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:

- VM Tracker supports up to four vCenter connections.
- VM Tracker supports high availability and the fault tolerance features of vCenter.
- VM Tracker supports up to 64 VMs per host.
- VM Tracker supports up to 350 hosts across all vCenters.
- VM Tracker supports up to 600 VLANs.
- VM Tracker supports only 507 VLANs in Per VLAN Rapid Spanning Tree (PVRST) mode due to hardware limitations. To enable more than 507 VLANs, use Multiple Spanning Tree (MST).
- The current version of VM Tracker is supported only on ESXi 5.1 and ESXi 5.5 on Windows and Linux.
- The current version of VM Tracker supports only VMware orchestration. It does not support orchestration with other hypervisors.
- For all ports on which VM Tracker is enabled, you must not perform any Layer 2 or Layer 3 configuration that is related to switchports and VLANs. However, you can update the native VLAN.
- VM Tracker does not support VLAN 4095.

- VM Tracker is not supported on the virtual port channel (vPC) switch although it can be configured on the downstream switch on the vPC setup.
- You must connect the host directly to the Cisco Nexus 3000 Series ports. Host connectivity through the IOM, fabric extender (FEX), or chassis is not supported.
- If you do not specify the virtual routing and forwarding (VRF) while configuring the remote IP address, the management VRF is used.
- If you do not configure a VLAN as a native VLAN on the interface, VM Tracker cannot remove this VLAN and disable VM Tracker.
- For vCenter version 5.1 and 5.5, the CDP information can contain a maximum of 32 characters for the name of the switch. If the name of the switch exceeds 32 characters, VM Tracker will not work.

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.

	Command or Action	Purpose
Step 3	switch(config-vmt-conn)# **[no] remote** {**ip address** *ip_address* | **port** *port_number* | **vrf** *vrf_name*}	Configures remote IP parameters. The default value for *port_number* is 80. If *vrf_name* is not specified, the default value is **management**.
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. The **no** form of the command disconnects VM Tracker from vCenter.

