Cisco Enterprise Network Function Virtualization Infrastructure Software Command Reference

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Banner and Message Commands

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- show banner-motd, on page 3
- show running-config banner-motd, on page 4

banner-motd

To configure a banner and message of the day (MOTD), use the **banner-motd** command in global configuration mode. To remove the banner or MOTD, use the **no** form of the command.

banner-motd { **banner** *string* | **motd** *string* }
no banner-motd [**banner** | **motd**]

Syntax Description

banner *string*	Specifies the banner text.
motd *string*	Specifies the MOTD text.

Command Default

None

Command Modes

Global configuration (config)

Command History

Release	Modification
3.5.1	This command was introduced.

Usage Guidelines

To verify the configuration, use the **show running-config banner-motd** command. To delete both the banner and the MOTD configuration, use the **no banner-motd** command without any keywords and arguments.

Example

The following example shows how to configure both the banner and the MOTD:

```
nfvis(config)# banner-motd banner "This is a new banner" motd "This is a new motd"
nfvis(config)# commit
nfvis(config)# end
```

show banner-motd

To display the system-defined banner, use the **show banner-motd** command in privileged EXEC mode.

show banner-motd [**system-banner**]

Syntax Description

system-banner	The system-defined banner.

Command Default

The system-defined banner is displayed.

Command Modes

Privileged EXEC (#)

Command History

Release	Modification
3.5.1	This command was introduced.

Usage Guidelines

This command displays only the system-defined banner. It does not display the user-defined banner or message of the day.

Example

The following is a sample output of the **show banner-motd** command:

```
nfvis# show banner-motd
banner-motd system-banner "\nCisco Enterprise Network Function Virtualization Infrastructure
 Software (NFVIS)\n\nCopyright (c) 2015-2016 by Cisco Systems, Inc.\nCisco, Cisco Systems,
 and Cisco Systems logo are registered trademarks of Cisco\nSystems, Inc. and/or its
affiliates in the U.S. and certain other countries.
\n\nThe copyrights to certain works contained in this software are owned by other\nthird
parties and used and distributed under third party license agreements.\nCertain components
 of this software are licensed under the GNU GPL 2.0, GPL 3.0,\nLGPL 2.1, LGPL 3.0 and AGPL
 3.0.\n\n\n"
```

show running-config banner-motd

To display the configured banner and MOTD, use the **show running-config banner-motd** command in privileged EXEC mode.

show running-config banner-motd [**banner** | **motd**]

Syntax Description

banner	(Optional) Specifies to display only banner information.
motd	(Optional) Specifies to display only MOTD information.

Command Default

Information about configured banner and MOTD is displayed.

Command Modes

Privileged EXEC (#)

Command History

Release	Modification
3.5.1	This command was introduced.

Example

The following is a sample output of the **show running-config banner-motd** command:

```
nfvis# show running-config banner-motd
banner-motd banner ExampleBanner
banner-motd motd ExampleMOTD
```

Cisco NFVIS Smart Licensing Commands

- show running config pnic, on page 6
- show nic, on page 7
- show license, on page 8
- Action Commands, on page 9

show running config pnic

Use **show running config pnic** to view the default number of VFs

show running-config *pnic*

Syntax Description

pnic	The pnic ID

Command Default

The default gateway is not set.

Command Modes

User Exec

Command History

Release	Modification
4.13.1	This command was introduced.

Example

The following command shows the number of PNICs:

```
nfvis# show running-config pnic
pnic GE0-0
 sriov numvfs 6
!
pnic GE0-1
 sriov numvfs 6
!
pnic GE1-0
 sriov numvfs 4
!
pnic GE1-1
 sriov numvfs 4
```

show nic

Use the command **show nic** to view more details on the NICs supported on Cisco UCS C-Series M6 rack servers.

show *nic*

Syntax Description

nic	The NIC ID

Command Default

The default gateway is not set.

Command Modes

User Exec

Command History

Release	Modification
4.13.1	This command was introduced.

Example

The following command shows the details of NICs:

```
nfvis# show running-config pnic
SLOTID  ADAPTER                                VENDOR  DEVID  MODE  DEVNO  PNICS

-------------------------------------------------------------------------------------------------------------
1       Intel i350 Quad Port 1Gb Adapter     8086    1521   NA    NA     ['GE1-0', 'GE1-1',
 'GE1-2', 'GE1-3']
2       Cisco-MLNX MCX623106AS-CDAT          15b3    101d   NA    NA     []

        2x100GbE QSFP56 PCIe NIC

3       Intel Network controller             8086    10fb   NA    NA     ['GE3-0', 'GE3-1']

4       Intel X710-DA4 Quad Port 10Gb SFP+   8086    1572   NA    NA     ['GE4-0', 'GE4-1',
 'GE4-2', 'GE4-3']
        converged NIC

5       Intel Network controller             8086    10fb   NA    NA     ['GE5-0', 'GE5-1']

L       Intel  X550 LOM                      8086    1563   NA    NA     ['GE0-0', 'GE0-1']

MLOM    Cisco UCS VIC 1467 MLOM              1137    0131   NA    NA     []
```

show license

Use the command **show license** to see more details on the Cisco smart license.

show *license*

Syntax Description

license	The license number

Command Default

The default gateway is not set.

Command Modes

User Exec

Command History

Release	Modification
4.13.1	This command was introduced.

Example

The following command shows the details of NICs:

```
nfvis# show license
Description: Licensing Commands
Possible completions:
    accounts                  Display information for the user accounts for licenses
    license-units-consumed    Number of license units consumed.
    opdata                    Smart Licensing operational data information.
    status                    Show license status information
    summary                   Show license summary
    tech                      Tech commands
    transport                 Operational Data For Cisco Smart Licensing status.
    udi                       Display the Universal Device Identifier information for the
device
    usage                     Show license usage information
    |                         Output modifiers
```

Action Commands

Use the following actions commands that can help you release, sync and trust Cisco NFVIS licences:

- **`license smart release`**: Use this command to send a "License Usage 0" message to CSSM. This action prompts the CSSM to release the license entitlement associated with your Cisco UCS C Rack servers. If the device continues to operate with Cisco NFVIS after the license release, a usage report, also known as RUM, is sent to CSSM after a predetermined time interval. This report will indicate the actual number of license units consumed, which will then be reserved again on CSSM. Following a license release, a notification and system logging warning is issued, urging you to cease using Cisco NFVIS as the license has been released. You receive this notification every 8 hours during the 24 hours after a license release. If you continue to use Cisco NFVIS beyond this 24-hour period, a RUM report will be generated reflecting the appropriate number of license units consumed by Cisco NFVIS. This report is sent to the Licensing server based on the set periodic interval, after which the licensing server will reserve the correct number of license units for the device again.
- **`license smart sync`**: Report a license usage to CSSM using this action command.
- **`license smart trust`**: Initiate the establishment of trust between the device and the CSSM. This action can prove beneficial in various scenarios, including but not limited to the following:
  1. If you delete the product instance from CSSM but wish to continue with Cisco NFVIS Licensing.
  2. If you transfer your licenses from one Virtual Account to another.
  3. If there is an asynchrony between the licensing state on CSSM and on the device.
  4. If the licensing certificates on the device reach their expiry date.

System and IP Configuration Commands

- system settings default-gw, on page 12
- system settings disk-space threshold, on page 13
- system settings hostname, on page 14
- system settings ip-receive-acl, on page 15
- show running-config system settings ip-receive-acl, on page 17
- system settings mgmt, on page 18
- system settings wan, on page 19
- system storage, on page 20
- show system settings, on page 21
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- show system top, on page 24
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- show platform-detail, on page 31
- show version, on page 32
- show free-memory, on page 33
- show certificate, on page 34
- show file, on page 35
- show cores, on page 36
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system settings default-gw

To configure the default gateway, use the **system settings default-gw** command in global configuration mode. To delete the default gateway, use the **no** form of the command.

system settings default-gw *ip-address*

no system settings default-gw

Syntax Description

ip-address	The default gateway IP address

Command Default

The default gateway is not set.

Command Modes

Global configuration (config)

Command History

Release	Modification
3.5.1	This command was introduced.

Usage Guidelines

To configure DHCP either on the WAN interface or the management interface, delete the default gateway.

Example

The following command sets the default gateway:

```
nfvis(config)# system settings default-gw 209.165.201.1
nfvis(config)# commit
```

system settings disk-space threshold

To configure the threshold for disk space usage, use the **system settings disk-space threshold** command in global configuration mode. To delete the configured disk space usage threshold, use the **no** form of the command.

system settings disk-space threshold *value*

no system settings disk-space threshold

Syntax Description

threshold *value*	Specifies the threshold value in percentage for disk space usage. Valid range is from 1 to 100. When the disk space usage reaches the specified threshold, a notification is sent.

Command Default

Default notification threshold is set at 90%.

Command Modes

Global configuration (config)

Command History

Release	Modification
3.7.1	This command was introduced.

Example

```
nfvis(config)# system settings disk-space threshold 1
nfvis(config)# commit
```

system settings hostname

To set the hostname of the system, use the **system settings hostname** command in global configuration mode.

system settings hostname *host-name*

Syntax Description

host-name	The hostname of the system.

Command Default

The default hostname is **nfvis**

Command Modes

Global configuration (config)

Command History

Release	Modification
3.5.1	This command was introduced

Example

The following command changes the hostname of the system to nfvis-demo:

```
nfvis(config)# set system settings hostname nfvis-demo
nfvis(config)# commit
```

system settings ip-receive-acl

To configure the source network for Access Control List (ACL) access to the management interface, use the **system settings ip-receive-acl** command in global configuration mode. To remove the configured source network, use the **no** form of the command.

system settings ip-receive-acl *source-ip-address* [**service** {**https** | **icmp** | **netconf** | **scpd** | **snmp** | **ssh**}] [**priority** *priority*] [**action** {**accept** | **reject** | **drop**}]

no system settings ip-receive-acl

Syntax Description

source-ip-address	Specifies the IPv4 IP address of the source network. When the management ACL access is enabled, only specified source networks can access the management interface. When no ACL rule is defined, all types of traffic is allowed. If the source network is specified as 0.0.0.0/0, the configuration is applicable to all source networks.
service	Specifies the service type for the management ACL access. Valid values are: • **https**: Includes port 80, port 443 and all ports to access the service console. • **icmp**: Provides ability to ping the host. • **netconf**: Includes port 2022. This port is required for communication between nodes of a cluster. • **scpd**: Provides ability to run the **scp** command from an external system. **Note** To use the port 22222, you must run the **system settings ip-receive-acl** command with **scpd** service. Starting with release 3.7.1, the port 22222 is closed by default. • **snmp**: Includes port 161 and configured NET-SNMP port. • **ssh**: Includes port 22 and port 2024. You can specify one, more than one, or all service types in this parameter. To specify multiple service types, enter the values within the square brackets []; for example, **service [snmp https]**. If you do not specify any specific service, the configuration is applicable to all services.
priority *priority*	Specifies the priority for the ACL rule. Each ACL rule must have a unique priority value. Valid range is from 0 to 65,535. ACL rule with priority 0 has the highest priority. Whenever an ACL rule with priority 0 is matched, Cisco Enterprise NFVIS performs the action associated with this ACL rule and does not look up any lower priority ACL rules.
action	Specifies the action for the packets received from a source network. Valid values are: • **accept**: Accept the packets. • **reject**: Reject the packets and return the error to the source network. • **drop**: Drop packets immediately and do not send any information to the source network.

Command Default None

Command Modes Global configuration (config)

Command History

Release	Modification
3.7.1	This command was introduced.

Example

The following example opens port 22222 for all IPs.

```
nfvis(config)# system settings ip-receive-acl 0.0.0.0/0 service scpd priority 2 action
accept
nfvis(config-ip-receive-acl-0.0.0.0/0)# commit
```

Example

The following example opens port 22222 for a specific IP.

```
nfvis(config)# system settings ip-receive-acl 203.0.113.1/32 service scpd priority 1 action
 accept
nfvis(config-ip-receive-acl-203.0.113.1/32)# commit
```

Example

The following example configures the SSH service for a specific IP.

```
nfvis(config)# system settings ip-receive-acl 198.51.100.11/32 priority 1 service ssh action
 accept
nfvis(config-ip-receive-acl-198.51.100.11/32)# commit
```

show running-config system settings ip-receive-acl

To display the configured source network for ACL access to the management interface, use the **show running-config system settings ip-receive-acl** command in privileged EXEC mode.

show running-config system settings ip-receive-acl

Syntax Description

This command has no arguments or keywords.

Command Default

None

Command Modes

Privileged EXEC (#)

Command History

Release	Modification
3.7.1	This command was introduced.

Example

```
nfvis# show running-config system settings ip-receive-acl
system settings ip-receive-acl 198.51.100.11/24
 service  [ ssh https scpd ]
 action   accept
 priority 100
!
```

system settings mgmt

To configure the management interface either with a static IP address or with DHCP, use the **system settings mgmt** command in global configuration mode.

system settings mgmt {**dhcp** | **ip address** *mgmt-ip-address subnet*}

no system settings mgmt {**dhcp** | **ip address** *mgmt-ip-address* }

Syntax Description

ip address	*mgmt-ip-address*	Specifies the management IP address.
subnet		Specifies the IP subnet for the management IP address.

Command Default

By default, the management interface is assigned the static IP address 192.168.1.1.

Command Modes

Global configuration (config)

Command History

Release	Modification
3.5.1	This command was introduced.

Usage Guidelines

You can configure DHCP either on the WAN interface or the management interface; you cannot configure DHCP on both the interfaces simultaneously.

Before configuring the management interface with DHCP, delete the default gateway. After you configure DHCP on the management interface, either reboot the system or enter the command **hostaction mgmt-dhcp-renew** to renew the DHCP IP address.

Example

The following command sets the IP address and netmask for the management interface:

```
nfvis(config) system settings mgmt ip address 192.168.1.2 255.255.255.0
nfvis(config)commit
```

The following command configures DHCP on the management interface:

```
nfvis(config)# no system settings default-gw
nfvis(config)# system settings mgmt dhcp
nfvis(config)# commit
nfvis# hostaction mgmt-dhcp-renew
nfvis# end
```

system settings wan

To configure the WAN interface either with a static IP address or with DHCP, use the **system settings wan** command in global configuration mode.

system settings wan { **dhcp** | **ip address** *wan-ip-address netmask-address* | **vlan** *vlan-id* }
no system settings wan { **dhcp** | **ip address** *wan-ip-address netmask-address* | **vlan** *vlan-id* }

Syntax Description

ip-address *wan-ip-address*	The WAN IP address.
netmask *netmask-address*	The netmask for the WAN IP address.
vlan *vlan-id*	Specifies the VLAN tagging ID. Valid range: 1-4094 If no VLAN is configured, the default value is set to "untag".

Command Default

By default, the WAN interface is configured with DHCP.

Command Modes

Global configuration (config)

Command History

Release	Modification
3.5.1	This command was introduced.

Usage Guidelines

You can configure DHCP either on the WAN interface or the management interface; you cannot configure DHCP on both the interfaces simultaneously.

Before configuring the WAN interface with DHCP, delete the default gateway. After you configure DHCP on the WAN interface, either reboot the system or enter the command **hostaction wan-dhcp-renew** to renew the DHCP IP address.

Example

The following command sets the IP address and netmask for the WAN interface:

```
nfvis(config)# system settings wan ip-address 172.19.162.209 255.255.255.0
nfvis(config)# commit
```

The following command configures DHCP on the WAN interface:

```
nfvis(config)# no system settings default-gw
nfvis(config)# system settings wan dhcp
nfvis(config)# commit
nfvis# hostaction wan-dhcp-renew
nfvis# end
```

system storage

To configure the system storage, use the **system storage** command in global configuration mode. Use the **no** form of the command to delete the storage configuration.

system storage *storage_name* **storagetype** *storagetype* **storage_space_total_gb** *storage_space_total_gb* **server_ip** *server_ip* **server_path** *server_path*

no system storage *storage_name*

Syntax Description

storage_name	Specifies the storage name.
storagetype *storagetype*	Specifies the storage type. Valid values are internal, iscsi, nfs, and not_enabled.
storage_space_total_gb *storage_space_total_gb*	Specifies the total storage space.
server_ip *server_ip*	Specifies the IP address of the remote storage device server.
server_path *server_path*	Specifies the remote server directory path.

Command Default

None

Command Modes

Global configuration (config)

Command History

Release	Modification
3.7.1	This command was introduced.

Example

```
nfvis(config)# system storage nfs_storage
Value for 'storagetype' [internal,iscsi,nfs,not_enabled]: nfs
Value for 'storage_space_total_gb' (<decimal number>): 100
Value for 'server_ip' (<string, min: 1 chars, max: 80 chars>): 198.51.100.1
Value for 'server_path' (<string, min: 1 chars, max: 64 chars>): /export/vm/sample
nfvis(config-storage-nfs_storage)# commit
```

show system settings

To display the system settings, use the **show system settings** command in privileged EXEC mode.

show system settings [**brief**]

Syntax Description

brief	Displays brief system settings.

Command Default

None

Command Modes

Privileged EXEC (#)

Command History

Release	Modification
3.7.1	Brief parameter was added and other parameters were removed.
3.5.1	This command was introduced.

Usage Guidelines

None

Example

```
nfvis# show system settings
system settings brief lan-br
ipv4_address 192.0.2.1
ipv4_netmask 255.255.255.0
ipv4_dhcp disabled
global_ipv6_address ::
global_prefixlen 0
link_local_ipv6_address fe80::72db:98ff:fe07:1f35
link_local_prefixlen 64
ipv6_dhcp disabled
ipv6_slaac disabled
system settings brief wan-br
ipv4_address 198.51.100.1
ipv4_netmask 255.255.255.0
ipv4_dhcp disabled
global_ipv6_address ::
global_prefixlen 0
link_local_ipv6_address fe80::72db:98ff:fe70:2f6e
link_local_prefixlen 64
ipv6_dhcp enabled
ipv6_slaac disabled
ipv6_dhcp_state Stateful
```

show system settings-native

To display all information related to management settings, use the **show system settings-native** command in privileged EXEC mode.

show system settings-native [**dns** | **domain** | **gateway** | **hostname** | **mgmt** | **wan vlan**]

Syntax Description

dns	(Optional) DNS details.
domain	(Optional) Domain name.
gateway	(Optional) Default gateway details.
hostname	(Optional) Hostname details.
mgmt	(Optional) Management interface details.
wan	(Optional) Wan interface details
vlan	(Optional) Provides information about the VLAN tag.

Command Default

None

Command Modes

Privileged EXEC (#)

Command History

Release	Modification
3.5.1	This command was introduced.

Examples

The following is a sample output of the **show system settings-native** command without any keywords:

```
nfvis# show system settings-native
system settings-native mgmt ip-info interface lan-br
system settings-native mgmt ip-info ipv4_address 192.168.1.1
system settings-native mgmt ip-info netmask 255.255.255.0
system settings-native mgmt ip-info ipv6_address fe80::7aba:f9ff:feee:2f97
system settings-native mgmt ip-info prefixlen 64
system settings-native mgmt ip-info mac_address 80:e0:1d:37:93:47
system settings-native mgmt ip-info mtu 1500
system settings-native mgmt ip-info txqueuelen 0
system settings-native mgmt stats rx_packets 64157
system settings-native mgmt stats rx_bytes 8869998
system settings-native mgmt stats rx_errors 0
system settings-native mgmt stats rx_dropped 101
system settings-native mgmt stats rx_overruns 0
```

The following is a sample output of the **show system settings-native** command to verify the VLAN configuration details. If no VLAN is configured, the default setting (untagged) is displayed as shown below:

```
nfvis# show system settings-native wan vlan tag
system settings-native wan vlan tag untagged
```

show system top

To display the top system processes, use the **show system top** command in privileged EXEC mode.

show system top

Syntax Description

This command has no arguments or keywords.

Command Modes

Privileged EXEC (#)

Command History

Release	Modification
3.6.1	This command was introduced.

Example

```
nfvis# show system top
top - 14:35:44 up 12 min, 1 user, load average: 0.00, 0.11, 0.17
Tasks: 272 total, 1 running, 271 sleeping, 0 stopped, 0 zombie
%Cpu(s): 0.6 us, 0.2 sy, 0.0 ni, 99.2 id, 0.0 wa, 0.0 hi, 0.0 si, 0.0 st
KiB Mem : 16158248 total, 14234804 free, 1435900 used, 487544 buff/cache
KiB Swap: 8388604 total, 8388604 free, 0 used. 14467448 avail Mem
PID USER PR NI VIRT RES SHR S %CPU %MEM TIME+ COMMAND
1 root 20 0 44028 6628 3904 S 0.0 0.0 0:04.90 systemd
2 root 20 0 0 0 0 S 0.0 0.0 0:00.00 kthreadd
3 root 20 0 0 0 0 S 0.0 0.0 0:00.02 ksoftirqd/0
```

show system disk-space

To display information about the system disk space, use the **show system disk-space** command in privileged EXEC mode.

show system disk-space

Syntax Description

This command has no arguments or keywords.

Command Modes

Privileged EXEC (#)

Command History

Release	Modification
3.6.1	This command was introduced.

Example

```
nfvis# show system disk-space
               ASSOCIATED
               PHYSICAL    TOTAL  SIZE  SIZE       USE
DISK NAME      DISK        SIZE   USED  AVAILABLE  PERCENT
-------------------------------------------------------------
lv_data        sdf2        45G    321M  42G        1%
lv_var         sdf2        2.0G   461M  1.4G       26%
lv_root        sdf2        7.8G   1.7G  5.7G       23%
extdatastore1  sdd         917G   77M   871G       1%
```

show system swraid-status

To display information about the Virtual RAID status, use the **show system swraid-status** command in privileged EXEC mode.

show system swraid-status

Syntax Description

This command has no arguments or keywords.

Command Modes

Privileged EXEC (#)

Command History

Release	Modification
Cisco NFVIS Release 4.18.1	This command was introduced.

Example

This sample output provides details of the Virtual RAID array's overall status and configuration (state, name, level, synchronization, size, usage), the health and count of devices within the array, and the individual status of each physical disk (name, slot, state).

```
nfvis# show system:swraid-status

swraid-status raid-state Healthy

swraid-status raid-name /dev/md127

swraid-status raid-level 1

swraid-status sync-status True

swraid-status working-devices 2

swraid-status active-devices 2

swraid-status failed-devices 0

swraid-status disk-size 1.8T

swraid-status used-space 32K

DISK NAME       SLOT           STATE

-----------------------------------------

/dev/nvme1n1p1  U2-Upper-Slot  active sync

/dev/nvme2n1p1  U2-Lower-Slot  active sync
```

show system file-handles

To display information about the system file handles, use the **show system file-handles** command in privileged EXEC mode.

show system file-handles

Syntax Description

This command has no arguments or keywords.

Command Modes

Privileged EXEC (#)

Command History

Release	Modification
3.6.1	This command was introduced.

Example

```
nfvis# show system file-handles
2848    0       780124
```

show system processes

To display information on the processes in the system, use the **show system processes** command in privileged EXEC mode.

show system processes [**process** *process-name*]

Syntax Description

process *process-name*	(Optional) Name of the process.

Command Default

Display information on all the processes in the system.

Command Modes

Privileged EXEC (#)

Command History

Release	Modification
3.5.1	This command was introduced.

Example

```
nfvis# show system processes
PID   CPU  MEM   VSZ   RSS     START  TIME  CMD
-------------------------------------------------
USER  PID  %CPU  %MEM  VSZ     RSS    TTY   STAT
root  1    0.0   0.0   192156  7424   ?     Ss
root  1    0.0   0.0   192156  7424   ?     Ss
root  1    0.0   0.0   192156  7424   ?     Ss
root  1    0.0   0.0   192156  7424   ?     Ss
root  1    0.0   0.0   192156  7424   ?     Ss
root  1    0.0   0.0   192156  7424   ?     Ss
root  1    0.0   0.0   192156  7424   ?     Ss
root  1    0.0   0.0   192156  7424   ?     Ss
root  1    0.0   0.0   192156  7424   ?     Ss
root  1    0.0   0.0   192156  7424   ?     Ss
root  1    0.0   0.0   192156  7424   ?     Ss
```

show system services

To display information on the services in the system, use the **show system services** command in privileged EXEC mode.

show system services [**service** *service-name*]

Syntax Description

service *service-name*	(Optional) Name of the service.

