatePortGroup                       : 0
        Num Recv Task RemovePortGroup                       : 0
        Num Recv Task UpdateVirtualSwitch                   : 0


        --------------------------------------------------------------------------------
        Global Counters Info
        --------------------------------------------------------------------------------
        Type                                                Counter
        --------------------------------------------------------------------------------
        Num Elem VMTrackerElemRoot                          : 3
        Num Elem VMTrackerElemConn                          : 1
        Num Elem VMTrackerElemHost                          : 12
        Num Elem VMTrackerElemHostCDP                       : 1
        Num Elem VMTrackerElemHostVM                        : 3
        Num Elem VMTrackerElemHostVMPortGroup               : 3
        Num Elem VMTrackerElemHostvSwitch                   : 2
        Num Elem VMTrackerElemHostvSwitchVMNIC              : 2
        Num Elem VMTrackerElemHostvSwitchPortGroup          : 16
        Num Elem VMTrackerElemHostPortGroup                 : 16
        Num Elem VMTrackerElemHostDVSSwitch                 : 1
        Num Elem VMTrackerElemHostDVSSwitchVMNIC            : 0
        Num Elem VMTrackerElemDVS                           : 3
        Num Elem VMTrackerElemDVSPortGroup                  : 7
        Num Elem VMTrackerElemDVSPortGroupVlanRange         : 4
        Num Elem VMTrackerElemDeviceID                      : 1
        Num Elem VMTrackerElemDevicePort                    : 1
        Num Elem VMTrackerElemDevicePortHost                : 1
        Num Elem VMTrackerElemDevicePortVM                  : 1
        Num Elem VMTrackerElemDevicePortVMPortGroup         : 1
        Num Elem VMTrackerElemDevicePortVMPortGroupVlanRange : 1
        Num Elem VMTrackerElemSwitchDeviceID                : 2
        Num Elem VMTrackerElemSwitchDeviceIntf              : 73
        Num Elem VMTrackerElemIfRunTimeRoot                 : 1
        Num Elem VMTrackerElemIfDeviceId                    : 1
        Num Elem VMTrackerElemIfSwitchPort                  : 1


        --------------------------------------------------------------------------------
        Unconnected Host Info (Conn:dc1 IP:20.1.1.1)
        --------------------------------------------------------------------------------
```

```
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
20.1.1.12


--------------------------------------------------------------------------------
Dev-Id          Intf           IfIndex     Member of PO    NativeVlan VMT Enable
--------------------------------------------------------------------------------
FOC1727R115     Ethernet1/1/1  1a000000                    1          1
FOC1727R115     Ethernet1/1/2  1a001000                    1          1
FOC1727R115     Ethernet1/1/3  1a002000                    1          1
FOC1727R115     Ethernet1/1/4  1a003000                    1          1
FOC1727R115     Ethernet1/3/1  1a008000                    200        1
FOC1727R115     Ethernet1/3/2  1a009000    port-channel300 1          1
FOC1727R115     Ethernet1/3/3  1a00a000                    1          1
FOC1727R115     Ethernet1/3/4  1a00b000                    1          1
FOC1727R115     Ethernet1/4/1  1a00c000    port-channel20  1          1
FOC1727R115     Ethernet1/4/2  1a00d000    port-channel300 1          1
FOC1727R115     Ethernet1/4/3  1a00e000                    1          1
FOC1727R115     Ethernet1/4/4  1a00f000                    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
Connection          Host/IP                              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
--------------------------------------------------------------------------------
Interface       Host           VMNIC   VM          State PortGroup  VLAN-Range
--------------------------------------------------------------------------------


--------------------------------------------------------------------------------
```