Example

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
```

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	Displays the complete configuration information of VM Tracker.

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.

	Command or Action	Purpose
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.

Example

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.
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 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
------------------------------------------------------------------------------
vc1                  22.0.1.251                        No Connect
vc2                  22.0.1.247                        Connected

switch# show vmtracker connection vc2 status

Connection           Host/IP                           status
------------------------------------------------------------------------------
vc2                  22.0.1.247                        Connected

switch# show running-config vmtracker

!Command: show running-config vmtracker
!Time: Thu Oct  9 18:04:10 2014
```

```
version 7.1(0)N1(1)
feature vmtracker

vmtracker connection vc1
  remote ip address 22.0.1.251
  username administrator password 5 O0rlUinh
  no autovlan enable
  connect

switch# show running-config vmtracker all

!Command: show running-config vmtracker all
!Time: Thu Oct  9 18:10:00 2014

version 7.1(0)N1(1)
feature vmtracker

vmtracker connection vc1
  set interval pending-task-polling 2
  set interval sync-full-info 3600
  set interval find-new-host 3600
  remote ip address 22.0.1.251 port 80 vrf management
  username administrator password 5 O0rlUinh
  no autovlan enable
  allowed-vlans all
  connect

switch# show running-config interface port-channel 301

!Command: show running-config interface port-channel301
!Time: Thu Oct  9 18:06:23 2014

version 7.1(0)N1(1)

interface port-channel301
  switchport mode trunk
  switchport trunk allowed vlan 1,1001,1005
  vpc 301


switch# show vmtracker event-history

------------------------------------------------------------------------------
Event History (Conn:vc2 NumEv:439 IP:22.0.1.247)
------------------------------------------------------------------------------
EventId    Time                          Event Msg
------------------------------------------------------------------------------
12505      Oct 09 2014 17:14:32:475968  Removed TCLI 102 28 on 22.0.2.102 from
                                         first-dc
12504      Oct 09 2014 17:14:32:475958  Removed TCLI 102 29 on 22.0.2.102 from
                                         first-dc
12501      Oct 09 2014 17:14:31:535716  Removed TCLI 102 26 on 22.0.2.102 from
                                         first-dc
12500      Oct 09 2014 17:14:31:535711  Removed TCLI 102 27 on 22.0.2.102 from
                                         first-dc

switch# show logging level vmtracker

Facility        Default Severity        Current Session Severity
--------        ----------------        ------------------------
vmtracker               2                       7

0(emergencies)          1(alerts)       2(critical)
3(errors)               4(warnings)     5(notifications)
```

```
6(information)          7(debugging)


!How to disconnect from vcenter

switch# configure terminal
Enter configuration commands, one per line.  End with CNTL/Z.
switch(config)# vmtracker connection vc2
switch(config-vmt-conn)# no connect

switch# show vmtracker connection vc2 status

Connection           Host/IP                             status
------------------------------------------------------------------------------
vc2                  22.0.1.247                          No Connect

switch# show running-config interface port-channel 301

!Command: show running-config interface port-channel301
!Time: Thu Oct  9 18:17:04 2014

version 7.1(0)N1(1)

interface port-channel301
  switchport mode trunk
  switchport trunk allowed vlan 1
  vpc 301

switch# show vmtracker info host

Switch: FOC1721R0UG
====================
------------------------------------------------------------------------------
Interface                 Host                      VMNIC
------------------------------------------------------------------------------
port-channel201           22.0.2.3                  vmnic0
Switch: FOC1736R028
====================
------------------------------------------------------------------------------
Interface                 Host                      VMNIC
------------------------------------------------------------------------------
port-channel201           22.0.2.3                  vmnic1
port-channel203           22.0.2.1                  vmnic1
port-channel202           22.0.2.3                  vmnic2
------------------------------------------------------------------------------


switch# show vmtracker info vm

Switch: FOC1721R0UG
====================
------------------------------------------------------------------------------
Interface                 VM                                  State
------------------------------------------------------------------------------
port-channel201           ubuntu server 1                     on
port-channel201           win7 1                              on
Switch: FOC1736R028
====================
------------------------------------------------------------------------------
Interface                 VM                                  State
------------------------------------------------------------------------------
port-channel201           ubuntu server 1                     on
port-channel201           win7 1                              on
port-channel203           TCL Inst 2.1 11                     on
```

```
port-channel203           TCL Inst 2.1 12                    on
port-channel202           TCL Inst 2.3 10                    on
port-channel202           TCL Inst 2.3 8                     off
port-channel202           TCL Inst 2.3 9                     off
--------------------------------------------------------------------------------

switch# show vmtracker info summary

Switch: FOC1721R0UG
====================
------------------------------------------------------------
Interface            VM                              VLANs
------------------------------------------------------------
port-channel201      ubuntu server 1                 91
port-channel201      win7 1                          91
Switch: FOC1736R028
====================
------------------------------------------------------------
Interface            VM                              VLANs
------------------------------------------------------------
port-channel201      ubuntu server 1                 91
port-channel201      win7 1                          91
port-channel203      TCL Inst 2.1 11                 93
port-channel203      TCL Inst 2.1 12                 93
port-channel202      TCL Inst 2.3 10                 97
port-channel202      TCL Inst 2.3 8                  97
port-channel202      TCL Inst 2.3 9                  97
------------------------------------------------------------

switch# sh vmtracker info port-group

Switch: FOC1721R0UG
====================
------------------------------------------------------------------------------------------
Interface            PortGroup                       Type            VLANs
------------------------------------------------------------------------------------------
port-channel201      VM Network 3 vpc po             vSwitch         91
port-channel201      VM Network 3 vpc po             vSwitch         91
Switch: FOC1736R028
====================
------------------------------------------------------------------------------------------
Interface            PortGroup                       Type            VLANs
------------------------------------------------------------------------------------------
port-channel201      VM Network 3 vpc po             vSwitch         91
port-channel201      VM Network 3 vpc po             vSwitch         91
port-channel203      VM Network 200 2lvpc AA-FEX     vSwitch         93
port-channel203      VM Network 200 2lvpc AA-FEX     vSwitch         93
port-channel202      VM Network 4 AA FEX HIF PO      vSwitch         97
port-channel202      VM Network 4 AA FEX HIF PO      vSwitch         97
port-channel202      VM Network 4 AA FEX HIF PO      vSwitch         97
------------------------------------------------------------------------------------------


switch# show vmtracker info detail

Switch: FOC1721R0UG
====================
_____________________________________________________________________________________________
Interface            Host           VMNIC   VM                          State PortGroup
                           VLAN-Range
_____________________________________________________________________________________________
port-channel201      22.0.2.3       vmnic0  ubuntu server 1              on    VM Network
 3 vpc po                 91
port-channel201      22.0.2.3       vmnic0  win7 1                       on    VM Network
```

```
 3 vpc po                91
Switch: FOC1736R028
===================
```

Interface	Host	VMNIC	VM	State	PortGroup VLAN-Range
port-channel201 3 vpc po	22.0.2.3 91	vmnic1	ubuntu server 1	on	VM Network
port-channel201 3 vpc po	22.0.2.3 91	vmnic1	win7 1	on	VM Network
port-channel203 200 2lvpc AA-FEX	22.0.2.1 93	vmnic1	TCL Inst 2.1 11	on	VM Network
port-channel203 200 2lvpc AA-FEX	22.0.2.1 93	vmnic1	TCL Inst 2.1 12	on	VM Network
port-channel202 4 AA FEX HIF PO	22.0.2.3 97	vmnic2	TCL Inst 2.3 10	on	VM Network
port-channel202 4 AA FEX HIF PO	22.0.2.3 97	vmnic2	TCL Inst 2.3 8	off	VM Network
port-channel202 4 AA FEX HIF PO	22.0.2.3 97	vmnic2	TCL Inst 2.3 9	off	VM Network

```
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

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