Command Default

Display information on all the services in the system.

Command Modes

Privileged EXEC (#)

Command History

Release	Modification
3.5.1	This command was introduced.

Example

```
nfvis# show system services service auditd.service
UNIT            LOAD    ACTIVE  SUB      DESCRIPTION
------------------------------------------------------
auditd.service  loaded  active  running  Security
```

show system status

To display system defaults and services status, use the **show system status** command in privileged EXEC mode.

show system status [**diagnostics** *entity-name* [**status** | **type**]]

Syntax Description

entity-name	(Optional) Name of the entity or service.
status	(Optional) Display the entity or service status.
type	(Optional) Display the type of the entity or service.

Command Default

Show the status of all the entities in the system.

Command Modes

Privileged EXEC (#)

Command History

Release	Modification
3.5.1	This command was introduced.

Example

```
nfvis# show system status diagnostics wan-br
NAME    STATUS  TYPE
--------------------------------
wan-br  OK      default-bridge
```

show platform-detail

To display the hardware information, port details, switch details and software packages related to the platform, use the **show platform-detail** command in privileged EXEC mode.

show platform-detail [**hardware_info** | **port_detail** | **software_packages** | **switch_detail**]

Syntax Description

hardware_info	The hardware information of the platform.
port_detail	The details of the ports used by the platform.
software_packages	The software packages installed on the platform.
switch_detail	The details of the switch on the platform.

Command Default

None

Command Modes

Privileged EXEC (#)

Command History

Release	Modification
3.5.1	This command was introduced.

show version

To display the name, version number and build date of the NFVIS software that is currently running in the system, use the **show version** command in privileged EXEC mode

show version [**build-date** | **name** | **version**]

Syntax Description

build-date	(Optional) The build date of the version.
name	(Optional) The name of the version.
version	(Optional) The version number of the version.

Command Default

Displays the name, version number, and build date of Cisco Enterprise NFVIS.

Command Modes

Privileged EXEC (#)

Command History

Release	Modification
3.5.1	This command was introduced.

Example

The following is the sample output from the **show version**command:

```
nfvis# show version
version name "Enterprise NFV Infrastructure Software"
version version 3.5.1-FC4
```

show free-memory

To display information about free memory, use the **show free-memory** command in privileged EXEC mode.

show free-memory

Syntax Description

This command has no arguments or keywords.

Command Default

None

Command Modes

Privileged EXEC (#)

Command History

Release	Modification
3.7.1	This command was introduced.

Example

```
nfvis# show free-memory
total used free shared buff/cache available
Mem: 128660 2761 120879 15 5020 125222
Swap: 16383 0 16383
```

show certificate

To show all certificates and related files in the system, use the **show certificate** command in privileged EXEC mode.

show certificate

Syntax Description

This command has no keywords or parameters.

Command Default

None

Command Modes

Privileged EXEC (#)

Command History

Release	Modification
3.7.1	This command was introduced.

Example

```
nfvis# show certificates
      File Name            Type          Last Modified             Size
ca-bundle.legacy.crt   ca-trust     Wed Mar 15 12:08:40 2017          59653
ca-bundle.trust.crt    ca-trust     Fri Oct  6 10:39:53 2017         346654
email-ca-bundle.pem    ca-trust     Fri Oct  6 10:39:53 2017         208874
tls-ca-bundle.pem      ca-trust     Fri Oct  6 10:39:53 2017         262042
objsign-ca-bundle.pem  ca-trust     Fri Oct  6 10:39:53 2017         208976
server.key             nginx        Fri Oct  6 11:06:12 2017           1679
server.crt             nginx        Fri Oct  6 11:06:12 2017            964
server.key             self-signed  Fri Oct  6 11:06:12 2017           1679
server.csr             self-signed  Fri Oct  6 11:06:12 2017            887
server.crt             self-signed  Fri Oct  6 11:06:12 2017            964
ca-bundle.crt          tls          Fri Oct  6 10:39:53 2017         262042
ca-bundle.trust.crt    tls          Fri Oct  6 10:39:53 2017         346654
cert.pem               tls          Fri Oct  6 10:39:53 2017         262042
```

show file

To show the contents of a file, use the **show file** command in privileged EXEC mode.

show file *filepath_name*

Syntax Description

filepath_name	Specifies the location and name of the file.

Command Default

None

Command Modes

Privileged EXEC (#)

Command History

Release	Modification
3.7.1	This command was introduced.

Example

```
nfvis# show file /data/intdatastore/logs/2017-10/confd_devel.log-20171008
<DEBUG> 7-Oct-2017::19:30:08.444 nfvis confd[3626]: devel-cdb connect from python
<DEBUG> 7-Oct-2017::19:30:08.444 nfvis confd[3626]: devel-cdb client python has pid 3724/174
<DEBUG> 7-Oct-2017::19:30:08.444 nfvis confd[3626]: devel-cdb new session on operational
for python
...
```

show cores

To show crash core files, run the **show cores** command in privileged EXEC mode.

show cores

Syntax Description

This command has no keywords or parameters.

Command Default

None

Command Modes

Privileged EXEC (#)

Command History

Release	Modification
3.7.1	This command was introduced.

Usage Guidelines

None

```
nfvis# show cores
Local storage:
       File Name             Last Modified        Size
```

show nfv_mode

To show the NFV mode, use the **show nfv_mode** command in privileged EXEC mode.

show nfv_mode

Syntax Description

This command has no keywords or parameters.

Command Default

None

Command Modes

Privileged EXEC (#)

Command History

Release	Modification
3.7.1	This command was introduced.

```
nfvis# show nfv_mode
nfv_mode: vbranch_nfv
```

PnP Commands

- pnp action, on page 40
- pnp automatic, on page 41
- pnp static, on page 43
- show pnp, on page 44

pnp action

To start, stop, and restart a PnP action,use the **pnp action** command in global configuration mode.

pnp action command {**start** | **stop** | **restart**}

Syntax Description

start	Starts a PnP action.
stop	Stops a PnP action.
restart	Restarts a PnP action.

Command Default

None

Command Modes

Global configuration (config)

Command History

Release	Modification
3.5.1	This command was introduced.

Example

The following example shows how to use the **pnp action** command:

```
nfvis(config)# pnp action command start
nfvis(config)# pnp action command stop
nfvis(config)# pnp action command restart
nfvis(config)# commit
```

pnp automatic

To enable or disable automatic mode for PnP discovery process, use the **pnp automatic** command in global configuration mode. Use the **no** form of this command to put the automatic PnP discovery method in default mode (enabled) with a retry timeout of 60 seconds.

pnp automatic {**cco** | **cco-ipv6** | **dhcp** | **dhcp-ipv6** | **dns-ipv6** | **dns** | **timeout** *value*} {**enable** | **disable**}
no pnp automatic

Syntax Description

cco	Specifies the use of the Cisco Cloud Device Redirect tool available in the Cisco Software Central for automatic PnP discovery.
cco-ipv6	Specifies the use of the Cisco Cloud Device Redirect tool available in the Cisco Software Central for automatic PnP discovery for IPv6.
dhcp	Specifies the use of a IPv4 DHCP server for automatic PnP discovery.
dhcp-ipv6	Specifies the use of a IPv6 DHCP server for automatic PnP discovery.
dns	Specifies the use of a IPv4 DNS server for automatic PnP discovery.
dns-ipv6	Specifies the use of a IPv6 DNS server for automatic PnP discovery.
timeout *value*	Specifies the timeout value in seconds. The default value is 60.
enable	Enables the PnP discovery method.
disable	Disables the PnP discovery method.

Command Default

The automatic discovery mode for DHCP, DNS, and CCO is enabled.

Command Modes

Global configuration (config)

Command History

Release	Modification
3.5.1	This command was introduced.

Usage Guidelines

You can enable or disable the options as required. For example, you can enable all options or keep one enabled, and the rest disabled. You cannot disable both static and automatic PnP discovery modes at the same time. You must restart PnP action every time you make changes to the PnP discovery configuration. You can do this using the **pnp action command restart** command.

Example

The following example shows how to enable automatic mode for PnP discovery process:

```
nfvis(config)# pnp automatic dhcp enable
nfvis(config)# pnp automatic dns enable
nfvis(config)# pnp automatic cco enable
```

```
nfvis(config)# pnp automatic timeout 100
nfvis(config)# commit
```

pnp static

To specify a static IP address for the Cisco Network PnP server, use the **pnp static** command in global configuration mode. To remove the PnP static IP address configuration , use the **no** form of the command with the **static** keyword. To clear any PnP static and automatic configurations, and put all the automatic configurations in default mode, which is enabled, with a retry timeout of 60 seconds, use the **no pnp** command.

pnp static {**ip-address** *ipv4-address* | **ipv6-address** *ipv6-address*} [**port** *number*]
no pnp static

Syntax Description

ip-address *ipv4-address*	Specifies the IPv4 address.
ipv6-address *ipv6-address*	Specifies the IPv6 address.
port *number*	(Optional) Specifies the port number. Valid range is from 0 to 65535.

Command Default

None

Command Modes

Global configuration (config)

Command History

Release	Modification
3.7.1	The ipv6-address parameter was added.
3.5.1	This command was introduced.

Usage Guidelines

You cannot disable both static and automatic PnP discovery modes at the same time. You must restart PnP action every time you make changes to the PnP discovery configuration. You can do this using the **pnp action command restart**.

Example

The following example shows how to configure a static IP address for the Cisco Network PnP server:

```
nfvis(config)# pnp automatic dhcp disable
nfvis(config)# pnp automatic dns disable
nfvis(config)# pnp automatic cco disable
nfvis(config)# pnp static ip-address 192.0.2.0 port 80
nfvis(config)# commit
```

show pnp

To verify the configuration of PnP discovery methods, use the **show pnp** command in privileged EXEC mode.

show pnp

Syntax Description

This command has no arguments or keywords.

Command Modes

Privileged EXEC (#)

Command History

Release	Modification
3.5.1	This command was introduced.

Example

The following sample output of the **show pnp** command shows that the static discovery mode is enabled, and the automatic discovery mode is disabled.

```
nfvis# show pnp
pnp status response "PnP Agent is running\n"
pnp status ip-address 192.0.2.0
pnp status port 80
pnp status transport ""
pnp status created_by user
pnp status dhcp_opt43 0
pnp status dns_discovery 0
pnp status cco_discovery 0
pnp status timeout 100
```

Resource Commands

- show resources cpu-info allocation, on page 46
- show resources cpu-info cpus, on page 47

show resources cpu-info allocation

To get information on the number of CPUs allocated to VMs and the CPUs that are already used by the VMs, use the **show resources cpu-info allocation** command in privileged EXEC mode.

show resources cpu-info allocation [**total-sockets** | **cores-per-socket** | **logical-cpus-used-by-system** | **logical-cpus-used-by-vnfs** | **logical-cpus-used-dedicated** | **logical-cpus-used-sharable** | **total-logical-cpus**]

Syntax Description

total-sockets	(Optional) Total sockets allocated.
cores-per-socket	(Optional) Number of cores per socket.
logical-cpus-used-by-system	(Optional) Number of CPUs used by the system.
logical-cpus-used-dedicated	(Optional) Number of dedicated CPUs.
total-logical-cpus	(Optional) Total number of CPUs.
logical-cpus-used-by-vnfs	(Optional) Number of CPUs used by VNFs.

Command Default

Complete information about CPU allocation to VMs.

Command Modes

Privileged EXEC (#)

Command History

Release	Modification
3.5.1	This command was introduced.

Example

The following is the sample output from the **show resources cpu-info allocation** command:

```
nfvis# show resources cpu-info allocation
resources cpu-info allocation total-sockets 1
resources cpu-info allocation cores-per-socket 8
resources cpu-info allocation total-logical-cpus 16
resources cpu-info allocation logical-cpus-used-by-system 2
resources cpu-info allocation logical-cpus-used-by-vnfs 14
resources cpu-info allocation logical-cpus-used-dedicated 12
resources cpu-info allocation logical-cpus-used-sharable 2
```

show resources cpu-info cpus

To display information on the VMs running in all the physical CPUs or a specific physical CPU in the system, use the **show resources cpu-info cpus** command in privileged EXEC mode.

show resources cpu-info cpus [**cpu** *cpu-id*]

Syntax Description

cpu *cpu-id*	(Optional) The ID of the physical CPU.

Command Default

Display information on the VMs running in all the physical CPUs.

Command Modes

Privileged EXEC (#)

Command History

Release	Modification
3.5.1	This command was introduced.

Example

The following is a sample output from the **show resources cpu-info cpus cpu 7** command:

```
nfvis# show resources cpu-info cpus cpu 7

CPU  SOCKET  CORE   SYSTEM                              LOW      VCPU
ID   ID      ID     USE       NAME                VCPUS  LATENCY  ID
-------------------------------------------------------------------------
7    0       7      false     1471588629.ROUTER3  4      true     0
```

Networks and Bridges Commands

- networks network, on page 50
- bridge, on page 53
- bridges bridge, on page 54
- show running-config bridges, on page 55
- show system networks, on page 56
- show system packages, on page 57
- ping, on page 58
- ping-ipv6, on page 59
- traceroute, on page 60

networks network

To add a bridge to a network, use the **networks network** command, in global configuration mode. To remove the bridge from a network, use the **no** form of the command.

networks network *networkname* { **bridge** *bridgename* | **sriov** *true* | **trunk true** | **trunk false** | **vlan** *vlannumber* | **vlan-range** *range* }
no networks network *networkname*

Syntax Description

network *networkname*	Specifies the name of the network.
bridge *bridgename*	Specifies the name of the bridge.
sriov *true*	Specifies the SRIOV network.
trunk true	Adds the network to trunk mode. **Note** The trunk mode is applicable only to the interfaces attached to a network, for example, a VNF or anvNIC. The trunk mode is not applicable for Physical NICs (pNICs).
trunk false	Removes the network from trunk mode and puts it in access mode.
vlan *vlannumber*	Specifies the VLAN number to be associated with the network.
vlan-range *range*	Specifies the VLAN range.

Command Default

None

Command Modes

Global configuration (config)

Command History

Release	Modification
3.5.1	This command was introduced.
4.8.1	The **vlan-range** keyword was added.

Example

The following example shows how to add a bridge to a network:

```
nfvis(config)# bridges bridge eth2-1-br
nfvis(config-bridge-eth2-1-br)# port eth2-1
nfvis(config-port-eth2-1)# commit

nfvis(config)# networks network eth2-1-net bridge eth2-1-br
nfvis (config-network-eth2-1-net)# commit
```

The following example shows how to create a SRIOV network:

```
nfvis(config)# networks network eth2-1-SRIOV-1 sriov true
nfvis(config-network-eth2-1-SRIOV-1)# commit
```

The following example shows how to add a network into trunk mode:

```
nfvis(config)# networks network eth2-1-net trunk true
nfvis(config-network-eth2-1-net)# commit
```

The following example shows how to remove a network from trunk mode:

```
nfvis(config)# networks network eth2-1-net trunk false
nfvis(config-network-eth2-1-net)# commit
```

The following example shows how to associate a VLAN with a network:

```
nfvis(config)# networks network eth2-1-net vlan 100 trunk true
nfvis(config-network-eth2-1-net)# commit
nfvis# show running-config networks network eth2-1-net
networks network eth2-1-net
 vlan   [ 100 ]
 trunk  true
 bridge eth2-1-br
```

The following example shows how to configure a VLAN range:

```
nfvis(config)# networks network eth2-1-net bridge eth2-1-br vlan-range [ 100-103 200 205-207
 ]
nfvis(config-network-eth2-1-net)# commit

nfvis# show running-config networks network eth2-1-net
networks network eth2-1-net
 vlan-range [ 100-103 200 205-207 ]
 bridge eth2-1-br

nfvis# show system networks network eth2-1-net
system networks network eth2-1-net
 bridge              eth2-1-br
 ports               eth2-1
 type                openvswitch
 vlan                100,101,102,103,200,205,206,207,1
```

Note

- A SRIOV network in trunk mode does not support VLAN tagging.

```
nfvis(config)# networks network eth2-1-net sriov true
nfvis(config-network-eth2-1-net)# trunk true
nfvis(config-network-eth2-1-net)# vlan 100
nfvis(config-network-eth2-1-net)# commit
Aborted: SRIOV network in trunk mode does not support vlan tagging
```

- In access mode, only one VLAN tag is supported.

```
nfvis(config)# networks network eth2-1-net
nfvis(config-network-eth2-1-net)# vlan [ 100 200 300 ]
nfvis(config-network-eth2-1-net)# trunk false
nfvis(config-network-eth2-1-net)# commit
Aborted: Network eth2-1-net: Access mode supports 1 vlan tag only
```

bridge

To attach a SPAN session to a bridge, use the **bridge** command in session configuration mode. To remove the SPAN session association, use the **no** form of the command.

bridge {**lan-br** | **wan-br**}
no bridge {**lan-br** | **wan-br**}

Syntax Description

lan-br	Specifies the LAN bridge.
wan-br	Specifies the WAN bridge.

Command Default

None

Command Modes

Session configuration (config-session-2)#

Command History

Release	Modification
3.5.1	This command was introduced.

Usage Guidelines

For VLAN mirroring, the bridge must be configured. Configuration is rejected if a SPAN session is not applied to a bridge. The bridge configuration is optional if the source or destination interface is configured for the SPAN session.

Example

The following example shows how to attach a SPAN session to a bridge:

```
nfvis(config)# monitor session 2
nfvis(config-session-2)# bridge lan-br
```

bridges bridge

To add a port or port channel to a bridge, use the **bridges bridge** command. To remove a port or port channel from a bridge, use the **no** form of the command.

bridges bridge *bridgename* **port** *portname*
no bridges bridge *bridgename* **port** *portname*

Syntax Description

bridgename	Specifies the name of the bridge.
portname	Specifies the name of the port or port channel.

Command Default

None

Command Modes

Global configuration (config)

Command History

Release	Modification
3.7.1	This command was introduced.

Example

```
nfvis# config
nfvis(config)# bridges bridge test-br port pc
nfvis(config-bridge-test-br)# commit
nfvis(config-bridge-test-br) # end
```

show running-config bridges

To display the currently running bridge configuration, use the **show running-config bridges** command in privileged EXEC mode.

show running-config bridges

Syntax Description

This command has no arguments or keywords.

Command Default

None

Command Modes

Privileged EXEC (#)

Command History

Release	Modification
3.5.1	This command was introduced.

Example

```
nfvis# show running-config bridges
bridges bridge wan-br
 port GE0-0
 !
!
bridges bridge lan-br
 port int-LAN
 !
!
```

show system networks

To display the information of the networks in the system, use the **show system networks** command in privileged EXEC mode.

show system networks [**network** *network-name* [**bridge** | ports | **type**]]

Syntax Description

network *network-name*	(Optional) Name of the network.
bridge	(Optional) The bridge for the network.
port	(Optional) The port for the network.
type	(Optional) The type of network.

Command Default

All the networks in the system are displayed.

Command Modes

Privileged EXEC (#)

Command History

Release	Modification
3.5.1	This command was introduced.

Example

```
nfvis# show system networks
NETWORK      BRIDGE          PORTS       TYPE
-----------------------------------------------------
default      virbr0          N/A
lan-net      lan-br          eth1,vnet4  openvswitch
service-net  service-net-br  N/A         openvswitch
wan-net      wan-br          eth0        openvswitch
```

show system packages

To display information on the packages in the system, use the **show system packages** command in privileged EXEC mode.

show system packages [**package** *package-name* [**owner** | **version**]]

Syntax Description

package *package-name*	(Optional) Name of the package.
owner	(Optional) Owner of the package.
version	(Optional) Version of the package.

Command Default

Display information on all the packages in the system.

Command Modes

Privileged EXEC (#)

Command History

Release	Modification
3.5.1	This command was introduced.

Example

```
nfvis# show system packages
NAME                                VERSION               OWNER
-------------------------------------------------------------------------
GeoIP.x86_64                        1.5.0-9.el7           @anaconda
NetworkManager.x86_64               1:1.0.6-27.el7        @anaconda
NetworkManager-libnm.x86_64         1:1.0.6-27.el7        @anaconda
NetworkManager-team.x86_64          1:1.0.6-27.el7        @anaconda
NetworkManager-tui.x86_64           1:1.0.6-27.el7        @anaconda
Twisted.x86_64                      13.1.0-1              @esc-lite
abrt.x86_64                         2.1.11-36.el7.centos  @anaconda
abrt-addon-ccpp.x86_64              2.1.11-36.el7.centos  @anaconda
abrt-addon-kerneloops.x86_64        2.1.11-36.el7.centos  @anaconda
```

ping

To diagnose basic network connectivity to an IPv4 host, use the **ping** command in privileged EXEC mode.

ping {*host-ip-address host-name*} [**count** *count*] [**pktsize** *pktsize*] [**interval** *interval*] [**ttl** *ttl*]

Syntax Description

host-ip-address	Specifies the address of the IPv4 host.
host-name	Specifies the name of the IPv4 host.
count *count*	Specifies the number of ping packets to be sent.
pktsize *pktsize*	Specifies the packet size. The default is 64 bytes.
interval *interval*	Specifies the number of seconds to wait between requests.
ttl *ttl*	Specifies the hop limit.

Command Default

None

Command Modes

Privileged EXEC (#)

Command History

Release	Modification
3.7.1	This command was introduced.

Example

```
nfvis(config)# ping count 5 interval 2 pktsize 64 ttl 64 192.0.2.252
PING 192.0.2.252 (192.0.2.252) 64(92) bytes of data.
72 bytes from 192.0.2.252: icmp_seq=1 ttl=64 time=0.050 ms
72 bytes from 192.0.2.252: icmp_seq=2 ttl=64 time=0.041 ms
72 bytes from 192.0.2.252: icmp_seq=3 ttl=64 time=0.042 ms
72 bytes from 192.0.2.252: icmp_seq=4 ttl=64 time=0.033 ms
72 bytes from 192.0.2.252: icmp_seq=5 ttl=64 time=0.033 ms

--- 192.0.2.252 ping statistics ---
5 packets transmitted, 5 received, 0% packet loss, time 8000ms
rtt min/avg/max/mdev = 0.033/0.039/0.050/0.010 ms
```

ping-ipv6

To diagnose basic network connectivity to an IPv6 host, use the **ping-ipv6** command in privileged EXEC mode.

ping-ipv6 {*host-ip-address host-name*} [**count** *count*] [**pktsize** *pktsize*] [**interval** *interval*] [**ttl** *ttl*]

Syntax Description

host-ip-address	Specifies the address of the IPv6 host.
host-name	Specifies the name of the IPv6 host.
count *count*	Specifies the number of ping packets to be sent.
pktsize *pktsize*	Specifies the packet size. The default is 64 bytes.
interval *interval*	Specifies the number of seconds to wait between requests.
ttl *ttl*	Specifies the hop limit.

Command Default

None

Command Modes

Privileged EXEC (#)

Command History

Release	Modification
3.7.1	This command was introduced.

Example

```
nfvis(config)# ping-ipv6 count 6 interval 2 pktsize 64 ttl 64 fe80::9c76:87ff:feba:5d40
PING fe80::9c76:87ff:feba:5d40(fe80::9c76:87ff:feba:5d40) 64 data bytes
72 bytes from fe80::9c76:87ff:feba:5d40%lan-br: icmp_seq=1 ttl=64 time=0.060 ms
72 bytes from fe80::9c76:87ff:feba:5d40%lan-br: icmp_seq=2 ttl=64 time=0.045 ms
72 bytes from fe80::9c76:87ff:feba:5d40%lan-br: icmp_seq=3 ttl=64 time=0.045 ms
72 bytes from fe80::9c76:87ff:feba:5d40%lan-br: icmp_seq=4 ttl=64 time=0.069 ms
72 bytes from fe80::9c76:87ff:feba:5d40%lan-br: icmp_seq=5 ttl=64 time=0.051 ms
72 bytes from fe80::9c76:87ff:feba:5d40%lan-br: icmp_seq=6 ttl=64 time=0.039 ms

--- fe80::9c76:87ff:feba:5d40 ping statistics ---
6 packets transmitted, 6 received, 0% packet loss, time 10000ms
rtt min/avg/max/mdev = 0.039/0.051/0.069/0.012 ms
```

traceroute

To discover the routes that packets take when traveling to a destination, use the **traceroute** command in privileged EXEC mode.

traceroute {*ip-address host-name*} **interface** *interface-name* [**source** *source-ip-address*] [**max** *max*] [**min** *min*] [**probes** *probes*] [**waittime** *waittime*]

Syntax Description

ip-address	Specifies the destination IP address.
host-name	Specifies the destination host name.
interface *interface-name*	Specifies a source network interface.
source *source-ip-address*	(Optional) Specifies a source IP address.
max *max*	(Optional) Specifies the maximum time-to-live (TTL) used in the outgoing probe packets. The default value is 30.
min *min*	(Optional) Specifies the minimum TTL used in the first outgoing probe packet. The default value is 1.
probes *probes*	(Optional) Specifies the number of probes to be sent at each TTL level. The default value is 3.
waittime *waittime*	(Optional) Specifies the probe timeout in seconds. The default value is 1.

Command Default

None

Command Modes

Privileged EXEC (#)

Command History

Release	Modification
3.7.1	This command was introduced.

Example

```
nfvis# traceroute min 5 198.51.100.1
traceroute to 198.51.100.1 (198.51.100.1), 30 hops max, 60 byte packets
 5  198.51.100.1 (198.51.100.1)  1.263 ms !X  1.157 ms !X  0.929 ms !X
```

VM Lifecycle Management Commands

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- vm_lifecycle images, on page 63
- vm_lifecycle tenants tenant admin deployments, on page 67
- vmAction, on page 71
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vm_lifecycle flavors

To create a flavor, use the **vm_lifecycle flavors** command in global configuration mode. To remove a flavor, use the **no** form of the command.

vm_lifecycle flavors flavor *flavor-name* **vcpus** *vcpus* **memory_mb** *memory_mb* **root_disk_mb** *root_disk_mb* **ephemeral_disk_mb** *ephemeral_disk_mb* [**swap_disk_mb** *swap_disk_mb*]

no vm_lifecycle flavors flavor

Syntax Description

flavor *flavor-name*	Specifies the flavor name.
vcpus *vcpus*	Specifies the number of vCPUs.
memory_mb *memory_mb*	Specifies the memory size in megabytes.
root_disk_mb *root_disk_mb*	Specifies the virtual root disk size in megabytes.
ephemeral_disk_mb *ephemeral_disk_mb*	Specifies the size of a secondary ephemeral data disk.
swap_disk_mb *swap_disk_mb*	(Optional) Specifies the size of swap space allocation.

Command Default

None

Command Modes

Global configuration (config)

Command History

Release	Modification
3.5.1	This command was introduced.

Usage Guidelines

When deploying or modifying a VM, you can specify a flavor in active state.

To verify that the VM flavor is created, use the following commands in privileged EXEC mode:

show running-config vm_lifecycle flavors [**flavor** *flavor-name*]

show vm_lifecycle opdata flavors [**flavor** *flavor-name*]

Example

```
nfvis(config)# vm_lifecycle flavors flavor my_small vcpus 2 memory_mb 4096 root_disk_mb
8192 ephemeral_disk_mb 0
swap_disk_mb 0
nfvis(config-flavor-my_small)# commit
```

vm_lifecycle images

To register a VM image, use the **vm_lifecycle images** command in global configuration mode. To remove the VM registration, use the **no** form of the command.

vm_lifecycle images image *image-name* **src** *file-path* [**properties property** *property-name* **value** *value*]
no vm_lifecycle images image *image-name*

Syntax Description

image *image-name*	Specifies the image name.
src *file-path*	Specifies the location of the image.
property *property-name*	Specifies the name of the property to replace the corresponding value inside the tar.gz while registering the image. For detailed information about all supported properties, see the *Usage Guidelines* section.
value *value*	Specifies the property value to be replaced inside the tar.gz.

Command Default

None

Command Modes

Global configuration (config)

Command History

Release	Modification
3.5.1	This command was introduced.

Usage Guidelines

A VM image registration is done only once per VM image. You can perform multiple VM deployments using the registered VM image.

The following table provides information about the resources supported or required for the VM operation.

Table 1: VM Image Properties

Property	Description
vnf_type	Specifies the VM functionality. Possible values are router, firewall, Windows, Linux, and custom_type. Router and firewall are predefined types.
name	Specifies the name associated with the VM packaging. This name is referenced for VM deployment.
version	Specifies the version of the package.
bootup_time	Specifies the bootup time of the VNF before it can be reachable through **ping**. You can specify any value in seconds. Specify value of -1 to not monitor the VM.

Property	Description
root_file_disk_bus	Specifies the root image disk bus. Valid values are virtio, scsi, and ide.
disk_*x*_file_disk_bus	Specifies the disk bus for additional disk image. The VM package supports up to 10 disks to be bundled into the package such as disk_1_file_disk_bus, disk_2_file_disk_bus, and disk_10_file_disk_bus. Valid values are virtio, scsi, and ide.
root_image_disk_format	Specifies the root image disk format. Valid values are qcow2 and raw.
disk_*x*_image_format	Specifies the image format for additional disk image. The VM package supports up to 10 disks to be bundled into the package such as disk_1_image_format, disk_2_image_format, and disk_10_image_format. Valid values are qcow2 and raw.
console_type_serial	Enables the serial console. Valid values are true and false.
vcpu_min	Specifies the minimum vCPUs required for a VM operation.
vcpu_max	Specifies the maximum vCPUs supported by a VM.
memory_mb_min	Specifies the minimum memory in MB required for VM operation.
memory_mb_max	Specifies the maximum memory in MB supported by a VM.
root_disk_gb_min	Specifies the minimum disk size in GB required for VM operation.
root_disk_gb_max	Specifies the maximum disk size in GB supported by a VM.
vnic_max	Specifies the maximum number of vNICs supported by a VM.
sriov_supported	Enables SRIOV support by VM interfaces. Valid values are true and false.
sriov_driver_list	Specifies the list of drivers to enable the SRIOV support.
pcie_supported	Enables the PCI passthrough support by VM interfaces. Valid values are true and false.

Property	Description
pcie_driver_list	Specifies the list of vNICS to enable the PCI passthrough support.
bootstrap_cloud_init_drive_type	Mounts the day0 configuration file as disk. Default is CD-ROM.
bootstrap_cloud_init_bus_type	Default is IDE.
bootstrap_file	Specifies the bootstrap file.
custom_property	Specifies the custom properties that can be defined within the custom_property tree. For example, for ISRv, the technology packages are listed in this block. If the Cisco Enterprise NFV portal is used to deploy the VM, the portal prompts you for inputs for custom properties fields, and can pass the values to the bootstrap configuration.
profiles	Specifies the list of VM deployment profiles. Minimum one profile is required.
default_profile	Specifies the default profile that is used when no profile is specified during deployment.
monitoring_supported	Specifies that the VM supports monitoring to detect failures. Valid values are true and false.
monitoring_methods	Specifies the method to monitor a VM. Currently, only ICMP ping is supported. This parameter is required if the **monitoring_supported** parameter is set to true.
low_latency	Specifies if a VM's low latency (for example, router and firewall) gets dedicated resource (CPU) allocation. Otherwise, shared resources are used. Valid values are true and false.
privileged_vm	Allows special features like promiscuous mode and snooping. Valid values are true and false. The default value is false.
virtual_interface_model	Specifies the virtual interface model.
thick_disk_provisioning	Configures thick disk provisioning. Valid values are true and false. The default value is false.
placement	Specifies placement datastore. For NFS, valid value is nfs-storage. For Cisco ENCS external datastore, allowed values are datastore2, datastore3. The default value is datastore1.

Property	Description
profile	Specifies the profile for defining the resources required for VM deployment. This profile is referenced during VM deployment.
name	Specifies the profile name.
description	Specifies the description of the profile.
vcpus	Specifies the vCPU number in a profile.
memory_mb	Specifies the memory in MB in a profile.
root_disk_mb	Specifies the disk size in MB in a profile.

To verify that the VM image is registered, use the following commands in privileged EXEC mode:

show running-config vm_lifecycle images [**image** *image-name*]

show vm_lifecycle opdata images [**image** *image-name*]

Example

The following example shows how to register a VM image:

```
nfvis(config)# vm_lifecycle images image isrv src
file://data/intdatastore/uploads/isrv-universalk9.16.03.01.tar.gz
nfvis(config-image-isrv)# properties property vnf_type value router
nfvis(config-property-vnf_type)# exit
nfvis(config-image-isrv)# properties property console_type_serial value true
nfvis(config-image-isrv)# properties property bootup_time value -1
nfvis(config-property-bootup_time)# exit
nfvis(config-image-isrv)# commit
nfvis(config-image-isrv)# end
```

vm_lifecycle tenants tenant admin deployments

To deploy a VM with its attributes, use the **vm_lifecycle tenants tenant admin deployments** command in global configuration mode along with the other commands given in the Usage Guidelines section. To undeploy a VM, use the **no** form of the command.

vm_lifecycle tenants tenant admin deployments deployment *deployment-name* **vm_group** *vm-group-name* **bootup_time** *value***image** *image-name* **flavor** *flavor-name*

no vm_lifecycle tenants tenant admin deployments deployment *deployment-name*

Usage Guidelines

1. Create a deployment and a vm_group.

   vm_lifecycle tenants tenant admin deployments deployment *deployment-name* **vm_group** *vm-group-name* **bootup_time** *value* **image** *image-name* **flavor** *flavor-name*

2. In the vm_group configuration mode, configure VM interfaces and optional model name, IP address, and port forwarding.

   interfaces interface *nicid* **network** *network-name* [**model** *model-name*] [**ip_address** *ip-address*] [**port_forwarding port** *port-type* **protocol** *protocol-name* **vnf_port** *port-num* **external_port_range** *port-num-start port-num-end*]

   exit

3. In vm_group configuration mode, configure scaling rule.

   scaling min_active *min_active* **max_active** *max_active*

4. (Optional) In vm_group configuration mode, configure placement.

   placement type zone_host host *placement-host-name*

5. In vm_group configuration mode, configure monitoring policy rule for a monitored VM for which the bootup_time is specified.

   rules admin_rules rule *rule-name* **action** *actions*

   exit

   kpi_data kpi *rule-name* **metric_value** *value* **metric_cond** *value* **metric_type** *metric_type* **metric_collector type** *type* **nicid** *vnic-id* **poll_frequency** *value* **polling_unit** *unit* **continuous_alarm** *continuous_alarm_value*

6. Commit the configuration.

   commit

To verify, use following two commands in privileged EXEC mode

show running-config vm_lifecycle tenants tenant admin deployments [*deployment-name*]

show vm_lifecycle opdata tenants tenant admin deployments [*deployment-name*]

Syntax Description

deployment *deployment-name*	Specifies the VM deployment name.
vm_group *vm-group-name*	Specifies the VM group name.

bootup_time *value*	Specifies the VM bootup time. Bootup time can vary depending on the VM image that you have selected. For example, bootup time is 600 seconds for a Cisco ISRv image. If no monitoring is required for the VM, set the bootup time as -1. **Note** A monitored VM must have a valid bootup time. The corresponding KPI fields are mandatory for the monitored VM. For an unmonitored VM, the KPI fields are optional.
image *image-name*	Specifies the image name that was used for registering. The image must be in ACTIVE state.
flavor *flavor-name*	Specifies the flavor name. The flavor must be in ACTIVE state.
interfaces interface *nicid*	Specifies the virtual interface ID. **Note** At least one NIC ID is required for monitored VMs. For unmonitored VMs, NIC ID is optional.
network *network-name*	Specifies the name of the network attached to the NIC ID. All networks (such as LAN and WAN), except the internal management network, require an IP address. The vNIC attachment to the internal management network is required only for VMs that require monitoring. If this interface is used for monitoring, network must be set to **int-mgmt-net**.
model *model-name*	Specifies the model name. Possible values are: e1000, i82551, i82557b, i82559er, ne2k_pci, pcnet, rtl8139, and virtio. The default value is virtio. This is an optional parameter.
ip_address *ip_address*	Specifies the IPv4 address. This is an optional parameter.
port_forwarding	Configures port forwarding. When port forwarding is enabled, you must specify the values in the following fields: **port**, **protocol**, **vnf_port**, and **external_port_range**.
port *port-type*	Specifies the port type. Possible values are SSH, HTTPS, TCP, and Telnet.
protocol *protocol-name*	Specifies the protocol. Valid value is TCP.
vnf_port *port-num*	Specifies the port number corresponding to the specified protocol.
external_port_range *port-num-start port-num-end*	Specifies the unique port number to specify the start and end range for ports.
scaling	Specifies how many instances of a particular type of VM need to be instantiated, and whether elastic scale-in and scale-out are required.
min_active *min_active*	Defines the minimum number of VMs to be activated.
max_active *max_active*	Defines the maximum number of VMs to be activated.

placement	Configures placement datastore. This is an optional parameter.
type zone_host	Specifies the placement type. Value must be zone_host.
host *placement-host-name*	Specifies the name of the placement datastore. For NFS, valid value is nfs-storage. For Cisco ENCS external datastore, allowed values are datastore2, datastore3. The default value is datastore1.
rules admin_rules	Configures monitoring policy rule. These are the rules that an administrator specifies when the service is registered. This parameter is mandatory if the VM is a monitored VM, that is, its bootup time is non-zero.
rule *rule-name*	Specifies the name of the monitoring event rule.
action *actions*	Specifies the list of actions which this policy triggers. • ALWAYS log—Whether the event is pingable or not, the details are always logged. • FALSE recover autohealing—The action identified by this keyword is triggered, and the VM is recovered without the administrator's intervention. • TRUE servicebooted.sh—The action identified by this keyword in the dynamic mapping file is triggered when the VM moves from a non-pingable to a pingable state. You can specify actions in the following format: **action ["ALWAYS log" "FALSE recover autohealing" "TRUE servicebooted.sh"]**.
kpi_data	Specifies the Key Performance Indicators (KPI) data.
kpi *rule-name*	Specifies the KPI rule name.
metric_value *value*	Specifies the metric threshold value of the KPI.
metric_cond *value*	Specifies the direction of the metric value change for the KPI. Valid values are the following: • **GE** and **GT**: An alarm is sent when the metric value increases from a lower position to equal or exceed the specified value. • **LE** and **LT**: An alarm is sent when the metric value decreases from a higher position to equal or go down the specified value.
metric_type *type*	Specifies the metric type. Valid metric types are INT8, UINT8, INT16, UINT16, INT32, UINT32, FLOAT, DOUBLE, and STRING.
metric_collector	Configures the metrics that needs to be monitored and at what frequency should the monitoring happen.
type *type*	Specifies the type to be monitored; for example, ICMPPing. If the image boot-up time is provided, monitoring must be set to ICMPPing.

nicid *vnic-id*	Specifies the card ID of the interface through which this VM is monitored. It should be the ID specified for one of interfaces in the payload.
poll_frequency *value*	Specifies the ICMP ping frequency value.
polling_unit *unit*	Specifies the ICMP ping frequency unit. Possible values are minutes and seconds.
continuous_alarm *value*	Specifies that the continuous events need to be generated. Valid values are true and false.

Command Default

None

Command Modes

Global configuration (config)

Command History

Release	Modification
3.5.1	This command was introduced.

Example

The following example shows how to deploy a VM:

```
nfvis(config)# vm_lifecycle tenants tenant admin deployments deployment dep1 vm_group router1
 bootup_time 600 image
isrv flavor ISRv-small
nfvis(config-vm_group-router1)# interfaces interface 0 network int-mgmt-net port_forwarding
 port ssh protocol tcp
vnf_port 22 external_port_range 20024 20024
nfvis(config-port-ssh)# exit
nfvis(config-interface-0)# exit
nfvis(config-vm_group-router1)# interfaces interface 1 model virtio network lan-net
nfvis(config-interface-1)# exit
nfvis(config-vm_group-router1)# rules admin_rules rule VM_ALIVE action [ "ALWAYS log" "FALSE
 recover autohealing"
"TRUE servicebooted.sh" ]
nfvis(config-rule-VM_ALIVE)# exit
nfvis(config-vm_group-router1)# kpi_data kpi VM_ALIVE metric_value 1 metric_cond GT
metric_type UINT32 metric_collector
type ICMPPing nicid 0 poll_frequency 3 polling_unit seconds continuous_alarm false
nfvis(config-kpi-VM_ALIVE)# exit
nfvis(config-vm_group-router1)# scaling min_active 1 max_active 1
nfvis(config-vm_group-router1)# placement zone_host host datastore1
nfvis(config-placement-zone_host)# exit
nfvis(config-vm_group-router1)# commit
```

vmAction

To specify a VM action, use the **vmAction** command in privileged EXEC mode.

vmAction *action* **vmName** *name*

Syntax Description

action	Specify the action. Valid values are **DISABLE_MONITOR**, **ENABLE_MONITOR**, **REBOOT**, **RECOVER**, **START**, and **STOP**.
name	Specify the VM name. This VM name is the internally-generated name. Use the **show vm_lifecycle opdata tenants tenant admin deployments** command to get the VM NAME per deployment.

Command Default

None

Command Modes

Privileged EXEC (#)

Command History

Release	Modification
3.6.1	This command was introduced.

Example

```
nfvis# vmAction actionType STOP vmName
1513193832_ROUTER_0_15c32f49-0d95-4b7a-8a84-ba7de3c1d6f9
```

vmBackupAction

To back up a VM, use the **vmBackupAction** command in privileged EXEC mode.

vmBackupAction vmName *name* **actionType** *action* [**backupName** *backupname*]

Syntax Description

vmName *name*	Specifies the VM name.
actionType *action*	Specifies the action type. Valid value is **EXPORT**.
backupName *backupname*	Specifies the backup name for the VM.

Command Default

None

Command Modes

Privileged EXEC (#)

Command History

Release	Modification
3.7.1	This command was introduced.

Example

```
nfvis# vmBackupAction vmName isrvtest1 actionType EXPORT
```

vmConsole

To enable VM serieal console, use the **vmConsole** command in privileged EXEC mode.

vmConsole *vm-domain-name*

Syntax Description

vm-domain-name	Specifies the VM domain name.

Command Default

None

Command Modes

Privileged EXEC (#)

Command History

Release	Modification
3.5.1	This command was introduced.

Usage Guidelines

If the VM does not support a serial console, the **vmConsole** command returns this message, "Serial console not available".

To exit the VM console you must enter ctrl+] and then enter **send escape**.

Example

The following example shows how a VM is connected to its domain using the serial console:

```
nfvis#  vmConsole fortinet.fortinet
Connected to domain fortinet.fortinet
```

vncconsole start

To get information about the VNC console, use the **vncconsole start** command in privileged EXEC mode.

vncconsole start deployment-name *name* **vm-name** *name*

Syntax Description

deployment-name	*name*	Specifies the deployment name.
vm-name	*name*	Specifies the VM name.

Command Default

None

Command Modes

Privileged EXEC (#)

Command History

Release	Modification
3.5.1	This command was introduced.

Example

```
nfvis# vncconsole start deployment-name 1461784490 vm-name isrvtest1
vncconsole-url :6001/vnc_auto.html
```

show vm_lifecycle opdata

To display the overall operational status of VM life cycle, use the **show vm_lifecycle opdata** command in privileged EXEC mode.

show vm_lifecycle opdata [**flavors flavor** *flavor-name* | **images image** *image-name* | **networks network** *network-name* | **stats** | **status** | **system-config** | **tenants tenant** *tenant-name* [**deployments** [**vm_group** *vm-group-name*]]]

Syntax Description

flavors flavor *flavor-name*	Specifies the flavor name.
images image *image-name*	Specifies the image name.
networks network *network-name*	Specifies the network name.
stats	Displays the VM life cycle statistics.
status	Displays the VM life cycle status.
system-config	Displays the VM life cycle configuration.
tenants tenant *tenant-name*	Specifies the tenant name.
deployments	Displays the deployment status.
vm_group *vm-group-name*	Displays the deployment status for the specified VM group.

Command Default

Displays the overall operational status of the VM life cycle.

Command Modes

Privileged EXEC (#)

Command History

Release	Modification
3.5.1	This command was introduced.

```
nfvis# show vm_lifecycle opdata
vm_lifecycle opdata status OPER_UP
vm_lifecycle opdata stats hostname nfvis
vm_lifecycle opdata stats os_name Linux
vm_lifecycle opdata stats os_release 3.10.0-327.36.3.el7.x86_64
vm_lifecycle opdata stats arch amd64
vm_lifecycle opdata stats uptime 1395859
vm_lifecycle opdata stats cpu cpu_num 16
vm_lifecycle opdata networks network int-mgmt-net
 netid                a5bc70f6-5841-4af5-bcec-6710d28e7f55
 shared               true
 admin_state          true
 provider_network_type local
 status               active
                                                                                NO

NAME                SUBNETID                              CIDR          GATEWAY    GATEWAY
  DHCP   IPVERSION
```

```
-----------------------------------------------------------------------------------------------------
int-mgmt-net-subnet  004db62f-ae89-43f7-bc24-dfa2d9caa3eb  192.0.2.0/24  192.0.2.1  false
   false  4

vm_lifecycle opdata tenants tenant admin
 tenant_id AdminTenantId
 networks network int-mgmt-net
  netid                 a5bc70f6-5841-4af5-bcec-6710d28e7f55
  shared                true
  admin_state           true
  provider_network_type local
  status                active
                                                                                        NO

NAME                 SUBNETID                              CIDR          GATEWAY    GATEWAY
  DHCP   IPVERSION
-----------------------------------------------------------------------------------------------------
int-mgmt-net-subnet  004db62f-ae89-43f7-bc24-dfa2d9caa3eb  192.0.2.0/24  192.0.2.1  false
   false  4


nfvis# show vm_lifecycle opdata tenants tenant admin deployments
deployment_id SystemAdminTenantIdisrv1
     vm_group isrv1
     name     SystemAdminTena_isrv1_0_72619ffd-df8e-4c32-b24a-3d7b03a31303
SystemAdminTena_isrv1_0_72619ffd-df8e-4c32-b24a-3d7b03a31303  VM_ALIVE_STATE


nfvis# show vm_lifecycle opdata tenants tenant admin deployments vm_group isrv1
deployments isrv1 - -

 vm_group isrv1

  vm_instance 57b9a63a-9c9d-4765-baa6-2d7086ad3262

   name     SystemAdminTena_isrv1_0_72619ffd-df8e-4c32-b24a-3d7b03a31303

   host_id  NFVIS

   hostname nfvis

   interfaces interface 0

    model       virtio

    port_id     vnic1

    network     int-mgmt-net

    subnet      N/A

    ip_address  192.0.2.10

    mac_address 52:54:00:f1:5f:d9

    netmask     255.255.255.0

    gateway     192.0.2.1

   interfaces interface 1

    model       virtio
```

```
 port_id     vnic7
 network     wan-net
 subnet      N/A
 mac_address 52:54:00:2b:41:e9
interfaces interface 2
 model       virtio
 port_id     vnic8
 network     lan-net
 subnet      N/A
 mac_address 52:54:00:7a:27:25
 netmask     255.255.255.0
 gateway     198.51.100.1
```

show running-config vm_lifecycle

To display the currently running VM life cycle configuration, use the **show running-config vm_lifecycle** command in privileged EXEC mode.

show running-config vm_lifecycle

Syntax Description

This command has no arguments or keywords.

Command Default

None

Command Modes

Privileged EXEC (#)

Command History

Release	Modification
3.6.1	This command was introduced.

Example

```
nfvis# show running-config vm_lifecycle
vm_lifecycle tenants tenant admin
 description      "Built-in Admin Tenant"
 managed_resource false
 vim_mapping      true
!
vm_lifecycle networks network int-mgmt-net
 subnet int-mgmt-net-subnet
  ipversion ipv4
  dhcp      false
  address   192.0.2.0
  netmask   255.255.255.0
  gateway   192.0.2.1
 !
!
```

show running-config vm_packages

To display the running VM package configuration, use the **show running-config vm_packages** command in privileged EXEC mode.

show running-config vm_packages

Syntax Description

This command has no arguments or keywords.

Command Default

None

Command Modes

Privileged EXEC (#)

Command History

Release	Modification
3.6.1	This command was introduced.

Example

```
nfvis# show running-config vm_packages
```

Internal Management IP Commands

- vm_lifecycle networks, on page 82

vm_lifecycle networks

To create a new subnet, use the **vm_lifecycle networks** command in global configuration mode. To delete an existing subnet, use the **no** form of this command.

vm_lifecycle networks network int-mgmt-net subnet int-mgmt-net-subnet address *ip-address* **gateway** *gateway-ip-address* **netmask** *netmask* **dhcp** {**true** | **false**}

Syntax Description

network int-mgmt-net	Specifies the network name. The network name must be set to **int-mgmt-net**.
subnet int-mgmt-net-subnet	Specifies the management subnet name. The subnet name must be set to **int-mgmt-net-subnet**.
address *ip-address*	Specifies the subnet address for the network.
gateway *gateway-ip-address*	Specifies the gateway IP address for the network.
netmask *netmask*	Specifies the netmask for the network.
dhcp	Configures DHCP. The DHCP value must be set to **false**. The default value is **true**.

Command Default

None

Command Modes

Global configuration (config)

Command History

Release	Modification
3.7.1	This command was introduced.

Usage Guidelines

The management subnet should be changed before deploying any VMs. You must first delete the subnet and then add the new subnet.

The chosen subnet should have at least four IP addresses for network, broadcast, gateway and VM. If the monitoring IP is passed in the deployment payload, it should be within the IP addresses available in the address pool. Otherwise, the Cisco Enterprise NFVIS assigns the next available IP from the address pool.

Example

```
nfvis(config)# vm_lifecycle networks network int-mgmt-net subnet int-mgmt-net-subnet address
 192.168.0.0 gateway 192.168.0.1 netmask 255.255.255.0 dhcp false
nfvis(config)# commit
```

System Monitoring Commands

- hostaction mgmt-dhcp-renew, on page 84
- hostaction wan-dhcp-renew, on page 85
- hostaction reboot, on page 86
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- show resources cpu-info allocation, on page 88
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- show system-monitoring host cpu, on page 95
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hostaction mgmt-dhcp-renew

To renew the DHCP IP address on the management interface, use the **hostaction mgmt-dhcp-renew** command in privileged EXEC mode.

hostaction mgmt-dhcp-renew

Syntax Description

This command has no arguments or keywords.

Command Modes

Privileged EXEC (#)

Command History

Release	Modification
3.5.1	This command was introduced.

Example

The following command renews the DHCP IP address on the management interface:

```
nfvis# hostaction mgmt-dhcp-renew
```

hostaction wan-dhcp-renew

To renew the DHCP IP address on the WAN interface, use the **hostaction wan-dhcp-renew** command in privileged EXEC mode.

hostaction wan-dhcp-renew

Syntax Description

This command has no arguments or keywords.

Command Modes

Privileged EXEC (#)

Command History

Release	Modification
3.5.1	This command was introduced.

Example

The following command renews the DHCP IP address on the WAN interface:

```
nfvis# hostaction wan-dhcp-renew
```

hostaction reboot

To reboot the Cisco NFVIS host, use the **hostaction reboot** command in privileged EXEC mode.

hostaction reboot

Syntax Description

This command has no arguments or keywords.

Command Modes

Privileged EXEC (#)

Command History

Release	Modification
3.5.1	This command was introduced.

Usage Guidelines

When you run this command, the connectivity is lost and the Cisco NFVIS host is rebooted. After the reboot is complete, you can again connect to the Cisco NFVIS host.

Example

```
nfvis# hostaction reboot
```

hostaction shutdown

To shut down the Cisco NFVIS host, use the **hostaction shutdown** command in privileged EXEC mode.

hostaction shutdown

Syntax Description

This command has no arguments or keywords.

Command Modes

Privileged EXEC (#)

Command History

Release	Modification
3.5.1	This command was introduced.

Usage Guidelines

After shutting down the Cisco NFVIS host, if you want to power it on again, use CIMC.

Example

```
nfvis# hostaction shutdown
```

show resources cpu-info allocation

To get information on the number of CPUs allocated to VMs and the CPUs that are already used by the VMs, use the **show resources cpu-info allocation** command in privileged EXEC mode.

show resources cpu-info allocation [**total-sockets** | **cores-per-socket** | **logical-cpus-used-by-system** | **logical-cpus-used-by-vnfs** | **logical-cpus-used-dedicated** | **logical-cpus-used-sharable** | **total-logical-cpus**]

Syntax Description

total-sockets	(Optional) Total sockets allocated.
cores-per-socket	(Optional) Number of cores per socket.
logical-cpus-used-by-system	(Optional) Number of CPUs used by the system.
logical-cpus-used-dedicated	(Optional) Number of dedicated CPUs.
total-logical-cpus	(Optional) Total number of CPUs.
logical-cpus-used-by-vnfs	(Optional) Number of CPUs used by VNFs.

Command Default

Complete information about CPU allocation to VMs.

Command Modes

Privileged EXEC (#)

Command History

Release	Modification
3.5.1	This command was introduced.

Example

The following is the sample output from the **show resources cpu-info allocation** command:

```
nfvis# show resources cpu-info allocation
resources cpu-info allocation total-sockets 1
resources cpu-info allocation cores-per-socket 8
resources cpu-info allocation total-logical-cpus 16
resources cpu-info allocation logical-cpus-used-by-system 2
resources cpu-info allocation logical-cpus-used-by-vnfs 14
resources cpu-info allocation logical-cpus-used-dedicated 12
resources cpu-info allocation logical-cpus-used-sharable 2
```

show resources cpu-info cpus

To display information on the VMs running in all the physical CPUs or a specific physical CPU in the system, use the **show resources cpu-info cpus** command in privileged EXEC mode.

show resources cpu-info cpus [**cpu** *cpu-id*]

Syntax Description

cpu *cpu-id*	(Optional) The ID of the physical CPU.

Command Default

Display information on the VMs running in all the physical CPUs.

Command Modes

Privileged EXEC (#)

Command History

Release	Modification
3.5.1	This command was introduced.

Example

The following is a sample output from the **show resources cpu-info cpus cpu 7** command:

```
nfvis# show resources cpu-info cpus cpu 7

CPU  SOCKET  CORE   SYSTEM                              LOW      VCPU
ID   ID      ID     USE       NAME                VCPUS  LATENCY  ID
-------------------------------------------------------------------------
7    0       7      false     1471588629.ROUTER3  4      true     0
```

show resources cpu-info vnfs

To display information on the CPUs and VCPUs that are allocated to each of the VMs, or a specific VM in the system, use the **show resources cpu-info vnfs** command in privileged EXEC mode.

show resources cpu-info vnfs [**vnf** *vnf-name*]

Syntax Description

vnf *vnf-name*	(Optional) The name of the vnf.

Command Default

Display information on the CPUs and VCPUs that are allocated to each of the VMs.

Command Modes

Privileged EXEC (#)

Command History

Release	Modification
3.5.1	This command was introduced.

Example

The following is the sample output from the **show resources cpu-info vnfs vnf 1472148662.ROUTER2** command:

```
nfvis# show resources cpu-info vnfs vnf 1472148662.ROUTER2
       LOW       VCPU      SOCKET        CORE     CPU
NAME                           VCPUS   LATENCY   ID        ID            ID       ID
-------------------------------------------------------------------------------------------
1472148662.ROUTER2             2       true      0         0             3        3
                                                           0             3        11

                                                           0             2        10
```

Note In the example, when low latency is true, no VCPUs are assigned to this VM; instead CPUs 3, 11 and 10 are entirely reserved for this VM.

show resources precheck vnf

To check if there are sufficient resources for the deployment of a new VM or for updating a deployed VM, use the **show resources precheck vnf** in privileged EXEC mode.

show resources precheck vnf {*vm-name flavor-name low-latency* {**true** | **false**}}

Syntax Description

vm-name	The name of the VM. For updating an existing VM, the VM name must be **deployment-name.vm-group-name**
flavor-name	The name of the flavor.
low-latency	This can be either true or false. If true, the VM needs dedicated CPUs.

Command Modes

Privileged EXEC (#)

Command History

Release	Modification
3.5.1	This command was introduced.

The following is a sample output from the **show resources precheck vnf newvnf csr1kv-medium true** command:

```
nfvis# show resources precheck vnf newvnf csr1kv-medium true
VNF                              SUFFICIENT
NAME  FLAVOR NAME  LOW LATENCY  RESOURCES   CAUSE
-------------------------------------------------------------------------------
newvnf     isr1kv-medium true    false  No enough CPU resources
```

The table below describes the significant fields shown in the display:

Table 2: show resources precheck Field Description

Field	Description
VNF Name	Name of the VM
Flavor Name	The flavor name of the VM.
Low Latency	If true, the VM needs dedicated CPUs.
Sufficient Resources	Sufficient resources to deploy the VM.

swraid-enable

To enable virtual RAID with the default RAID type (RAID1), use the **swraid-enable** command in privileged EXEC mode.

hostaction swraid-enable raid-type { **RAID0** | **RAID1** }

Syntax Description

raid-type	Enable virtual RAID with a specific RAID type.
RAID0	Indicates a raid configuration of RAID0.
RAID1	Indicates a raid configuration of RAID1.

Command Default

RAID1 is the default RAID type if raid-type is not specified.

Command Modes

Privileged EXEC (#)

Command History

Release	Modification
Cisco NFVIS Release 4.18.1.	This command was introduced.

Usage Guidelines

This command must be executed before VM deployment. Two identical E-SSD-U2N disks must be present in the system.

Example

The following examples shows how to enable virtual RAID with RAID type RAID 0, RAID1

```
nfvis# hostaction swraid-enable raid-type RAID0

Warning: Before proceeding, Undeploy Vms and images that uses external disk. Copy out data
 from uploads dir in external disks. Continue? [no,yes] yes

enable-status : SUCCESS.

nfvis# hostaction swraid-enable raid-type RAID1

Warning: Before proceeding, Undeploy Vms and images that uses external disk. Copy out data
 from uploads dir in external disks. Continue? [no,yes] yes

enable-status : SUCCESS.
```

swraid-disable

To disable virtual RAID, use the **swraid-disable** command in privileged EXEC mode.

hostaction swraid-disable

Command Default

RAID1 is the default RAID type if raid-type is not specified.

Command Modes

Privileged EXEC (#)

Command History

Release	Modification
Cisco NFVIS Release 4.18.1.	This command was introduced.

Usage Guidelines

This command must be executed if RAID is enabled on the system.

Example

The following example shows how to disable Software RAID:

```
nfvis# hostaction swraid-disable

Warning: Before proceeding, Undeploy Vms and images that uses external disk. Copy out data
 from uploads dir in external disks. Continue? [no,yes] yes

disable-status : SUCCESS
```

swraid-diskreplace

To rebuild Virtual RAID after replacing a faulty disk, use the **swraid-diskreplace** command in privileged EXEC mode.

hostaction swraid-diskreplace

Command Modes

Privileged EXEC (#)

Command History

Release	Modification
Cisco NFVIS Release 4.18.1.	This command was introduced.

Usage Guidelines

This command must be executed after physically replacing a faulty E-SSD-U2N disk in a Virtual RAID array to initiate the rebuild process and restore data redundancy.

Example

The following example shows how to rebuild Virtual RAID after replacing a faulty disk:

```
nfvis# hostaction swraid-diskreplace

Caution: Proceeding with this action will format and partition the disk currently occupying
 the slot of the previously faulty disk. Continue? [no,yes] yes
diskreplace-status Disk replaced and RAID array rebuilding. Start disk writes after oper
shows sync state as 'active sync'
nfvis# show swraid-status
swraid-status raid-state Unhealthy
swraid-status raid-name /dev/md127
swraid-status raid-level 1
swraid-status sync-status False
swraid-status working-devices 2
swraid-status active-devices 1
swraid-status failed-devices 0
swraid-status disk-size 3.5T
swraid-status used-space 32K
DISK NAME       SLOT           STATE
-----------------------------------------------
/dev/nvme1n1p1  U2-Upper-Slot  active sync
/dev/nvme2n1p1  U2-Lower-Slot  spare rebuilding
```

show system-monitoring host cpu

To display the host CPU statistics, use the **show system-monitoring host cpu** command in privileged EXEC mode.

show system-monitoring host cpu [{**stats** | **table**} [**cpu-usage** *duration* [**state** *state*]]]

Syntax Description

stats	Displays the CPU statistics.
table	Displays brief CPU statistics.
cpu-usage *duration*	Specifies the statistics duration. Valid values are **1min**, **5min**, **15min**, **30min**, **1h**, **6h**, **1d**, **5d**, and **30d**. Default duration is **5min**.
state *state*	Specifies the CPU state. Valid states are **non-idle**, **interrupt**, **nice**, **system**, **user**, and **wait** . Default state is **non-idle**. This parameter is available only with **stats** parameter.

Command Default

None

Command Modes

Privileged EXEC (#)

Command History

Release	Modification
3.6.1	This command was introduced.

Example

```
nfvis# show system-monitoring host cpu stats
system-monitoring host cpu stats cpu-usage 5min state non-idle
 collect-start-date-time 2017-03-20T08:58:40-00:00
 collect-interval-seconds 10
 cpu
 id 0
 usage-percentage "[2.11, 3.64, 1.12, 1.29, 1.16, 0.83, 1.14, 1.7, 3.27, 2.06, 2.43, 1.8,
2.52, 1.63, 1.85, 1.53, 3.38, 2.2, 2.08,
 1.74, 1.25, 1.69, 1.6, 1.51, 1.63, 1.85]"
 cpu
 id 1
 usage-percentage "[0.47, 0.2, 0.23, 0.47, 0.21, 0.32, 0.47, 0.2, 0.23, 0.48, 0.29, 0.25,
0.65, 0.2, 0.23, 0.47, 0.21, 0.32, 0.46,
 0.13, 0.41, 0.48, 0.3, 0.33, 0.55, 0.11, 0.23]"
 cpu
 id 2
 usage-percentage "[0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0,
0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0,
 0.0, 0.0, 0.0, 0.0, 0.0]"
...

nfvis# show system-monitoring host cpu table
                        MIN        MAX        AVERAGE
DURATION ID STATE       PERCENTAGE PERCENTAGE PERCENTAGE
```

```
------------------------------------------------------------
5min      0  non-idle   1.25       3.38       1.93
             interrupt  0.0        0.0        0.0
             nice       0.0        0.0        0.0
             softirq    0.0        0.09       0.0
             steal      0.0        0.0        0.0
             system     0.43       1.68       0.78
             user       0.34       0.86       0.6
             wait       0.0        1.86       0.58
          1  non-idle   0.11       0.65       0.34
             interrupt  0.0        0.0        0.0
             nice       0.0        0.0        0.0
             softirq    0.0        0.01       0.0
             steal      0.0        0.0        0.0
             system     0.01       0.28       0.14
             user       0.02       0.37       0.19
             wait       0.0        0.0        0.0
```

show system-monitoring host disk

To display the statistics about the host disk, use the **show system-monitoring host disk** command in privileged EXEC mode.

show system-monitoring host disk stats [{**disk-operations** | **disk-space**} *duration* [**collect-interval-seconds** | **collect-start-date-time** | **disk** | **mount-point**]]

Syntax Description

stats	Displays the disk statistics.
disk-operations	Displays the disk operation statistics.
disk-space	Displays the disk space statistics.
duration	Specifies the statistics duration. Valid values are **1min**, **5min**, **15min**, **30min**, **1h**, **6h**, **1d**, **5d**, and **30d**. Default duration is **5min**.
collect-interval-seconds	Displays the collection interval in seconds.
collect-start-date-time	Displays the statistics by the start date and time of data collection.
disk	Displays the disk statistics by disk name. This parameter is available only with **disk-operations** parameter.
mount-point	Displays the disk statistics by mount name. This parameter is available only with **disk-space** parameter.

Command Default

None

Command Modes

Privileged EXEC (#)

Command History

Release	Modification
3.6.1	This command was introduced.

Example

```
nfvis# show system-monitoring host disk stats disk-operations 1min
system-monitoring host disk stats disk-operations 1min
 collect-start-date-time 2017-03-20T09:24:20-00:00
 collect-interval-seconds 10
 disk
 name disk-sda
 io-time-ms            [54.11, 62.98]
 io-time-weighted-ms   [4990.48, 6232.35]
 merged-reads-per-sec  [0.0]
 merged-writes-per-sec [4.77]
 bytes-read-per-sec    [0.0]
 bytes-written-per-sec [202506.24]
 reads-per-sec         [0.0, 0.0]
 writes-per-sec        [38.68, 40.05]
 time-per-read-ms      []
```

```
 time-per-write-ms     []
 pending-ops           [0.0, 0.0, 0.0]
...

nfvis# show system-monitoring host disk stats disk-space 5min
system-monitoring host disk stats disk-space 5min
 collect-start-date-time 2017-03-20T09:27:30-00:00
 collect-interval-seconds 10
 mount-point
 name /boot
 free-GB "[0.33, 0.33, 0.33, 0.33, 0.33, 0.33, 0.33, 0.33, 0.33, 0.33, 0.33, 0.33, 0.33,
0.33, 0.33, 0.33, 0.33, 0.33, 0.33, 0.33,
 0.33, 0.33, 0.33]"
 used-GB "[0.1, 0.1, 0.1, 0.1, 0.1, 0.1, 0.1, 0.1, 0.1, 0.1, 0.1, 0.1, 0.1, 0.1, 0.1, 0.1,
 0.1, 0.1, 0.1, 0.1, 0.1, 0.1, 0.1, 0.1,
 0.1, 0.1]"
 reserved-GB "[0.03, 0.03, 0.03, 0.03, 0.03, 0.03, 0.03, 0.03, 0.03, 0.03, 0.03, 0.03, 0.03,
 0.03, 0.03, 0.03, 0.03, 0.03, 0.03, 0.03,
 0.03, 0.03, 0.03, 0.03]"
 mount-point
 name /data
 free-GB "[844.0, 844.0, 844.0, 844.0, 844.0, 844.0, 844.0, 844.0, 844.0, 844.0, 844.0,
844.0, 844.0, 844.0, 844.0, 844.0, 844.0,
 844.0, 844.0, 844.0, 844.0, 844.0, 844.0, 844.0, 844.0]"
 used-GB "[6.48, 6.48, 6.48, 6.48, 6.48, 6.48, 6.48, 6.48, 6.48, 6.48, 6.48, 6.48, 6.48,
6.48, 6.48, 6.48, 6.48, 6.48, 6.48, 6.48,
 6.48, 6.48, 6.48]"
 reserved-GB "[45.54, 45.54, 45.54, 45.54, 45.54, 45.54, 45.54, 45.54, 45.54, 45.54, 45.54,
 45.54, 45.54, 45.54, 45.54, 45.54, 45.54,
 45.54, 45.54, 45.54, 45.54, 45.54, 45.54, 45.54, 45.54, 45.54, 45.54, 45.54]"
...
```

show system-monitoring host memory

To display the statistics about the host memory, use the **show system-monitoring host memory** command in privileged EXEC mode.

show system-monitoring host memory [{**stats** | **table**} [**mem-usage** *duration*]]

Syntax Description

stats	Displays detailed memory statistics.
table	Displays brief memory statistics.
mem-usage *duration*	Specifies the statistics duration. Valid values are **1min**, **5min**, **15min**, **30min**, **1h**, **6h**, **1d**, **5d**, and **30d**. Default duration is **5min**.

Command Default

None

Command Modes

Privileged EXEC (#)

Command History

Release	Modification
3.6.1	This command was introduced.

Example

```
nfvis# show system-monitoring host memory stats
system-monitoring host memory stats mem-usage 5min
 collect-start-date-time 2017-03-20T09:29:40-00:00
 collect-interval-seconds 10
 buffered-MB "[261.65, 261.67, 261.69, 261.7, 261.71, 261.72, 261.74, 261.75, 261.75, 261.76,
 261.78, 261.78, 261.79, 261.79,
 261.8, 261.8, 261.81, 261.82, 261.82, 261.83, 261.84, 261.84, 261.85, 261.85, 261.86,
261.86, 261.86, 261.86]"
 cached-MB "[7191.49, 7191.49, 7191.5, 7191.5, 7191.51, 7191.5, 7191.51, 7191.5, 7191.51,
7191.51, 7191.5, 7191.51,
7191.51, 7191.51, 7191.51, 7191.51, 7191.51, 7191.51, 7191.51, 7191.51, 7191.51, 7191.51,
7191.51, 7191.51, 7191.51,
7191.51, 7191.51]"
 free-MB "[45447.74, 45447.77, 45447.96, 45447.97, 45447.79, 45447.46, 45447.37, 45447.6,
45447.76, 45447.66, 45447.97,
45447.39, 45446.85, 45446.71, 45447.98, 45447.98, 45448.18, 45446.67, 45448.17, 45447.94,
45448.23, 45447.61, 45447.74,
45447.58, 45448.39, 45448.02, 45448.05, 45448.02]"
 used-MB "[10909.11, 10908.99, 10908.7, 10908.71, 10908.85, 10909.15, 10909.13, 10909.09,
10908.87, 10908.84, 10908.64,
10909.14, 10909.76, 10909.85, 10908.65, 10908.65, 10908.46, 10909.86, 10908.41, 10908.59,
10908.32, 10908.83, 10908.75,
10909.0, 10908.17, 10908.6, 10908.6, 10908.58]"
 slab-recl-MB "[295.25, 295.25, 295.25, 295.25, 295.25, 295.25, 295.25, 295.25, 295.25,
295.25, 295.26, 295.26, 295.26,
295.27, 295.27, 295.27, 295.27, 295.27, 295.27, 295.27, 295.27, 295.27, 295.27]"
 slab-unrecl-MB "[57.19, 57.26, 57.32, 57.29, 57.32, 57.33, 57.42, 57.23, 57.27, 57.4,
57.28, 57.35, 57.25, 57.3, 57.21,
57.21, 57.2, 57.3, 57.25, 57.3, 57.26, 57.36, 57.3, 57.22, 57.24, 57.16, 57.14, 57.18,
57.28]"
```

```
nfvis# show system-monitoring host memory table mem-usage 1min
                       MIN         MAX         AVERAGE
DURATION TYPE         MIN         MAX     AVERAGE
-------------------------------------------------
1min     buffered-MB   0         0       0
         cached-MB     0         0       0
         free-MB       0         0       0
         slab-recl-MB  295.27    295.27  295.27
         slab-unrecl-MB 57.28    57.28   57.28
         used-MB       0         0       0
```

show system-monitoring host port

To display the statistics about the host ports, use the **show system-monitoring host port** command in privileged EXEC mode.

show system-monitoring host port [{**stats** | **table**} [**port-usage** *duration*]]

Syntax Description

stats	Displays detailed port statistics.
table	Displays brief port statistics.
port-usage *duration*	Specifies the statistics duration. Valid values are **1min**, **5min**, **15min**, **30min**, **1h**, **6h**, **1d**, **5d**, and **30d**. Default duration is **5min**.

Command Default

None

Command Modes

Privileged EXEC (#)

Command History

Release	Modification
3.6.1	This command was introduced.

Examples

```
nfvis# show system-monitoring host port stats
system-monitoring host port stats port-usage 5min
 collect-start-date-time 2017-03-20T09:42:30-00:00
 collect-interval-seconds 10
 port
 name eth0
 total-packets-per-sec "[36.82, 20.43, 17.25, 18.49, 17.55, 18.05, 18.42, 18.48, 24.75,
18.73, 27.23, 42.25, 20.83, 18.28, 17.66,
 21.24, 16.68, 20.95, 21.01, 25.17, 20.79, 20.47, 55.73]"
 rx-packets-per-sec "[36.28, 20.43, 17.22, 18.2, 17.36, 17.93, 18.15, 18.47, 24.64, 18.53,
 27.01, 41.87, 20.65, 18.26, 17.47,
21.13, 16.48, 20.75, 20.83, 25.14, 20.52, 19.84, 49.61]"
 tx-packets-per-sec "[0.54, 0.0, 0.03, 0.29, 0.19, 0.12, 0.27, 0.01, 0.11, 0.2, 0.22, 0.38,
 0.18, 0.02, 0.19, 0.11, 0.2, 0.2,
0.18, 0.03, 0.27, 0.63, 6.12]"
 total-errors-per-sec "[0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0,
0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0,
0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0]"
 rx-errors-per-sec "[0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0,
 0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0,
 0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0]"
 tx-errors-per-sec "[0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0,
 0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0,
 0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0]"
 ...

nfvis# show system-monitoring host port table
URATION NAME COLLECT START DATE TIME SECONDS STATUS ADDRESS PACKETS PACKETS PER SEC PER SEC

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

```
5min eth0 2017-03-20T09:44:10-00:00 10        up      NA      4814    55      16.6    0.19
5min eth1 2017-03-20T09:44:10-00:00 10        up      NA      5330    5       18.38   0.02
5min eth2 2017-03-20T09:44:10-00:00 10        down    NA      0       0        0.0    0.0
5min eth3 2017-03-20T09:44:10-00:00 10        down    NA      0       0        0.0    0.0
5min eth4 2017-03-20T09:44:10-00:00 10        down    NA      0       0        0.0    0.0
5min eth5 2017-03-20T09:44:10-00:00 10        down    NA      0       0        0.0    0.0
```

show system-monitoring vnf vcpu

To display the CPU statistics for VNFs running on the host, use the **show system-monitoring vnf vcpu** command in privileged EXEC mode.

show system-monitoring vnf vcpu stats [**vcpu-usage** *duration*]

Syntax Description

stats	Displays the VNF CPU statistics.
vcpu-usage *duration*	Specifies the statistics duration. Valid values are **1min**, **5min**, **15min**, **30min**, **1h**, **6h**, **1d**, **5d**, and **30d**. Default duration is **5min**.

Command Default

None

Command Modes

Privileged EXEC (#)

Command History

Release	Modification
3.6.1	This command was introduced.

Example

```
nfvis# show system-monitoring vnf vcpu stats
system-monitoring vnf vcpu stats vcpu-usage 5min
 vnf ISRv
 collect-start-date-time 2017-03-20T06:49:50-00:00
 collect-interval-seconds 10
 total-percentage "[55.05, 65.35, 73.35, 70.23, 58.28, 52.08, 52.23, 53.05, 52.88, 53.23,
56.28, 58.45, 54.85, 55.05, 60.03,
54.18, 33.33, 16.9, 13.33, 12.15, 12.2, 12.13, 12.0, 12.8, 12.83, 11.98, 11.98]"
 vcpu
 id 0
 vcpu-percentage "[94.55, 75.35, 66.75, 78.7, 92.8, 100.0, 100.0, 100.0, 100.0, 100.0,
100.0, 99.85, 91.25, 86.45, 83.4, 72.8,
41.0, 9.3, 5.05, 4.8, 4.85, 4.65, 4.7, 4.95, 4.85, 4.65, 4.7, 4.6, 4.95]"
 vcpu
 id 1
 vcpu-percentage "[14.2, 53.65, 78.25, 59.7, 22.9, 3.75, 4.0, 5.8, 5.6, 6.2, 12.3, 16.35,
17.1, 16.75, 19.5, 23.15, 22.05, 22.3,
21.45, 19.45, 19.55, 19.55]"
...
```

show system-monitoring vnf disk

To display the disk statistics for VNFs running on the host, use the **show system-monitoring vnf disk** command in privileged EXEC mode.

show system-monitoring vnf disk stats [**disk-operations** *duration*]

Syntax Description

stats	Displays the VNF disk statistics.
disk-operations *duration*	Specifies the statistics duration. Valid values are **1min**, **5min**, **15min**, **30min**, **1h**, **6h**, **1d**, **5d**, and **30d**. Default duration is **5min**.

Command Default

None

Command Modes

Privileged EXEC (#)

Command History

Release	Modification
3.6.1	This command was introduced.

Example

```
nfvis# show system-monitoring vnf disk stats
system-monitoring vnf disk stats disk-operations 5min
 vnf 1489446885.ROUTER
 collect-start-date-time 2017-03-20T09:55:30-00:00
 collect-interval-seconds 10
 disk
 disk-name vda
 bytes-read-per-sec "[0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0,
 0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0,
0.0, 0.0, 0.0, 0.0, 0.0]"
 bytes-written-per-sec "[92.16, 696.32, 6266.88, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0,
0.0, 204.8, 1843.2, 0.0, 40.96, 368.64,
 0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 30.72]"
 reads-per-sec "[0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0,
 0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0,
0.0, 0.0, 0.0, 0.0, 0.0]"
 writes-per-sec "[0.09, 0.08, 0.72, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.03, 0.27,
 0.0, 0.01, 0.09, 0.0, 0.0, 0.0, 0.0,
 0.0, 0.0, 0.0, 0.0, 0.03, 0.27]"
 disk
 disk-name hdd
 bytes-read-per-sec "[0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0,
 0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0,
0.0, 0.0]"
 bytes-written-per-sec "[0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0,
0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0,
 0.0, 0.0]"
 reads-per-sec "[0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0,
 0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0,
0.0, 0.0, 0.0, 0.0, 0.0]"
 writes-per-sec "[0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0,
0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0,
```

```
0.0, 0.0, 0.0, 0.0, 0.0]"
...
```

show system-monitoring vnf memory

To display the memory statistics for VNFs running on the host, use the **show system-monitoring vnf memory** command in privileged EXEC mode.

show system-monitoring vnf memory stats [**mem-usage** *duration*]

Syntax Description

stats	Displays the VNF memory statistics.
mem-usage *duration*	Specifies the statistics duration. Valid values are **1min**, **5min**, **15min**, **30min**, **1h**, **6h**, **1d**, **5d**, and **30d**. Default duration is **5min**.

Command Default

None

Command Modes

Privileged EXEC (#)

Command History

Release	Modification
3.6.1	This command was introduced.

Example

```
nfvis# show system-monitoring vnf memory stats
system-monitoring vnf memory stats mem-usage 5min
 vnf 1489446885.ROUTER
 collect-start-date-time 2017-03-20T09:53:20-00:00
 collect-interval-seconds 10
 total-MB "[4096.0, 4096.0, 4096.0, 4096.0, 4096.0, 4096.0, 4096.0, 4096.0, 4096.0, 4096.0,
 4096.0, 4096.0, 4096.0, 4096.0,
4096.0, 4096.0, 4096.0, 4096.0, 4096.0, 4096.0, 4096.0, 4096.0, 4096.0, 4096.0]"
 rss-MB "[4175.93, 4175.93, 4175.93, 4175.93, 4175.93, 4175.93, 4175.93, 4175.93,
 4175.93, 4175.93, 4175.93, 4175.93,
4175.93, 4176.13, 4177.73, 4175.95, 4175.95, 4175.95, 4175.95, 4175.95, 4175.95, 4175.95,
4175.95, 4175.95, 4175.95, 4175.95,
4175.95]"
 vnf 1489448227.OTHER
 collect-start-date-time 2017-03-20T09:53:20-00:00
 collect-interval-seconds 10
 total-MB "[256.0, 256.0, 256.0, 256.0, 256.0, 256.0, 256.0, 256.0, 256.0, 256.0, 256.0,
256.0, 256.0, 256.0, 256.0, 256.0, 256.0,
 256.0, 256.0, 256.0, 256.0, 256.0, 256.0, 256.0]"
 rss-MB "[113.66, 113.66, 113.66, 113.66, 113.66, 113.66, 113.66, 113.66, 113.66, 113.66,
113.66, 113.66, 113.66, 113.66, 113.66, 113.66,
 113.66, 113.66, 113.66, 113.66, 113.66, 113.66, 113.66, 113.66, 113.66, 113.66, 113.66,
113.66, 113.66, 113.66]"
 vnf 1489532063.ROUTER2
 collect-start-date-time 2017-03-20T09:53:20-00:00
 collect-interval-seconds 10
 total-MB "[4096.0, 4096.0, 4096.0, 4096.0, 4096.0, 4096.0, 4096.0, 4096.0, 4096.0, 4096.0,
 4096.0, 4096.0, 4096.0, 4096.0,
4096.0, 4096.0, 4096.0, 4096.0, 4096.0, 4096.0, 4096.0, 4096.0]"
 rss-MB "[4147.98, 4147.98, 4147.98, 4147.98, 4147.98, 4147.98, 4147.98, 4147.98, 4147.98,
 4147.98, 4147.98, 4147.98, 4147.98,
4147.98, 4147.98, 4147.98, 4147.98, 4147.98, 4147.98, 4147.98, 4147.96, 4147.96, 4147.96,
```

```
4147.96, 4147.96]"
...
```

show system-monitoring vnf port

To display the port statistics for VNFs running on the host, use the **show system-monitoring vnf port** command in privileged EXEC mode.

show system-monitoring vnf port stats [**port-usage** *duration*]

Syntax Description

stats	Displays the VNF port statistics.
port-usage *duration*	Specifies the statistics duration. Valid values are **1min**, **5min**, **15min**, **30min**, **1h**, **6h**, **1d**, **5d**, and **30d**. Default duration is **5min**.

Command Default

None

Command Modes

Privileged EXEC (#)

Command History

Release	Modification
3.6.1	This command was introduced.

Example

```
nfvis# show system-monitoring vnf port stats
system-monitoring vnf port stats port-usage 5min
 vnf 1489446885.ROUTER
 collect-start-date-time 2017-03-20T09:56:50-00:00
 collect-interval-seconds 10
 port
 port-name vnic0
 total-packets-per-sec "[0.78, 0.62, 0.8, 0.78, 0.64, 0.96, 0.6, 0.64, 0.96, 0.6, 0.64,
0.96, 0.62, 0.8, 0.78, 0.62, 0.8, 0.78,
0.62, 0.8, 0.78, 0.62, 0.81, 0.89]"
 rx-packets-per-sec "[0.39, 0.31, 0.4, 0.39, 0.32, 0.48, 0.3, 0.32, 0.48, 0.3, 0.32, 0.48,
 0.31, 0.4, 0.39, 0.31, 0.4, 0.39, 0.31,
 0.4, 0.39, 0.31, 0.4, 0.4]"
 tx-packets-per-sec "[0.39, 0.31, 0.4, 0.39, 0.32, 0.48, 0.3, 0.32, 0.48, 0.3, 0.32, 0.48,
 0.31, 0.4, 0.39, 0.31, 0.4, 0.39, 0.31,
 0.4, 0.39, 0.31, 0.41, 0.49]"
 total-errors-per-sec "[0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0,
0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0,
0.0, 0.0, 0.0, 0.0]"
 rx-errors-per-sec "[0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0,
 0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0,
 0.0, 0.0, 0.0]"
 tx-errors-per-sec "[0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0,
 0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0,
 0.0, 0.0, 0.0]"
 port
 port-name vnic1
 total-packets-per-sec "[0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0,
0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0,
0.0, 0.0, 0.0, 0.0]"
 rx-packets-per-sec "[0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0,
 0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0,
```

```
0.0, 0.0, 0.0, 0.0]"
 tx-packets-per-sec "[0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0,
 0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0,
0.0, 0.0, 0.0, 0.0]"
 total-errors-per-sec "[0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0,
0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0,
0.0, 0.0, 0.0, 0.0]"
 rx-errors-per-sec "[0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0,
 0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0,
0.0, 0.0, 0.0, 0.0]"
 tx-errors-per-sec "[0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0,
 0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0,
0.0, 0.0, 0.0, 0.0]"
...
```

System Operations Commands

- scp, on page 112
- system file-copy usb, on page 115
- system file-download file, on page 116
- system file-delete, on page 117
- system usb-mount, on page 118
- telnet, on page 119
- show system file-list, on page 120

scp

To secure copy a file from the Cisco NFVIS to an external system or from an external system to Cisco NFVIS, the admin user can use the **scp** command in privileged EXEC mode.

For detailed information about how to use this command to copy to or from supported locations, see the *Usage Guidelines* section.

scp *source destination*

Syntax Description

source	To copy a file from an external system, specify the source in the following format: *user@remotehostip:file*. To copy a file to an external system, specify the NFVIS location and name of the file. The external host can have an IPv4 or IPv6 address as described in the *Usage Guidelines* section.
destination	To copy a file to an external system, specify the the destination in the following format: *user@remotehostip:file*. To copy a file from an external system, specify the NFVIS location and name of the file. The external host can have an IPv4 or IPv6 address as described in the *Usage Guidelines* section.

Command Default

None

Command Modes

Privileged EXEC (#)

Command History

Release	Modification
3.7.1	Support for IPv6 address, NFS location, USB, prefix mappings and log file copy was added.
3.6.1	This command was introduced.

Usage Guidelines

Following are the guidelines for using the **scp** command:

- Supported Users: Only the admin user can run the **scp** command.
- Certain special characters are blacklisted from source and destination path, except in certain positions - '*', '&', ';', ':', '@', '|', '..'
- Supported Locations
  - The admin user can copy files to and from the `intdatastore`, `extdatastore1`, `extdatastore2`, `usb`, and `nfs` locations in Cisco NFVIS. In addition, the admin user can copy the log files from Cisco NFVIS to an external system.

    Any attempt to SCP to NFVIS file system other than the mentioned list is prohibited by the command:

    intdatastore - /data/intdatastore/uploads/

    extdatastore1 - /mnt/extdatastore1/uploads/

extdatastore2 - /mnt/extdatastore2/uploads/

usb - /mnt-usb/

nfs - /data/mount/

logs - /data/intdatastore/logs

SCP location prefixes map to fixed NFVIS directories. For example, the command:

```
scp intdatastore:sample.txt user@203.0.113.2:/Users/user/Desktop/sample.txt
```

copies the file from:

```
/data/intdatastore/uploads/sample.txt
```

not from:

```
/data/intdatastore/sample.txt
```

Before copying a file from NFVIS using `intdatastore:<file>`, ensure that the file exists under `/data/intdatastore/uploads/`. If the file is located elsewhere under /data/intdatastore/, copy it to the uploads directory first:

```
nfvis# system file-copy source /data/intdatastore/sample.txt destination
/data/intdatastore/uploads/sample.txt
nfvis# scp intdatastore:sample.txt user@203.0.113.2:/Users/user/Desktop/sample.txt
```

You can copy to and from `extdatastore1`, `extdatastore2`, `usb`, and `nfs` locations only if they are available or mounted. The `extdatastore1` and `extdatastore2` locations are available only in the Cisco ENCS 5400 Series.

- The admin user can copy the log files from the `logs` folder of Cisco NFVIS to an external system. Copying files to the `logs` folder is not allowed. All SCP actions are logged into /data/intdatastore/logs/nfvis_scp.log file.
- To copy to or from a USB, you must first mount the USB by using the **system usb-mount mount ACTIVE** command. After the USB is mounted, use the **show system file-list disk usb** command to find the exact USB name and provide the identified USB name in the **scp** command; for example, **scp***user@remotehostip:file***usb:***usb_name/filename*.
- To copy to or from NFS, you must first mount an NFS location by using the **system storage nfs_storage** command. After the NFS is mounted, you must specify the name of the NFS mount in the **scp** command; for example, **scp** *user@remotehostip:file***nfs:** *mount_name/filename*.

- Supported Address Types: You can specify IPv4 or IPv6 address of an external system. The IPv6 address of the external system must be specified within square brackets ([ ]); for example, **scp** *user***@[** *remotehostip***]:***sourcefile destinationfile*

Example

The following example copies the sample.txt file from intdatastore to an external system.

```
nfvis# scp intdatastore:sample.txt user@203.0.113.2:/Users/user/Desktop/sample.txt
```

Example

The following example copies the test.txt file from an external system to intdatastore.

```
nfvis# scp user@203.0.113.2:/Users/user/Desktop/test.txt intdatastore:test_file.txt
```

Example

The following example copies the test.txt file from an external system to USB.

```
nfvis# scp user@203.0.113.2:/user/Desktop/my_test.txt usb:usb1/test.txt
```

Example

The following example copies the sample.txt file to an NFS location.

```
nfvis# scp user@203.0.113.2:/user/Desktop/sample.txt nfs:nfs_test/sample.txt
```

Example

The following example copies the sample.txt file from an external system with IPv6 address.

```
nfvis# scp user@[2001:DB8:0:ABCD::1]:/user/Desktop/sample.txt intdatastore:sample.txt
```

Example

The following example copies the nfvis_scp.log file to an external system.

```
nfvis# scp logs:nfvis_scp.log user@203.0.113.2:/Users/user/Desktop/copied_nfvis_scp.log
```

system file-copy usb

To copy a VM image using the USB drive, use the **system file-copy usb** command in global configuration mode.

system file-copy usb file name *string*

Syntax Description

file name *string*	Specifies the file name of the VM image.

Command Default

None

Command Modes

Global configuration (config)

Command History

Release	Modification
	This command was introduced.

Example

The following example shows how to copy a VM image using the USB drive:

```
nfvis(config)# system usb-mount mount active
nfvis(config)# system file-copy usb file name usb1/package/isrv-universalk9.16.03.01.tar.gz
nfvis(config)# commit
```

system file-download file

To download a file to a specific location (/data/intdatastore/uploads) on the host server, from a HTTP server, use the **system file-download file** command.

system file-download file { **source** *http* **checksum** *sha256 checksum* }

Syntax Description

	source	Specifies the path for the file to be copied.
(Optional)	**checksum**	Specifies the SHA256 checksum for the file to be downloaded.

Command Default

None

Command Modes

None

Command History

Release	Modification
3.9.1	This command was introduced.

Example

The following example shows how to download a file to a specific location (/data/intdatastore/uploads) on the host server, from the HTTP server:

```
nfvis#  system:system file-download file { source http://1.2.3.4/file_1 checksum
73f0474f9d145c8e2d89e9b3dda937676a52e854bc76c2da18738733503a0d83 }
```

Note Multiple files can be downloaded, either with or without checksum, at the same time.

system file-delete

To delete a file from the default location (/data/intdatastore/uploads) on the host server, use the **system file-delete** command in global configuration mode.

system file-delete file name *string*

Syntax Description

name	*string*	Specifies the name of the file.

Command Default

None

Command Modes

Global configuration (config)

Command History

Release	Modification
3.5.1	This command was introduced.

Example

The following example shows how to delete a file from the default location on the host server:

```
nfvis(config)# system file-delete file name /data/intdatastore/uploads/TinyLinux.tar.gz
nfvis(config)# commit
```

system usb-mount

To mount the USB drive on the NFVIS server, use the **system usb-mount** command in global configuration mode. To unmount, use the **no** form of this command.

system usb-mount mount active

no system usb-mount

Syntax Description

mount active	Mounts the USB drive on the NFVIS server.

Command Default

None

Command Modes

Global configuration (config)

Command History

Release	Modification
3.5.1	This command was introduced.

Usage Guidelines

Ensure that you have plugged the USB drive that contains the required images into the server before mounting the USB drive.

Example

```
nfvis(config)# system usb-mount mount active
nfvis(config)# commit
```

telnet

To open a telnet session to a local service on a serial port, use the **telnet** command in privileged EXEC mode.

telnet *serial-port*

Syntax Description

serial-port	Specifies the name of the serial port. The serial port must be enabled for the VM.

Command Default

None

Command Modes

Privileged EXEC (#)

Command History

Release	Modification
3.7.1	This command was introduced.

Example

```
nfvis# telnet 7000
Trying 127.0.0.85...
Connected to 127.0.0.85.
Escape character is '^]'.

Router>
Router>
Router>?
Exec commands:
  access-profile   Apply user-profile to interface
  app-hosting      Application hosting
  appnav           IOS Wide Area Application Services
  clear            Reset functions
  connect          Open a terminal connection
  crypto           Encryption related commands.
  disable          Turn off privileged commands
  disconnect       Disconnect an existing network connection
  do-exec          Mode-independent "do-exec" prefix support
  enable           Turn on privileged commands
  ethernet         Ethernet parameters
  exit             Exit from the EXEC
  help             Description of the interactive help system
  ip               IP SLA Exec Command
  lat              Open a lat connection
  license          Smart licensing Commands
  lig              LISP Internet Groper
  lock             Lock the terminal
  login            Log in as a particular user
  logout           Exit from the EXEC
  mrinfo           Request neighbor and version information from a multicast
 --More--
```

show system file-list

To display a list of system files, use the **show system file-list** command in privileged EXEC mode.

show system file-list [**disk** [**local** | **nfs** | **usb**]]

Syntax Description

disk	Displays files from the specified disk type.
local	Displays the files on local system.
nfs	Displays the files on NFS.
usb	Displays the files on mounted USB drive.

Command Modes

Privileged EXEC (#)

Command History

Release	Modification
3.6.1	This command was introduced.

Example

```
nfvis# show system file-list
system file-list disk local 1
 name          nfvisvmpackagingtool.tar
 path          /data/intdatastore/uploads/vmpackagingutility
 size          50K
 type          "VM Packaging Tool"
 date-modified "2017-09-07 02:18:53"
system file-list disk local 2
 name          catalina.out-20171001.gz
 path          /data/intdatastore/logs/2017-10
 size          40
 type          "Log File"
 date-modified "2017-10-01 04:00:01"
system file-list disk local 3
 name          ovsdb-server.log-20171001.gz
 path          /data/intdatastore/logs/2017-10
 size          276
 type          "Log File"
 date-modified "2017-10-01 04:00:01"
system file-list disk local 4
 name          ovs-vswitchd.log-20171001.gz
 path          /data/intdatastore/logs/2017-10
 size          204
 type          "Log File"
 ...
```

System Time Commands

- system time, on page 122
- system set-manual-time, on page 124
- show system time, on page 125
- show running-config system time, on page 126

system time

To set the system time using the Network Time Protocol (NTP) server, use the **system time** command in global configuration mode. Use the **no** form of the command to delete the time configuration.

Note When you enable and synchronize the system time clock using an NTP server, you must reboot the Cisco Enterprise NFVIS so that the BMC or CIMC date and time get updated with the new hardware clock.

system time [**timezone** *zone-subzone*] [**ntp** [**preferred_server** {*ipv4-address host-name*}] [**backup_server** {*ipv4-address host-name*}] | **ntp-ipv6** {*ipv6-address host-name*}]

no system time {**ntp** | **ntp-ipv6**}

Syntax Description

timezone *zone-subzone*	Specifies the timezone using zone and subzone.
ntp	Specifies the time using the NTP IPv4 server.
preferred_server	Specifies the IPv4 preferred server details.
ipv4-address	Specifies the IPv4 address.
hostname	Specifies the hostname.
backup_server	Specifies the IPv4 backup server details.
ntp-ipv6	Specifies the time using the NTP IPv6 server.
ipv6-address	Specifies the IPv6 address.

Command Default

None

Command Modes

Global configuration (config)

Command History

Release	Modification
3.7.1	The manual_time parameter is removed and the ntp-ipv6 parameter is added. To set the system time manually, use the **system set-manual-time** command.
3.5.1	This command was introduced.

Usage Guidelines

When you set the system time manually using the **system set-manual-time** command, the NTP is disabled automatically. Similarly, when NTP is enabled, the manual time configuration is automatically disabled.

Example

The following example shows how to set system time using NTP IPv4 server:

```
nfvis(config)# system time ntp preferred_server 198.51.100.1 backup_server 203.0.113.1
nfvis(config)# commit
```

Example

The following example shows how to set system time using NTP IPv6 server:

```
nfvis(config)# system time ntp-ipv6 2001:420:30d:201:ffff:ffff:fff4:35
nfvis(config)# commit
```

system set-manual-time

To set the system time clock manually, use the **system set-manual-time** command in privileged EXEC mode.

system set-manual-time *date-time*

Syntax Description

date-time	Specifies the manual date and time in YYYY-MM-DDTHH:MM:SS format. The supported year range for specifying the manual time is from 2016 to 2036.

Command Default

None

Command Modes

Privileged EXEC (#)

Command History

Release	Modification
3.7.1	This command was introduced.

Usage Guidelines

When you set the system time manually, the NTP is disabled automatically. Similarly, when NTP is enabled using the **system-time** command, the manual time configuration is automatically disabled.

Example

```
nfvis# system set-manual-time 2017-01-01T17:35:39
```

show system time

To view the system time clock configuration details, use the **show system time** command in privileged EXEC mode.

show system time [**current-time** | **current-timezone** | **ntp** [**status**]]

Syntax Description

current-time	Displays the current system time.
current-timezone	Displays the current system time zone.
ntp	Displays the synchronization status of the NTP server.
status	Displays the NTP status. You can filter the status using any of the following fields: **delay**, **jitter**, **offset**, **poll**, **reach**, **refid**, **st**, **t**, or **when**.

Command Default

All time configuration details are displayed.

Command Modes

Privileged EXEC (#)

Command History

Release	Modification
3.7.1	The command was modified to include the current-time, current-timezone, ntp, status parameters and remove the backup-server, date, ntp-status, preferred-server, and timezone parameters.
3.5.1	This command was introduced.

Usage Guidelines

If the configured NTP server is not displayed in the command output, check that the NTP server is configured correctly.

When a remote host is queried, if the response is not received before the timeout time, the request times out and the information is not displayed in the command output.

Example

The following is a sample output of the **show system time ntp status** command:

```
nfvis# show system time ntp status
REMOTE             REFID  ST  T  WHEN  POLL  REACH DELAY  OFFSET  JITTER
==============================================================================
*2001:420:30d:20  .GPS.   2   u  35    64    377   0.927  6.551   1.319

* sys.peer and synced, o pps.peer, # selected, + candidate,
- outlyer, . excess, x falseticker, space reject
```

show running-config system time

To display the running system time configuration, use the **show running-config system time** command in privileged EXEC mode.

show running-config system time

Syntax Description

This command has no arguments or keywords.

Command Default

None

Command Modes

Privileged EXEC (#)

Command History

Release	Modification
3.5.1	This command was introduced.

Example

```
nfvis# show running-config system time
system time ntp preferred_server 1.2.3.4
system time ntp backup_server 10.2.2.2
system time timezone America/New_York
system time ntp-ipv6 2001:420:30d:201:ffff:ffff:fff4:35
```

System Portal Commands

- system portal access, on page 128
- show system portal status, on page 129
- show running-config system portal access, on page 130

system portal access

To enable or disable the Cisco Enterprise NFVIS portal access, use the **system portal access** command in global configuration mode.

system portal access {**enable** | **disable**}

Syntax Description

enable	Enables the portal access.
disable	Disables the portal access.

Command Default

Portal access is enabled by default.

Command Modes

Global configuration (config)

Command History

Release	Modification
3.5.1	This command was introduced.

Example

The following example shows how to disable the portal access:

```
nfvis(config)# system portal access disable
nfvis(config)# commit
nfvis(config)# end
```

show system portal status

To verify the Cisco Enterprise NFVIS portal access status, use the **show system portal status**command in privileged EXEC mode.

show system portal status

Syntax Description

This command has no arguments or keywords.

Command Default

None

Command Modes

Privileged EXEC (#)

Command History

Release	Modification
3.5.1	This command was introduced.

Example

The following is a sample output of the **show system portal status** command:

```
nfvis# show system portal status
system portal status "access disabled"
```

show running-config system portal access

To display the running configuration for the Cisco Enterprise NFVIS portal access, use the **show running-config system portal access** command in privileged EXEC mode.

show running-config system portal access

Syntax Description

This command has no arguments or keywords.

Command Default

None

Command Modes

Privileged EXEC (#)

Command History

Release	Modification
3.5.1	This command was introduced.

Example

```
nfvis# show running-config system portal access
system portal access enabled
```

System Routes Commands

- system routes route, on page 132
- show system routes, on page 133
- show system dhcp-routes, on page 134
- show running-config system routes, on page 135

system routes route

To create a new system route or to modify an existing system route, use the **system routes route** command in global configuration mode. To delete a system route, use the **no** form of the command.

system routes route *destination prefix-length* [**gateway** *gateway*] [**dev** *device*]
no system routes route *destination prefix-length*

Syntax Description

destination	The route destination address.
prefix-length	The netmask for the destination address.
gateway *gateway*	(Optional) The gateway for the route.
dev *device*	(Optional) The device interface that the route will use.

Command Default

None

Command Modes

Global configuration (config)

Command History

Release	Modification
3.5.1	This command was introduced.

Usage Guidelines

Though only the destination and prefix length are mandatory parameters for creating a route, a valid route requires that you specify the gateway or the interface or both.

Example

The following command creates a system route to the destination 203.0.113.1:

```
nfvis(config)# system routes route 203.0.113.1 12 dev lan-br
nfvis(config)# commit
nfvis(config)# end
```

show system routes

To display the list of system routes, use the **show system routes** command in privileged EXEC mode.

show system routes [**route** *route-name*]

Syntax Description

route *route-name*	(Optional) Name of the process.

Command Default

None

Command Modes

Privileged EXEC (#)

Command History

Release	Modification
3.5.1	This command was introduced.

Example

The following is a sample output from the **show system routes** command:

```
nfvis# show system routes
DESTINATION      PREFIXLEN  STATUS
----------------------------------
203.0.113.1    12         -
203.0.113.2    12         -
203.0.113.3    24         -
```

show system dhcp-routes

To display the DHCP static routes, use the **show system dhcp-routes** command in privileged EXEC mode.

show system dhcp-routes

Syntax Description

This command has no arguments or keywords.

Command Modes

Privileged EXEC (#)

Command History

Release	Modification
3.6.1	This command was introduced.

Example

```
nfvis# show system dhcp-routes
DESTINATION     PREFIXLEN  GATEWAY       DEV
--------------------------------------------------------------------------------
192.0.2.0       16         203.0.113.0  wan-br
192.0.2.213     32         203.0.113.0  wan-br
```

show running-config system routes

To display the running configuration of system routes, use the **show running-config system routes** command in privileged EXEC mode.

show running-config system routes [**route** *route-name*]

Syntax Description

route *route-name*	(Optional) Name of the process.

Command Default

None

Command Modes

Privileged EXEC (#)

Command History

Release	Modification
3.5.1	This command was introduced.

Example

```
nfvis# show running-config system routes
DESTINATION      PREFIXLEN  STATUS
---------------------------------
203.0.113.1    12         -
203.0.113.2    12         -
203.0.113.3    24         -
```

System Log Commands

- system set-log , on page 138
- show system logging-level, on page 139
- show log, on page 140

system set-log

To set the log level and log type of messages, use the **system set-log** command in privileged EXEC mode.

system set-log level {**debug** | **info** | **warning** | **error** | **critical**} **logtype** {**configuration** | **operational** | **all**}

Syntax Description

level	Specifies the log level.
debug	Logs all messages.
info	Logs all messages that have **info** and higher severity level.
warning	Logs all messages that have **warning** and higher severity level.
error	Logs all messages that have **error** and higher severity level.
critical	Logs all messages that have **critical** severity level.
logtype	Specifies the log type.
configuration	Configuration log messages are recorded.
operational	Operational log messages are recorded.
all	All types of log messages are recorded.

Command Default

For the configuration log, **info** is the default level. For the operational log, **warning** is the default level.

Command Modes

Privileged EXEC (#)

Command History

Release	Modification
3.5.1	This command was introduced.

Usage Guidelines

After a system reboot, the modified logging configuration is reset to the default level, that is, **info** for the configuration log and **warning** for the operational log.

Example

The following example shows how to configure a log level:

```
nfvis# system set-log level error logtype all
```

show system logging-level

To view the log level and log type settings, use the **show system logging-level** command in privileged EXEC mode.

show system logging-level [**configuration** | **operational**]

Syntax Description

configuration	(Optional) Log level for the configuration log type is displayed.
operational	(Optional) Log level for the operational log type is displayed.

Command Default

The log level for all log types is displayed.

Command Modes

Privileged EXEC (#)

Command History

Release	Modification
3.5.1	This command was introduced.

Example

The following is a sample output of the **show system logging-level** command with the default log level settings:

```
nfvis# show system logging-level
system logging-level configuration info
system logging-level operational warning
```

show log

To display a list of available log files or content of a specific log file, use the **show log** command in privileged EXEC mode.

show log *log-name*

Syntax Description

log-name	Specifies the log file name. The log file name should be same as shown in the output of the **show log** command.

Command Default

None

Command Modes

Privileged EXEC mode

Command History

Release	Modification
3.7.1	The *log-name* parameter is an optional parameter. When this parameter is not specified, a listing of all available log files is displayed. In addition, you can provide a partial or complete log file name (as shown in the **show log** output) in the *log-name* parameter.
3.6.1	The *log-name* is a required parameter.
3.5.1	This command was introduced.

Usage Guidelines

In Release 3.6.1 and earlier releases, the exact directory path (`/var/log`) and exact filename is required to run this command.

Starting with Release 3.7.1, this command is modified for the following:

- Display a list of all available log files (using **show log**).
- Display a list of log files that match the partial filename provided in the *log-name* parameter.
- Display the content of the specified log file if the filename matches exactly as shown in **show log** output.

To filter the content of a log file, you can use the **show log** *log-name* **| ?** command.

The following example displays the available log files.

```
nfvis# show log
File Name              Last Modified                Size
backups.log            Mon Nov 13 10:30:01 2017     10758
boot.log               Mon Nov 13 10:51:25 2017     13893
btmp                   Mon Nov 13 10:26:21 2017     768
confd_audit.log        Mon Nov 13 11:05:35 2017     10423
confd_confd.log        Mon Nov 13 10:49:54 2017     20977
confd_devel.log        Mon Nov 13 10:49:54 2017     18969
confd.log              Mon Nov 13 10:48:58 2017     582
confd_netconf.log      Mon Nov 13 10:51:25 2017     1613
cron                   Mon Nov 13 11:01:01 2017     24762
...
```

The following examples display all available log files matching a partial name.

```
nfvis# show log nfvis
File Name              Last Modified                Size
nfvis_config.log       Mon Nov 13 10:51:25 2017     311395
nfvis_setup.log        Mon Nov 13 10:49:59 2017     3170
nfvis_syslog.log       Mon Nov 13 10:51:25 2017     1483


nfvis# show log esc
File Name                    Last Modified                Size
esc/debug_yangesc.log        Mon Nov 13 10:49:53 2017     276748
esc/error_escmanager.log     Mon Nov 13 10:50:06 2017     11825
esc/esc_confd.log            Mon Nov 13 10:28:42 2017     588
esc/escmanager.log           Mon Nov 13 10:50:19 2017     44597
esc/esc_postinit.log         Mon Nov 13 10:50:25 2017     74940
esc/event_escmanager.log     Mon Nov 13 10:50:19 2017     4791
esc/forever.log              Mon Nov 13 10:49:07 2017     6892
esc/yangesc.log              Mon Nov 13 10:49:53 2017     23982
```

The following examples show the content of a particular log file.

```
nfvis# show log nfvis_syslog.log
Nov 13 09:50:35 nfvisto6 %SYS-6-NFVIS_UP: System started by Power Switch. Up 1 minute, 42
seconds
Nov 13 09:51:35 nfvisto6 %SYS-6-UPGRADE_APPLY: Upgrade Process: In Progress
Nov 13 09:51:36 nfvisto6 %SYS-6-UPGRADE_APPLY: Upgrade Process: Restoring VMs
```

Example 2

The following example filters the content of a log file.

```
nfvis# show log esc/escmanager.log | ?
Possible completions:
  append    Append output text to a file
  begin     Begin with the line that matches
  count     Count the number of lines in the output
  exclude   Exclude lines that match
  include   Include lines that match
  linnum    Enumerate lines in the output
  more      Paginate output
  nomore    Suppress pagination
  save      Save output text to a file
  until     End with the line that matches

nfvis# show log esc/escmanager.log | include ERROR | more
02-Mar-2017 01:46:27,613 INFO  [LogContextService.java:outputDecoratedLog():185] [tid=]
[cl=SM ]
[tags=threadName:VM_STATE_MACHINE-SystemAdminTena_demo7_0_8adb7f6a-ca5e-454d-9c14-fd9d5d21054f,stateMachineType:VM_STATE_MACHINE,
stateMachineContextId:
SystemAdminTena_demo7_0_8adb7f6a-ca5e-454d-9c14-fd9d5d21054f] VM_STATE_MACHINE-
SystemAdminTena_demo7_0_8adb7f6a-ca5e-454d-9c14-fd9d5d21054f Transition: VM_INERT_STATE
---- VM_ACTION_FAILED_EVENT ---- >
 VM_ERROR_STATE
02-Mar-2017 01:46:27,613 INFO  [ManagedObject.java:update():66] [tid=] [cl=DB ] [tags=] DB
 TRANSACTION(477010616) -
UPDATE VMStateMachineDao with values
stateMachineContextId:SystemAdminTena_demo7_0_8adb7f6a-ca5e-454d-9c14-fd9d5d21054f;
```

```
stateMachineType:VM_STATE_MACHINE;
serviceStateMachineContextId:1a037a82-b248-4117-9156-aa26bc8e2ce1;
deploymentDetailsId:15fa65be-0775-47c3-aa46-d6eb1e428a93; previousState:VM_INERT_STATE;
currentState:
VM_ERROR_STATE; monitorSet:true; serviceDefinition:0; vmInstance:demo7; vmIndex:0;
classMetadata:SingleTableEntityPersister(com.cisco.esc.db.VMStateMachineDao);
02-Mar-2017 01:46:27,669 ERROR [StateMachineEngine.java:buildLogContext():75] [tid=] [cl=SM
 ] [tags=]
Unable to set log context, null values found for RequestDetails
02-Mar-2017 01:46:27,673 INFO  [LogContextService.java:outputDecoratedLog():185] [tid=]
[cl=SM ]

[tags=threadName:RECOVERY_WORKFLOW_STATE_MACHINE-93cfacf5-9ee8-4e0e-9438-722944b4da2d,stateMachineType:
RECOVERY_WORKFLOW_STATE_MACHINE,stateMachineContextId:
93cfacf5-9ee8-4e0e-9438-722944b4da2d]
RECOVERY_WORKFLOW_STATE_MACHINE-93cfacf5-9ee8-4e0e-9438-722--More--
...
```

Span Session and Packet Capture Commands

- source, on page 144
- destination, on page 145
- show system monitor session, on page 146
- monitor session , on page 147
- tcpdump port, on page 148
- tcpdump vnic, on page 149

source

To configure the source interface for a SPAN session, use the **source** command in session configuration mode. To remove the source configuration, use the **no** form of the command.

source {**all** **interface** *interface-name* **vlan** *vlan-id* **vm-vnic** *vm-name* *vnic-id*}
no **source** {**all** **interface** *interface-name* **vlan** *vlan-id* **vm-vnic** *vm-name* *vnic-id*}

Syntax Description

all	Specifies all supported interfaces for a SPAN session.
interface *interface-name*	Specifies a physical interface.
vlan *vlan-id*	Specifies a VLAN interface. Range: 1 to 4094.
vm-vnic *vm-name*	Specifies a vNIC interface with the VM name.
vnic-id	Specifies the VNIC ID. Range: 0 to 8.

Command Default

None

Command Modes

Session configuration (config-session-2)#

Command History

Release	Modification
3.5.1	This command was introduced.

Usage Guidelines

In the case of virtio net or SRIOV VF, you have to specify the VM group name and NIC ID of the VM interface. If the VM vNIC is virtio net type, then the SPAN session is applied on the OVS bridge. If VM vNIC is SRIOV VF, then the mirror is applied to the hardware bridge. The interface name is specified for a physical interface, for example, GE0-0 or eth0.

Example

The following configuration shows how to configure a source interface for a SPAN session:

```
nfvis(config)# monitor session 2
nfvis(config-session-2)# bridge lan-br
nfvis(config-session-2)# source interface GE0-0
nfvis(config-session-2)# commit
```

destination

To configure the destination interface for a SPAN session, use the **destination** command in session configuration mode. To remove the destination configuration, use the **no** form of the command

destination {**interface** *interface-name* **vlan** *vlan-id* **vm-vnic** *vm-name* *vnic-id*}
no destination {**interface** *interface-name* **vlan** *vlan-id* **vm-vnic** *vm-name* *vnic-id*}

Syntax Description

interface *interface-name*	Specifies a physical interface.
vlan *vlan-id*	Specifies a VLAN interface. Range: 1 to 4094.
vm-vnic *vm-name*	Specifies a vNIC interface with the VM name.
vnic-id	Specifies the VNIC ID. Range: 0 to 8.

Command Default

None

Command Modes

Session configuration (config-session-2)#

Command History

Release	Modification
3.5.1	This command was introduced.

Usage Guidelines

You must dedicate a destination port for SPAN use. Except for traffic that is required for the SPAN session, destination ports do not receive or forward traffic. When the SPAN is configured on the system, there might be some performance hit.

Example

The following configuration shows how to configure a destination interface for a SPAN session:

```
nfvis(config)# monitor session 2
nfvis(config-session-2)# bridge lan-br
nfvis(config-session-2)# destination vm-vnic 0
```

show system monitor session

To display the Switched Port Analyzer (SPAN) session details, use the **show system monitor session** command in privileged EXEC mode.

show system monitor session

Syntax Description

This command has no arguments or keywords.

Command Default

None

Command Modes

Privileged EXEC (#)

Command History

Release	Modification
3.5.1	This command was introduced.

Example

The following is a sample output of the **show system monitor session** command:

```
nfvis# show system monitor session
system monitor session 2
bridge wan-br
destination_vlan ""
destination_interface vnic0
source_vlans ""
source_rx_interfaces "GE0-0"
source_tx_interfaces "GE0-0"
source_all false
statistics "tx_bytes=142660, tx_packets=1380"
```

monitor session

To create a SPAN session, use the **monitor session** command in global configuration mode. To remove the SPAN session, use the **no** form of the command.

monitor session *number*
no monitor session

Syntax Description

number	Specifies the SPAN session number. Valid range: 1-64

Command Default

None

Command Modes

Global configuration (config)

Command History

Release	Modification
3.5.1	This command was introduced.

Example

The following example shows how to create a SPAN session:

```
nfvis(config)# monitor session 2
nfvis(config)# commit
```

tcpdump port

To configure the packet capture feature on a physical port, use the **tcpdump port** command in global configuration mode. Use the **no** form of the command to remove the packet capture.

tcpdump port *port-name* [**filter** *filter-name* **protocol** {*ARP ICMP TCP UDP*} **time** *seconds*]
no tcpdump port *port-name*

Syntax Description

port *port-name*	Specifies the name of the physical port.
filter *filter-name*	(Optional) Specifies the filter name.
protocol	(Optional) Specifies the protocol to capture specific packets. Supported options are: • Internet Control Message Protocol (ICMP) • Address Resolution Protocol (ARP) • TCP • UDP
time *seconds*	(Optional) Specifies the time period over which packets are captured. The default value is 60 seconds.

Command Default

None

Command Modes

Global configuration (config)

Command History

Release	Modification
3.5.1	This command was introduced.

Example

The following example shows how to configure packet capture on a physical port:

```
nfvis(config)# tcpdump port eth0 filter filter1 time 30 pcap-location
/data/intdatastore/pktcaptures/tcpdump_eth0.pcap
nfvis(config)# commit
```

tcpdump vnic

To configure the packet capture feature on a virtual network interface controller, use the **tcpdump vnic** command in global configuration mode. Use the **no** form of the command to remove the packet capture.

tcpdump vnic tenant-name *name* **deployment-name** *name* **vm-name** *name* **vnic-id** *id* [**filter** *filter-name* **protocol** {*ARP ICMP TCP UDP*} **time** *seconds*]
no tcpdump vnic tenant-name *name* **deployment-name** *name* **vm-name** *name* **vnic-id** *id*

Syntax Description

tenant-name *name*	Specifies the tenant name.
deployment-name *name*	Specifies the deployment name.
vm-name *name*	Specifies the name of the VM.
vnic-id *id*	Specifies the vNIC ID.
filter *filter-name*	(Optional) Specifies the filter name.
protocol	(Optional) Specifies the protocol to capture specific packets. Supported options are: • Internet Control Message Protocol (ICMP) • Address Resolution Protocol (ARP) • TCP • UDP
time *seconds*	(Optional) Specifies the time period over which packets are captured. The default value is 60.

Command Default

None

Command Modes

Global configuration (config)

Command History

Release	Modification
3.5.1	This command was introduced.

Example

The following example shows how to configure packet capture on a vNIC:

```
nfvis(config)# tcpdump vnic tenant-name admin deployment-name 1489084431 vm-name ROUTER
vnic-id 0 time 30
pcap-location /data/intdatastore/pktcaptures/1489084431_ROUTER_vnic0.pcap
nfvis(config)# commit
```

Upgrade Package Commands

- show system upgrade apply-image, on page 152
- show system upgrade reg-info, on page 153
- system upgrade apply-image, on page 154
- system upgrade image-name, on page 155

show system upgrade apply-image

Use the **show system upgrade apply-image** command in privileged EXEC mode to verify the upgrade status of the Cisco Enterprise NFVIS image.

show system upgrade apply-image

Syntax Description

This command has no arguments or keywords.

Command Modes

Privileged EXEC (#)

Command History

Release	Modification
3.5.1	This command was introduced.

Example

The following is a sample output of the **show system upgrade apply-image** command:

```
nfvis# show system upgrade apply-image
NAME                      STATUS
 ------------------------------------------------------
  nfvis-3.3.1             success
```

show system upgrade reg-info

Use the **show system upgrade reg-info** command in the privileged EXEC mode to verify the Cisco Enterprise NFVIS image registration. Package status must be valid for the registered image.

show system upgrade reg-info [**name** *package-name*]

Syntax Description

name *package-name*	(Optional) Specifies the VM image package.

Command Modes

Privileged EXEC (#)

Command History

Release	Modification
3.5.1	This command was introduced.

Example

The following is a sample output of the **show system upgrade reg-info** command:

```
nfvis# show system upgrade reg-info
PACKAGE
NAME         LOCATION            VERSION  STATUS     UPLOAD DATE
-------------------------------------------------------------------------
nfvis-3.3.1 /data/upgrade/package 3.4.391 Valid 2016-08-10T11:57:48.711422-00:00
```

The table below describes the significant fields shown in the display:

Table 3: show system upgrade reg-info Field Description

Field	Description
PACKAGE NAME	Name of the image
LOCATION	Default or non-default location of the image
VERSION	Image version
STATUS	Image status

system upgrade apply-image

To upgrade to a registered Cisco Enterprise NFVIS image, use the **system upgrade apply-image** command in global configuration mode. To cancel the upgrade, use the **no** form of this command.

system upgrade apply-image *image-name* **scheduled-time** *hours* [**auto-restore**] [**sys-backup**] [**vm-backup**]
no system upgrade apply-image

Syntax Description

image-name	Specifies the image name.
scheduled-time *hours*	Specifies the time of upgrade in hours. The valid range is from 0 to 24 hours.
auto-restore	(Optional) Restores the previous image if the upgrade fails.
sys-backup	(Optional) Backs up the ConfD database.
vm-backup	(Optional) backs up the VM.

Command Default

None

Command Modes

Global configuration (config)

Command History

Release	Modification
3.5.1	This command was introduced.

Example

The following example shows how to upgrade to a registered Cisco Enterprise NFVIS image:

```
nfvis(config)# system upgrade image-name nfvis-3.3.1
nfvis(config-image-name-nfvis-3.3.1)# system upgrade apply-image scheduled-time 21
nfvis(config-image-name-nfvis-3.3.1)# commit
```

system upgrade image-name

To register the Cisco Enterprise NFVIS upgrade image on the host server, use the **system upgrade image-name** command in global configuration mode. To remove the registration, use the **no** form of this command.

system upgrade image-name *upgrade-name* [**location**] [*default-location non-default-location*]

no system upgrade image-name *upgrade-name*

Syntax Description

upgrade-name	Name of the upgrade
location	(Optional) Specifies the location of the image.
default-location	(Optional) Specifies the default location (/data/upgrade/package) of the upgrade image.
non-default-location	(Optional) Specifies the complete path of the folder that contains the upgrade image. This is other than the default location.

Command Default

None

Command Modes

Global configuration (config)

Command History

Release	Modification
3.5.1	This command was introduced.

Usage Guidelines

Ensure that you download or copy the image to the NFVIS server default target directory "/data/upgrade/package" before starting the upgrade process. If the image is downloaded or copied to a location other than the default directory, you will have to specify the exact path of the image when registering the image.

Example

The following example shows how to register the Cisco Enterprise NFVIS upgrade image on the host server:

```
nfvis(config)# system upgrade image-name nfvis-3.3.1
nfvis(config-image-name-nfvis-3.3.1)# system upgrade image-name nfvis1 location
/data/upgrade/package
nfvis(config-image-name-nfvis-3.3.1)# commit
```

Factory Default Reset Command

- factory-default-reset, on page 158

factory-default-reset

To reset the Cisco Enterprise NFVIS host server to the default factory setting, use the **factory-default-reset** command in global configuration mode.

factory-default-reset { **all** | **all-except-images** | **all-except-images-connectivity** | **manufacturing** | **all-with-bios-password** }

Syntax Description

all	Erases all configuration. Connectivity is lost, and the admin password is changed to factory default password.
all-except-images	Erases all configuration except images. Connectivity is lost, and the admin password is changed to factory default password.
all-except-images-connectivity	Erases all configuration except images and network connectivity.
manufacturing	Erases all configuration except images. Connectivity is lost, and the admin password is changed to factory default password.
all-with-bios-password	Erases all configuration along with the BIOS password. Connectivity is lost, and the admin password and BIOS password is changed to factory default password.

Command Default

None

Command Modes

Global configuration (config)

Command History

Release	Modification
3.5.1	This command was introduced.
4.7.1	Additional keyword introduced: **all-with-bios-password**

Usage Guidelines

This command is used only for troubleshooting. We recommend you contact Cisco Technical Support before using this command.

Example

The following is an example of how to reset to the default factory setting:

```
nfvis(config)# factory-default-reset all
nfvis(config)# commit
```

Syslog Commands

- system settings logging host , on page 160
- system settings logging facility , on page 161
- system settings logging severity , on page 162
- show running-config system settings logging, on page 163

system settings logging host

To configure remote host to which syslogs are sent, use the **system settings logging host** command in global configuration mode.

system settings logging host *ip address* *port* *transport*

no system settings logging host

Syntax Description

ip address	Specifies the remote host address that can be IPv4/IPv6/hostname.
transport	Specifies the transport protocol: UDP or TCP. The default transport protocol is UDP, with default port 514. For transport protocol of TCP, the default port is 601.

Command Default

None

Command Modes

Global configuration (config)

Command History

Release	Modification
3.6.1	This command was introduced.

Example

The following example shows how to configure remote host.

```
nfvis(config)# system settings logging host 172.19.162.117 port 1635 transport tcp
nfvis(config)# system settings logging host 172.19.162.111 port 163 transport udp
nfvis(config)# system settings logging host 172.19.162.112 port 1523
nfvis(config)# system settings logging host 172.19.162.114 transport tcp
```

system settings logging facility

To configure facility of the syslogs, use the **system settings logging facility** command in global configuration mode.

system settings logging facility *local*

no system settings logging facility

Syntax Description

local	Specifies the facility number. You can configure any facility from local0 to local7.

Command Default

The default facility is local7.

Command Modes

Global configuration (config)

Command History

Release	Modification
3.6.1	This command was introduced.

Example

The following example shows how to configure facility.

```
nfvis(config)# nfvis(config)# system settings  logging facility local
Possible completions:
local0 local1 local2 local3 local4 local5 local6 local7
nfvis(config)# nfvis(config)# system settings logging facility local3
```

system settings logging severity

To configure severity of the syslogs, use the **system settings logging severity** command in global configuration mode.

system settings logging severity {**alert** | **critical** | **debug** | **emergency** | **error** | **informational** | **notice** | **warning**}

no system settings logging severity

Syntax Description

alert	Logs at alert severity level and higher severity levels are sent.
critical	Logs at critical severity level and higher severity levels are sent.
debug	Logs at debug severity level and higher severity levels are sent.
emergency	Logs at emergency severity level and higher severity levels are sent.
error	Logs at error severity level and higher severity levels are sent.
informational	Logs at informational severity level and higher severity levels are sent.
notice	Logs at notice severity level and higher severity levels are sent.
warning	Logs at warning severity level and higher severity levels are sent.

Command Default

The default severity level is **informational** .

Command Modes

Global configuration (config)

Command History

Release	Modification
3.6.1	This command was introduced.

Example

The following example shows how to configure the severity of syslogs.

```
nfvis(config)# system settings logging severity error
nfvis(config)# commit
nfvis(config)# end
```

show running-config system settings logging

To view the current syslog configuration, use the **show running-config system settings logging** command in global configuration mode.

show running-config system settings logging [**host** *hostname* | **facility** | **severity**]

Syntax Description

host	Displays the current syslog host configuration
hostname	Displays the current configuration for the specified host.
facility	Displays the current syslog facility configuration.
severity	Displays the current syslog severity configuration.

Command Default

None

Command Modes

Privileged EXEC (#)

Command History

Release	Modification
3.6.1	This command was introduced.

Example

```
nfvis# show running-config system settings logging
system settings logging host 192.0.2.3
 transport tcp
 port 1635
!
system settings logging host 192.0.2.34
 transport udp
 port 163
!
system settings logging host 192.0.2.40
 port 1523
!

nfvis# show running-config system settings logging severity
system settings logging severity error

nfvis# show running-config system settings logging facility
system settings logging facility local3
```

SNMP Commands

- snmp agent engineID , on page 166
- snmp agent sysName , on page 167
- snmp community , on page 168
- snmp enable traps , on page 169
- snmp disable traps, on page 170
- snmp group , on page 171
- snmp host , on page 172
- snmp user , on page 173
- show snmp agent , on page 174
- show snmp stats , on page 175
- show snmp traps , on page 176
- show running-config snmp, on page 177

snmp agent engineID

To configure the engine ID used for hashing the other configuration parameters, use the **snmp agent engineID** command in global configuration mode.

snmp agent *engineID*

Syntax Description

engineID	Specifies th engine ID. By default it is auto-generated.

Command Default

Auto-generated

Command Modes

Global configuration mode

Command History

Release	Modification
3.5.1	This command was introduced.

Example

The following example configures the engine ID.

```
snmp agent engineID 00:22:33:22:22:22:55
```

snmp agent sysName

To configure an administartively assigned system name for the managed node, use the **snmp agent sysName** command in global configuration mode.

snmp agent sysName *name*

Syntax Description

name	Specifies the system name.

Command Default

Auto-generated

Command Modes

Global configuration mode

Command History

Release	Modification
3.5.1	This command was introduced.

Example

The following example configures the system name.

```
snmp agent sysName TestSystem
```

snmp community

To configure SNMP community, use the **snmp community** command in global configuration mode.

snmp community *community access*

Syntax Description

community	(Optional) Specifies the name of the community.
access	(Optional) Specifies the type of access: readOnly or writeOnly.

Command Default

none

Command Modes

Global configuration mode

Command History

Release	Modification
3.5.1	This command was introduced.

Example

The following example configures the community pub_com with read only access.

```
snmp community pub_comm community-access readOnly
```

snmp enable traps

To enable linkup or linkdown traps for a system, use the **snmp enable traps** command in global configuration mode.

snmp enable traps {*linkups* *linkdowns*}

Syntax Description

linkups	Specifies the linkup traps.
linkdowns	Specifies the linkdown traps.

Command Default

Disabled

Command Modes

Global configuration mode

Command History

Release	Modification
3.5.1	This command was introduced.

Example

The following example enable linkup traps.

```
nfvis(config)# snmp enable traps linkup
commit
end
```

snmp disable traps

To disable linkup or linkdown traps for a system, use the **snmp disable traps** command in global configuration mode.

snmp disable traps {*linkups* *linkdowns*}

Syntax Description

linkups	Specifies the linkup traps.
linkdowns	Specifies the linkdown traps.

Command Default

None

Command Modes

Global configuration mode

Command History

Release	Modification
3.5.1	This command was introduced.

Example

The following example disables linkup traps.

```
nfvis(config)# snmp disable traps linkup
commit
end
```

snmp group

To configure SNMP group, use the **snmp group** command in global configuration mode.

snmp group *name snmp2 read write notify*

Syntax Description

name	(Optional) Specifies the group name.
snmp2	(Optional) Specifies the SNMP type. For example, noAuthNoPriv.
read	(Optional) Specifies if the group has read access.
write	(Optional) Specifies if the group has write access.
notify	(Optional) Specifies if the group has notify access.

Command Default

none

Command Modes

Global configuration mode

Command History

Release	Modification
3.5.1	This command was introduced.

Example

The following example configures the SNMP group.

```
snmp group testgroup snmp 2 noAuthNoPriv read read-access write write-access notify
notify-access
```

snmp host

To configure the SNMP host to receive traps, use the **snmp host** command in global configuration mode.

snmp host *host-ip-address host-port host-version host-security-level host-user-name*

Syntax Description

host-ip-address	(Optional) Specifies the IP address of the host.
host-port	(Optional) Specifies the port number of the host.
host-version	(Optional) Specifies the version of the host..
host-security-level	(Optional) Specifies the security level.
host-user-name	(Optional) Specifies the username of the host.

Command Default

none

Command Modes

Global configuration mode

Command History

Release	Modification
3.5.1	This command was introduced.

Example

The following example configures host2 to receive traps.

```
snmp host host2 host-ip-address 10.2.2.2 host-port 162 host-version 2 host-security-level
noAuthNoPriv host-user-name public
```

snmp user

To configure SNMP user, use the **snmp user** command in global configuration mode.

snmp user *auth-protocol priv-protocol passphrase user-group user-version*

Syntax Description

auth-protocol	(Optional) Specifies the user authentication protocol.
priv-protocol	(Optional) Specifies the protocol privilege.
passphrase	(Optional) Specifies the user password phrase.
user-group	(Optional) Specifies the user group number.
user-version	(Optional) Specifies user version number.

Command Default

none

Command Modes

Global configuration mode

Command History

Release	Modification
3.5.1	This command was introduced.

Example

The following example configures the SNMP user.

```
snmp user public auth-protocol md5 priv-protocol des passphrase pass123 user-group 2
user-version 2
```

show snmp agent

To get the SNMP agent information, use the **show snmp agent** command in privileged EXEC configuration mode.

show snmp agent

Command Default none

Command Modes Privileged EXEC (#)

Command History

Release	Modification
3.5.1	This command was introduced.

Example

```
admin@nfvis show snmp agent
snmp agent sysDescr "Cisco NFVIS "
snmp agent sysOID 1.3.6.1.4.1.9.12.3.1.3.2376 //platform specific
```

show snmp stats

To get the SNMP stats information, use the **show snmp stats** command in privileged EXEC configuration mode.

show snmp stats

Command Default

none

Command Modes

Privileged EXEC (#)

Command History

Release	Modification
3.5.1	This command was introduced.

Example

```
admin@nfvis show snmp stats
snmp stats sysUpTime 40930629
snmp stats sysServices 70
snmp stats sysORLastChange 0
snmp stats snmpInPkts 0
snmp stats snmpInBadVersions 0
snmp stats snmpInBadCommunityNames 0
snmp stats snmpInBadCommunityUses 0
snmp stats snmpInASNParseErrs 0
snmp stats snmpSilentDrops 0
snmp stats snmpProxyDrops 0
```

show snmp traps

To get the SNMP traps information, use the **show snmp traps** command in privileged EXEC configuration mode. It sends SNMP trap notification to the hosts for any link status change on physical interface.

show snmp traps*trap state*

Syntax Description

trap	(Optional) Specifies the trap: linkDown or linkUp.
state	(Optional) Specifies the state of the trap: enabled or disabled.

Command Default

none

Command Modes

Privileged EXEC (#)

Command History

Release	Modification
3.5.1	This command was introduced.

Example

```
admin@nfvis show snmp traps
NAME STATE
-------------------
linkDown enabled
linkUp enabled
```

show running-config snmp

To display the currently running SNMP configuration, use the **show running-config snmp** command in privileged EXEC mode.

show running-config snmp

Syntax Description

This command has no arguments or keywords.

Command Default

None

Command Modes

Privileged EXEC (#)

Command History

Release	Modification
3.5.1	This command was introduced.

Example

```
nfvis# show running-config snmp
snmp agent engineID 00:00:00:09:00:00:00:a6:ca:d6:38:4c
```

RADIUS Commands

- radius-server host, on page 180
- show running-config radius-server, on page 181

radius-server host

To configure a RADIUS server host, use the **radius-server host** command in global configuration mode. To delete the specified RADIUS server host, use the **no** form of the command.

radius-server host {*ip-address* | *hostname*} **admin-priv** *admin-priv-number* **key** *key-number* **oper-priv** *oper-priv-number* **shared-secret** *shared-secret-string*
no radius-server host {*ip-address* | *hostname*}

Syntax Description

ip-address	Specifies the RADIUS server host IP address. The IP address can be an IPv4 or IPv6 address.
hostname	Specifies the RADIUS server host name. The host name can either be an IPv4 or IPv6 address or a DNS domain name.
admin-priv *admin-priv-number*	Specifies the minimum privilege level for administrator. Valid range is from 1 to 15.
key *key-number*	Specifies a preshared key for RADIUS communication between the device and the RADIUS server.
oper-priv *oper-priv-number*	Specifies the minimum privilege level for operator. Valid range is from 1 to 15.
shared-secret *shared-secret-string*	Specifies the preshared secret to authenticate communication between the device and the RADIUS server.

Command Default

The default value for the **admin-priv** parameter is 15. The default value for the **oper-priv** parameter is 11.

Command Modes

Switch configuration (config-switch)

Command History

Release	Modification
3.5.1	This command was introduced.

Example

The following example specifies a RADIUS server host.

```
nfvis(config-switch)# radius-server host 172.29.39.46 admin-priv 13 key 0 oper-priv 9
shared-secret myRaDIUSpassword
nfvis(config-switch)# commit
nfvis(config-switch)# end
```

show running-config radius-server

To display the running RADIUS server configuration information, use the **show running-config radius-server** command in privileged EXEC mode.

show running-config radius-server

Syntax Description

This command has no arguments or keywords.

Command Default

None

Command Modes

Privileged EXEC (#)

Command History

Release	Modification
3.5.1	This command was introduced.

Example

```
nfvis# show running-config radius-server
radius-server host 198.51.100.10
key 0
shared-secret sec123
admin-priv 2
oper-priv 1
```

TACACS Commands

- tacacs-server host, on page 184
- key, on page 185
- admin-priv, on page 186
- oper-priv, on page 187
- show running-config tacacs-server host, on page 188

tacacs-server host

To configure the TACACS+ server, use the **tacacs-server host** command in global configuration mode. To remove the configuration, use the **no** form of this command.

tacacs-server host {*ip-address domain-name*}
notacacs-server host {*ip-address domain-name*}

Syntax Description

ip-address	Specifies the IPv4 or IPv6 address.
domain-name	Specifies the DNS domain.

Command Default

None

Command Modes

Global configuration (config)

Command History

Release	Modification
3.5.1	This command was introduced.

Usage Guidelines

You must configure a TACACS+ server before the configured TACACS+ features on your network access server are available.

Example

The following example shows how to configure the TACACS+ server:

```
nfvis(config)# tacacs-server host 192.0.2.10
nfvis(config-host-192.0.2.10)# key 0
nfvis(config-host-192.0.2.10)# admin-priv 14
nfvis(config-host-192.0.2.10)# oper-priv
nfvis(config-host-192.0.2.10)# commit
```

key

To identify the share key encryption level for all communication between the TACACS+ server and Cisco ENCS, use the key command in host configuration mode.

key *key-id*

Syntax Description

key-id	Specifies the identification number of an authentication key. It is either zero or one. It only supports a clear text value.

Command Default

None

Command Modes

Host configuration (config-host)#

Command History

Release	Modification
3.5.1	This command was introduced.

Example

The following example shows how to configure the autehntication key for all communications between the TACACS+ server and Cisco ENCS:

```
nfvis(config)# tacacs-server host 209.165.201.20 shared-secret test1
nfvis(config-host-209-165-201-20)# key 0
nfvis(config-host-209-165-201-20)# commit
```

admin-priv

To assign the admin privilege level to the administrator role, use the **admin-priv** command in host configuration mode. To remove the privilege level configuration, use the **no** form of the command.

admin-priv *number*
no admin-priv

Syntax Description

number	Specifies the privilege level for the admin. Valid range: 1-15.

Command Default

None

Command Modes

Host configuration (config-host)#

Command History

Release	Modification
3.5.1	This command was introduced.

Example

The following example shows how to configure the privilege level for the administrator role:

```
nfvis(config)# tacacs-server host 209.165.201.20 shared-secret test1
nfvis(config-host-209-165-201-20)# admin-priv 14
nfvis(config-host-209-165-201-20)# commit
```

oper-priv

To assign the operator privilege level to the opeartor role, use the **oper-priv** command in host configuration mode. To remove the privilege level configuration, use the **no** form of the command.

oper-priv *number*
no oper-priv

Syntax Description

number	Specifies the privilege level for the operator role. Valid range: 1-15.

Command Default

None

Command Modes

Host configuration (config-host)#

Command History

Release	Modification
3.5.1	This command was introduced.

Example

The following example shows how to configure the privilege level for the operator role:

```
nfvis(config)# tacacs-server host 209.165.201.20 shared-secret test1
nfvis(config-host-209-165-201-20)# oper-priv 9
nfvis(config-host-209-165-201-20)# commit
```

show running-config tacacs-server host

To display the running TACACS server configuration, use the **show running-config tacacs-server** command in privileged EXEC mode.

show running-config tacacs-server host

Syntax Description

This command has no arguments or keywords.

Command Default

None

Command Modes

Privileged EXEC (#)

Command History

Release	Modification
3.5.1	This command was introduced.

Example

```
nfvis# show running-config tacas-server host
```

User Management Commands

- rbac authentication min-pwd-length, on page 190
- rbac authentication password-lifetime, on page 191
- rbac authentication account-inactivity, on page 192
- rbac authentication users, on page 193
- rbac authentication users user activate, on page 194
- rbac authentication users user change-password , on page 195
- rbac authentication users user change-role, on page 196
- show running-config rbac authentication users, on page 197

rbac authentication min-pwd-length

To configure the minimum length required for passwords of all users, use the **rbac authentication min-pwd-length** command in global configuration mode. To set the minimum password length to default value, use the no form of the command.

rbac authentication min-pwd-length *length*

Syntax Description

length	Specifies the minimum length. The minimum length must be between 7 to 128 characters.

Command Default

The default minimum length is 7 characters.

Command Modes

Global configuration (config)

Command History

Release	Modification
3.7.1	This command was introduced.

Usage Guidelines

Only the admin user can use this command.

Example

```
nfvis(config)# configure terminal
nfvis(config)# rbac authentication min-pwd-length 14
nfvis(config)# commit
nfvis(config)# end
```

rbac authentication password-lifetime

To configure the minimum and maximum lifetime values for passwords of all users and enforce a rule to check these values, the admin user can use the **rbac authentication password-lifetime** command in global configuration mode. To set the minimum password length to default value, use the no form of the command.

rbac authentication password-lifetime enforce { **true** | **false**} **min-days** *min-days* **max-days** *max-days*

Syntax Description

enforce	Enforces or removes the rule for password lifetime validation. Valid values for this parameter are **true** and **false**.
min-days *min-days*	Specifies the number of days after which the users can change the password.
max-days *max-days*	Specifies the number of days before which the users must change the password.

Command Default

The default minimum lifetime value is set to 1 day and the default maximum lifetime value is set to 60 days.

Command Modes

Global configuration (config)

Command History

Release	Modification
3.7.1	This command was introduced.

Usage Guidelines

- Only the admin user can use this command.
- The minimum and maximum lifetime values and the rule to check for these values are not applicable to the admin user.

Example

```
nfvis(config)# configure terminal
nfvis(config)# rbac authentication password-lifetime enforce true min-days 1 max-days 30
nfvis(config)# commit
nfvis(config)# end
```

rbac authentication account-inactivity

To configure the number of days after which an unused user account is marked as inactive and to enforce a rule to check the configured inactivity period, the admin user can use the **rbac authentication account-inactivity** command in global configuration mode.

rbac authentication account-inactivity enforce { **true** | **false**} **inactivity-days** *inactivity-days*

Syntax Description

enforce	Enforces or removes the rule for checking and mark-ing unused user accounts as inactive. Valid values for this parameter are **true** and **false**.
inactivity-days *inactivity-days*	Specifies the number of days after which an unused account is marked as inactive.

Command Default

None

Command Modes

Global configuration (config)

Command History

Release	Modification
3.7.1	This command was introduced.

Usage Guidelines

- Only the admin user can use this command.
- The inactivity period and the rule to check the inactivity period are not applicable to the admin user.
- When marked as inactive, a user cannot login to the system. To allow the user to again login to the system, the ad-min user must reactivate the user account by using the **rbac authentication users user** *username* **activate** command.

Example

```
nfvis(config)# configure terminal
nfvis(config)# rbac authentication account-inactivity enforce true inactivity-days 2
nfvis(config)# commit
nfvis(config)# end
```

rbac authentication users

To create a new user, use the **rbac authentication users** command in global configuration mode. To delete a user, use the **no** form of the command.

rbac authentication users user *user-name* **password** *password* **role** *role-type*
no rbac authentication users user *user-name* **password** *password* **role** *role-type*

Syntax Description

user *user-name*	Specifies the user name.
password *password*	Specifies the password.
role *role-type*	Specifies the role of the user. The role can be one fo the following: • Administrators—An administrator can perform all tasks. • Operators—An operator can start, stop, and delete a VM, clear logs, and view all information. • Auditors—An auditor can view all information, and cannot perform any tasks.

Command Default

None

Command Modes

Global configuration (config)

Command History

Release	Modification
3.5.1	This command was introduced.

Example

The following example shows how to create a new user:

```
nfvis(config)# rbac authentication users user admin2 password Cisco123* role administrators
nfvis(config)# commit
```

rbac authentication users user activate

To activate the account of an inactive user, the admin user can use the **rbac authentication users user activate** command in global configuration mode.

rbac authentication users user *username* **activate**

Syntax Description

username	Specifies the user name.

Command Default

None.

Command Modes

Global configuration (config)

Command History

Release	Modification
3.7.1	This command was introduced.

Usage Guidelines

Only the admin user can use this command.

Example

```
nfvis(config)# configure terminal
nfvis(config)# rbac authentication users user guest_user activate
nfvis(config)# commit
nfvis(config)# end
```

rbac authentication users user change-password

To change the existing password of a user, use the **rbac authentication users user change-password** command in global configuration mode.

rbac authentication users user *user-name* **change-password old-password** *password* **new-password** *password* **confirm-password** *password*

Syntax Description

user *user-name*	Specifies the user name.
old-password *password*	Specifies the old password.
new-password *password*	Specifies the new password.
confirm-password *password*	Confirms the new password.

Command Default

None

Command Modes

Global configuration (config)

Command History

Release	Modification
	This command was introduced.

Example

The following example shows how to change the password of an existing user:

```
nfvis(config)# rbac authentication users user admin2 change-password old-password Cisco123*
 new-password Cisnfv453# confirm-password **********
nfvis(config)#commit
```

rbac authentication users user change-role

To change the role of an existing user, use the **rbac authentication users user change-role** command in global configuration mode.

rbac authentication users user *user-name* **change-role old-role** *role-type* **new-role** *role-type*

Syntax Description

user *user-name*	Specifies the user name.
old-role *role-type*	Specifies the old role of the user.
new-role *role-type*	Specifies the new role of the user.

Command Default

None

Command Modes

Global configuration (config)

Command History

Release	Modification
	This command was introduced.

Example

The following example shows how to change the user role:

```
nfvis(config)# rbac authentication users user admin2 change-role old-role administrators
new-role operators
nfvis(config)# commit
```

show running-config rbac authentication users

To display details of all users, use the **show running-config rbac authentication users** command in privileged EXEC mode.

show running-config rbac authentication users [**user** *user-name* **password role**]

Syntax Description

user *user-name*	(Optional) The specified user's details are displayed.
password	(Optional) Username and password are displayed.
role *user-role*	(Optional) Username and role are displayed.

Command Default

Details of all users are displayed.

Command Modes

Privileged EXEC (#)

Command History

Release	Modification
3.5.1	This command was introduced.

Example

The following is a sample output of the **show running-config rbac authentication users** command:

```
nfvis# show running-config rbac authentication users
rbac authentication users user admin
 role     administrators
 password $7$GVXJbe1IYpu4Dtfg4aAkdwxto2CtOFlW
!
rbac authentication users user test1
 role     administrators
 password $7$Qdmzu2GHhe2zkwPl7SvxWNDNH56XV+su
!
```

Secondary IP and Source Interface Commands

- system settings wan secondary, on page 200
- system settings source-interface , on page 201

system settings wan secondary

To configure secondary IP on the WAN interface, use the **system settings wan secondary** command in global configuration mode.

system settings wan secondary *ip address*

Syntax Description

ip address	Specifies the IP address.

Command Default

None

Command Modes

Global configuration mode

Command History

Release	Modification
3.5.1	This command was introduced.

Example

The following example configures the secondary WAN.

```
nfvis(config)# system settings wan secondary ip address 1.1.2.3 255.255.255.0
```

system settings source-interface

To configure source interface, use the **system settings source-interface** command in global configuration mode.

system settings source-interface *ip address*

Syntax Description

ip address	Specifies the IP address.

Command Default

None

Command Modes

Global configuration mode

Command History

Release	Modification
3.5.1	This command was introduced.

Example

The following example configures the source interface.

```
nfvis(config)# system settings source-interface 1.1.2.3
```

Ports and Port Channel Commands

- hostaction pnic-breakout, on page 204
- hostaction pnic-breakout force, on page 205
- pnic, on page 206
- show nic, on page 208
- show pnic, on page 209
- show pnic-breakout, on page 211
- show port-channel, on page 212
- show lldp stats, on page 213
- show lldp neighbors, on page 214

hostaction pnic-breakout

To change the PNIC mode from 2x40G to 4x10G or from 4x10G to 2x40G, use the **hostaction pnic-breakout device** command in privileged EXEC mode.

hostaction pnic-breakout device *number* **mode** *pnic mode*

Syntax Description

pnic-breakout	Changes the PNIC mode from 2x40G to 4x10G or vice-versa.
device *number*	Specifies the number of devices on which the mode must be changed.
mode *pnic mode*	Specifies the desired PNIC mode (4x10 or 2x40).

Command Default

None

Command Modes

Privileged EXEC (#)

Command History

Release	Modification
4.7.1	This command was introduced.

Example

```
nfvis# hostaction pnic-breakout device 1 mode 4x10
Warning: Will reboot the system after the mode is changed on the 40G PNIC. All PNIC
configuration like adminstatus, duplex, lldp, promiscuous, speed, sriov, track-state
will be lost and set to default.
Are you sure you want to perform the PNIC breakout? [no,yes] yes

System message at 2021-06-02 21:15:36...
Commit performed ny via tcp using system.

Broadcast message from root@nfvis (Wed 2021-06-02 21:15:36 UTC):

The system is going down for reboot at Wed 2021-06-02 21:16:36 UTC!
```

hostaction pnic-breakout force

To forcefully breakout from 2x40G mode to 4x10G mode or vice-versa, use the **hostaction pnic-breakout force** command in privileged EXEC mode. This command is used exclusively for return merchandise authorization (RMA) cases.

hostaction pnic-breakout force device *number* **mode** *pnic mode*

Syntax Description

pnic-breakout	Changes the PNIC mode from 2x40G to 4x10G or vice-versa.
force	Forces the PNIC mode change.
device *number*	Specifies the number of devices on which the mode must be changed.
mode *pnic mode*	Specifies the desired PNIC mode (2x40 or 4x10).

Command Default

None

Command Modes

Privileged EXEC (#)

Command History

Release	Modification
4.7.1	This command was introduced.

Example

```
nfvis# hostaction pnic-breakout force device 1 mode 4x10
Warning: Will reboot the system after the mode is changed on the 40G PNIC. All PNIC
configuration like adminstatus, duplex, lldp, promiscuous, speed, sriov, track-state
will be lost and set to default.
Are you sure you want to perform the PNIC breakout? [no,yes] yes

Broadcast message from root@nfvis (Wed 2021-06-02 21:38:53 UTC):

The system is going down for reboot at Wed 2021-06-02 21:39:53 UTC!
```

pnic

To modify the configuration of an Ethernet port or to create a port channel, use the **pnic** command. To set an Ethernet port to its default settings or to delete a port channel, use the **no** form of the command.

pnic *name* [**adminstatus** {**up** | **down**}] [**type** {**ethernet** | **port_channel**}] [**bond_mode** {**active-backup** | **balance-slb** | **balance-tcp**}] [**lacp_type** {**active** | **passive** | **off**}] [**member_of** *portchannel_name*] [**trunks** *vlan_num*] [**lldp** {**enabled** | **disabled**}]

no pnic *name* [**adminstatus**] [**type**] [**bond_mode**] [**lacp_type**] [**lldp**] [**member_of** *portchannel_name*]

Syntax Description

name	Specifies the name of the port.
adminstatus	Brings a port up or down administratively. Valid values are **up** and **down**. **Note** **adminstatus** is not supported on port channel.
type	Specifies the type of the port. Valid values are **ethernet** and **port_channel**. To create a port channel, you must specify the value as **port_channel**.
bond_mode	Specifies the bond mode for a port channel. Valid values are **active-backup**, **balance-slb**, and **balance-tcp**. Default is **balance-tcp**.
lacp_type	Specifies the LACP type for a port channel. Valid values are **off**, **active**, and **passive**. Default is **off**.
member_of *portchannel_name*	Adds the port to the specified port channel.
trunks *vlan_num*	Specifies the VLANs. Valid range is from 1 to 4096. Default is VLAN 1. Enter VLANs separated by commas, VLAN ranges separated by dashes, or a combination of both.
lldp	Enables or disables LLDP on a port. Valid values are **enable** and **disable**. Default is **disable**. **Note** **lldp** is not supported on port channel.

Command Default

None

Command Modes

Global configuration (config)

Command History

Release	Modification
3.7.1	This command was introduced.

Example

```
nfvis# config
nfvis(config)# pnic pc type port_channel
nfvis(config-pnic-pc)# commit
nfvis(config-pnic-pc)# end
```

Example

```
nfvis# config
nfvis(config)# no pnic eth2 member_of pc
nfvis(config-pnic-eth2)# commit
nfvis(config-pnic-eth2)# end
```

show nic

To display the various NIC cards inserted in the CSP device, use the **show nic** command in privileged EXEC mode.

show nic

Syntax Description

This command has no keywords or arguments.

Command Default

None

Command Modes

Privileged EXEC (#)

Command History

Release	Modification
4.7.1	This command was introduced.

Example

```
nfvis# show nic
SLOTID  ADAPTER                                VENDOR  DEVID  MODE  DEVNO  PNICS

------------------------------------------------------------------------------------------------------------
1       Intel X520 dual port adapter           8086    10fb   NA    NA     ['eth1-1', 'eth1-2']

3       Intel X710-DA4 Quad Port 10Gb SFP+     8086    1572   NA    NA     ['eth3-1', 'eth3-2',
 'eth3-3', 'eth3-4']
        converged NIC

2       Intel XL710-QDA2 Dual Port 40Gb        8086    1583   2x40  1      ['eth2-1', 'eth2-2']

        QSFP converged NIC

5       Intel i350 Quad Port 1Gb Adapter       8086    1521   NA    NA     ['eth5-1', 'eth5-2',
 'eth5-3', 'eth5-4']
4       Intel X520 dual port adapter           8086    10fb   NA    NA     ['eth4-1', 'eth4-2']

6       Intel X520 dual port adapter           8086    10fb   NA    NA     ['eth6-1', 'eth6-2']
```

show pnic

To display all statistics or only specific information about a port or all ports, use the **show pnic** command in privileged EXEC mode.

show pnic [*name*] [**adminstatus** | **link_state** | **mac_address** | **mtu** | **operational-speed** | **passthrough** | **pch_state** | **refcnt** | **speed** | **sriov_intf** | **stats**]

Syntax Description

name	Specifies the name of the port for which the information is displayed.
adminstatus	Displays the up or down status.
link_state	Displays the link state.
mac_address	Displays the MAC address.
mtu	Displays the maximum transmission unit (MTU) size.
operational-speed	Displays the operational speed.
passthrough	Displays the passthrough mode.
pch_state	Displays the port channel state.
refcnt	Displays the reference count.
speed	Displays the interface speed.
sriov_intf	Displays the SRIOV interface.
stats	Displays the statistics.

Command Default

None

Command Modes

Privileged EXEC (#)

Command History

Release	Modification
3.7.1	This command was introduced.

Example

```
nfvis# show pnic
Name           Link   Admin  MTU     Mac               Passthrough    Speed   Op-speed  Rx
Bytes      Packets    Errors   Dropped  Mbps   Broadcast Multicast TX Bytes      Packets
  Errors   Dropped  Collisions Mbps  Broadcast Multicast
=============================================================================================
eth0           up     up     9000    d8:b1:90:ff:f5:88 none           1G      1000
1469476983    17749881   0        0                     14156964  2888574   198310581
272571     0        0                                                    40
68440
eth1           up     up     9000    d8:b1:90:ff:f5:89 none           1G      1000
```

```
19826137      329353     0        0               0         325498    4180179       27586
     0        0
       0         27586
eth2          down   up     9000    d8:b1:90:ff:d8:3c none           1G      0         0
           0          0        0               0         0         0             0
  0        0
                              0          0
eth3          down   up     9000    d8:b1:90:ff:d8:3d none           1G      0         0
           0          0        0               0         0         0             0
  0        0
                              0         0
eth4          down   up     9000    d8:b1:90:ff:d8:3e none           1G      0         0
           0          0        0               0         0         0             0
  0        0
                              0         0
eth5          down   up     9000    d8:b1:90:ff:d8:3f none           1G      0         0
           0          0        0               0         0         0             0
   0        0
                             0         0
```

Example

```
nfvis# show pnic stats
Name          Rx Bytes      Packets    Errors   Dropped  Mbps   Broadcast Multicast TX Bytes
      Packets    Errors   Dropped  Collisions Mbps  Broadcast Multicast
=============================================================================================
eth0          1469743586    17753343   0        0              14159834  2889066   198318715
     272603     0        0                            40        68450
eth1          19830637      329428     0        0              0         325573    4181034
       27591      0        0                           0         27591
eth2          0             0          0        0              0         0         0
         0          0        0                           0         0
eth3          0             0          0        0              0         0         0
         0          0        0                           0         0
eth4          0             0          0        0              0         0         0
         0          0        0                           0         0
eth5          0             0          0        0              0         0         0
         0          0        0                           0         0
         0
```

Example

```
nfvis# show pnic eth1 stats
stats receive bytes 19862257
stats receive packets 329955
stats receive errors 0
stats receive dropped 0
stats receive broadcast 0
stats receive multicast 326100
stats transmit bytes 4187361
stats transmit packets 27628
stats transmit errors 0
stats transmit dropped 0
stats transmit broadcast 0
stats transmit multicast 27628
```

show pnic-breakout

To display the 40G NIC mode and adapter information, use the **show pnic-breakout** command in privileged EXEC mode.

show pnic-breakout

Syntax Description

This command has no keywords or arguments.

Command Default

None

Command Modes

Privileged EXEC (#)

Command History

Release	Modification
4.7.1	This command was introduced.

Example

```
nfvis# show pnic-breakout
DEVNO  PCI  VENDOR  DEVID  ADAPTER                                          MODE  PNICS

-------------------------------------------------------------------------------------------------------
1      5e   8086    1583   Cisco(R) Ethernet Converged NIC XL710-QDA2    2x40  ['eth2-1',
'eth2-2']
```

show port-channel

To show configured port channels, use the **show port-channel** command in privileged EXEC mode.

show port-channel

Syntax Description

This command has no keywords or parameters.

Command Default

None

Command Modes

Privileged EXEC (#)

Command History

Release	Modification
3.7.1	This command was introduced.

Example

```
nfvis# show port-channel
---- bondtrue ----
bond_mode: active-backup
bond may use recirculation: no, Recirc-ID : -1
bond-hash-basis: 0
updelay: 0 ms
downdelay: 0 ms
lacp_status: off
active slave mac: 00:00:00:00:00:00(none)

slave eth1: disabled
  may_enable: false

slave eth2: disabled
  may_enable: false
```

show lldp stats

To display LLDP statistics, use the **show lldp stats** command in privileged EXEC mode.

show lldp stats

Syntax Description

This command has no arguments or keywords.

Command Default

None

Command Modes

Privileged EXEC (#)

Command History

Release	Modification
3.7.1	This command was introduced.

Example

```
nfvis# show lldp stats
TX      DISCARD  ERROR  RX      DISCARDED  UNREC
NAME  FRAMES  RX       RX     FRAMES  TLVS       TLVS   AGEOUTS
-------------------------------------------------------------------
eth0  23      0        0      19667   0          0      0
eth1  0       0        0      0       0          0      0
eth2  0       0        0      0       0          0      0
eth3  0       0        0      0       0          0      0
eth4  0       0        0      0       0          0      0
eth5  0       0        0      0       0          0      0
```

show lldp neighbors

To display information about LLDP neighbors, use the **show lldp neighbors** command in privileged EXEC mode.

show lldp neighbors

Syntax Description

This command has no arguments or keywords.

Command Default

None

Command Modes

Privileged EXEC (#)

Command History

Release	Modification
3.7.1	This command was introduced.

Example

```
nfvis# show lldp neighbors
NAME  DEVICE ID   HOLDTIME  CAPS            PLATFORM      PORTID           DESCRIPTION

-----------------------------------------------------------------------------------------
eth0  Switch1623  120       Bridge, Router  Cisco IOS Software, Catalyst L3 Switch Software
 (CAT3K_CAA-UNIVERSALK9-M),
Version 15.0(1)EX3, RELEASE SOFTWARE (fc2)                 Ifname: Gi1/0/4
GigabitEthernet1/0/4
eth1  None        0         None            None           None             None

eth2  None        0         None            None           None             None

eth3  None        0         None            None           None             None

eth4  None        0         None            None           None             None

eth5  None        0         None            None           None             None
```

Secure Overlay and BGP Commands

- show secure-overlay, on page 216
- show bgp vpnv4 unicast, on page 217
- show bgp vpnv4 unicast route, on page 218
- show bgp vpnv4 unicast summary, on page 219

show secure-overlay

To display the secure overlay status, use the **show secure-overlay** command in privileged EXEC mode.

show secure-overlay

Command Default Information about secure overlay state is displayed.

Command Modes Privileged EXEC (#)

Command History

Release	Modification
3.10.1	This command was introduced.

Example

The following is a sample output of the **show secure-overlay** command:

```
nfvis# show secure-overlay

secure-overlay test
state                           up
active-local-bridge             wan-br
selected-local-bridge           wan-br
active-local-system-ip-addr     90.90.90.8
active-remote-interface-ip-addr 10.30.1.113
active-remote-system-ip-addr    90.90.90.1
active-remote-system-ip-subnet  90.90.90.1/32
active-remote-id                "\"10.30.1.113\""
nfvis# show bgp ?
Possible completions:
  ipv4    Address family
  vpnv4   Address family
  |       Output modifiers
```

show bgp vpnv4 unicast

To display the local BGP status for BGP over IPSec tunnel, use the **show bgp vpnv4 unicast** command in privileged EXEC mode.

show bgp vpn4 unicast

Command Default

Information about local BGP status for BGP over IPSec tunnel is displayed.

Command Modes

Privileged EXEC (#)

Command History

Release	Modification
4.5.1	This command was introduced.

Example

The following is a sample output of the **show bgp vpnv4 unicast** command:

```
nfvis# show bgp vpnv4 unicast

Family Transmission Router ID       Local AS Number
vpnv4  unicast      169.254.1.1     200
```

show bgp vpnv4 unicast route

To display the BGP learned/announced routes for BGP over IPSec tunnel, use the **show bgp vpnv4 unicast route** command in privileged EXEC mode.

show bgp vpn4 unicast route

Command Default Information about the BGP learned/announced routes for BGP over IPSec tunnel is displayed.

Command Modes Privileged EXEC (#)

Command History

Release	Modification
4.5.1	This command was introduced.

Example

The following is a sample output of the **show bgp vpnv4 unicast route** command:

```
nfvis# show bgp vpnv4 unicast route

Network            Next-Hop        Metric LocPrf Path
91.91.91.0/24      90.90.90.1      0      100    65000 ?
92.92.92.0/24      90.90.90.1      0      100    65000 ?
10.20.0.0/24       0.0.0.0                       i
```

show bgp vpnv4 unicast summary

To display the BGP neighbor status for BGP over IPSec tunnel, use the **show bgp vpnv4 unicast summary** command in privileged EXEC mode.

show bgp vpn4 unicast summary

Command Default Information about the BGP neighbor status for BGP over IPSec tunnel is displayed.

Command Modes Privileged EXEC (#)

Command History

Release	Modification
4.5.1	This command was introduced.

Example

The following is a sample output of the **show bgp vpnv4 unicast summary** command:

```
nfvis# show bgp vpnv4 unicast summary

Neighbor        IP Version AS Number Up/Down
90.90.90.1      4          65000     up
```

Storage Virtualization Commands

- cluster datastore intdatastore, on page 222
- cluster migrate-deployment, on page 223

cluster datastore intdatastore

To create a cluster, to do a cold migration of VMs, use the **cluster datastore intdatastore** command in privileged EXEC mode. To delete a cluster, use the no form of the command.

cluster *cluster name* { **datastore** [*intdatastore* | *extdatastore1* | *extdatastore2*] | **size** *size number* | **node** *ipv4 address addresstype ipv4* | **node** *ipv4 address addresstype ipv4* | **node** *ipv4 address addresstype ipv4* }

no cluster *cluster name*

Syntax Description

cluster *cluster name*	Specifies the name of the cluster.
datastore *intdatastore* | *extdatastore1* | *extdatastore2*	Specifies the datastore to be selected for creating a cluster.
size *size number*	Specifies the size of the datastore.
node	Specifies the address and address type of the device in the cluster.

Note Three nodes must be added to the configuration, for the commit to be successful.

Command Default

None

Command Modes

Privileged EXEC (#)

Command History

Release	Modification
4.8.1	This command was introduced.

Example

```
nfvis(config)# cluster cluster1 datastore intdatastore size 10
nfvis(config-cluster-test)#node 209.165.200.225 address-type ipv4
nfvis(config-node-209.165.200.254)#exit
nfvis(config-cluster-test)#node 209.165.201.31 address-type ipv4
nfvis(config-node-209.165.200.224)#exit
nfvis(config-cluster-test)#node 209.165.201.1 address-type ipv4
nfvis(config-node-209.165.202.129)#commit
```

cluster migrate-deployment

To migrate deployments from a source node to a destination node, use the **cluster migrate-deployment** command in privileged EXEC mode.

cluster *cluster name* { **migrate-deployment** | **source-node** *ip address* | **destination node** *ip address* [| **all-deployments** | **deployment-list**] }

Syntax Description

cluster *cluster name*	Specifies the cluster in which the deployments must be migrated.
source-node *ip address*	Specifies the node from which the deployment must be migrated.
destination node *ip address*	Specifies the node to which the deployment must be migrated.
all-deployments	Specifies that all deployments in the cluster need to be migrated.
deployment-list	Specifies the deployments to by migrated.

Command Default

None

Command Modes

Privileged EXEC (#)

Command History

Release	Modification
4.8.1	This command was introduced.

Example

```
nfvis# cluster test migrate-deployment source-node 209.165.200.225 destination-node
209.165.201.31 all-deployments
```

```
nfvis# cluster test migrate-deployment source-node 209.165.200.225 destination-node
209.165.201.31 deployment-list [ centosvm4 centosvm5 ]
```

Support Commands

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support show arp

To display the ARP table, use the **support show arp** command in privileged EXEC mode.

support show arp

Syntax Description

This command has no arguments or keywords.

Command Default

None

Command Modes

Privileged EXEC (#)

Command History

Release	Modification
3.7.1	This command was introduced.

Example

```
nfvis# support show arp
IP address HW type Flags HW address Mask Device
203.0.113.1 0x1 0x2 00:25:b4:47:44:00 * wan-br
203.0.113.1 0x1 0x2 3c:ce:73:da:60:00 * wan-br
203.0.113.1 0x1 0x2 00:00:0c:9f:f0:15 * wan-br
```

support show bgp

To display the BGP session details, use the **support show bgp** command in privileged EXEC mode.

support show bgp

Command Default Information about BGP session details is displayed.

Command Modes Privileged EXEC (#)

Command History

Release	Modification
4.5.1	This command was introduced.

Example

The following is a sample output of the **support show bgp** command:

```
nfvis# support show bgp

BIRD 1.6.8 ready.
name     proto    table    state  since       info
bgp_bgp_neighbor BGP      bgp_table_bgp_neighbor up     22:35:37    Established
  Preference:     100
  Input filter:   ACCEPT
  Output filter:  ACCEPT
  Import limit:   15
    Action:       disable
  Routes:         2 imported, 1 exported, 4 preferred
  Route change stats:     received   rejected   filtered    ignored   accepted
    Import updates:              2          0          0          0          2
    Import withdraws:            0          0        ---          0          0
    Export updates:              3          2          0        ---          1
    Export withdraws:            0        ---        ---        ---          0
  BGP state:          Established
    Neighbor address: 90.90.90.1
    Neighbor AS:      65000
    Neighbor ID:      90.90.90.1
    Neighbor caps:    refresh enhanced-refresh AS4
    Session:          external multihop AS4
    Source address:   90.90.90.8
    Route limit:      2/15
    Hold timer:       173/240
    Keepalive timer:  39/80
```

support show bgp route

To display the BGP routes learnt through BGP, use the **support show bgp route** command in privileged EXEC mode.

support show bgp route

Command Default Information about the BGP routes learnt through BGP is displayed.

Command Modes Privileged EXEC (#)

Command History

Release	Modification
4.5.1	This command was introduced.

Example

The following is a sample output of the **support show bgp route** command:

```
nfvis# support show bgp route

BIRD 1.6.8 ready.
91.91.91.0/24      dev ipsec0 [bgp_bgp_neighbor 22:35:37 from 90.90.90.1] (100) [AS65000?]
     Type: BGP unicast univ
     BGP.origin: Incomplete
     BGP.as_path: 65000
     BGP.next_hop: 90.90.90.1
     BGP.med: 0
     BGP.local_pref: 100
92.92.92.0/24      dev ipsec0 [bgp_bgp_neighbor 22:35:37 from 90.90.90.1] (100) [AS65000?]
     Type: BGP unicast univ
     BGP.origin: Incomplete
     BGP.as_path: 65000
     BGP.next_hop: 90.90.90.1
     BGP.med: 0
     BGP.local_pref: 100
nfvis#
```

support show config-drive

To display the VM Day-0 configuration file listing, use the **support show config-drive** command in privileged EXEC mode.

support show config-drive *domain*

Syntax Description

domain	Specifies the domain ID or name.

Command Default

None

Command Modes

Privileged EXEC (#)

Command History

Release	Modification
3.7.1	This command was introduced.

Example

```
nfvis# support show config-drive 12
-rw-r--r--. 1 qemu qemu 393216 Dec  1 00:25
/cisco/esc/esc_database/nodejs/VM/4e802bd4-c6e4-4c7b-a163-787927324967/
4e802bd4-c6e4-4c7b-a163-787927324967-hdd.config
```

show cellular

To display the LTE PIM module's information, use the **show cellular** command in privileged EXEC mode.

show cellular

Syntax Description

This command has no arguments or keywords.

Command Default

None

Command Modes

Privileged EXEC (#)

Command History

Release	Modification
4.4.1	This command was introduced.

Example

```
nfvis# show cellular
cellular 1/0
 details IPv4 address =     192.168.100.101
 details Default Gateway Address =  192.168.100.102
 details Interface subnet mask =  255.255.255.252
 details Interface name =   int-CELL-1-0
 details Interface Status =  up
 details DNS IP Address =   198.224.173.135
 details Modem Status =     Call_Connected
 hardware Modem Firmware Version =
SWI9X30C_02.33.03.00
 hardware Device Model ID =                                                EM7455
 hardware International Mobile Subscriber Identity(IMSI) =                 311480148702353
 hardware International Mobile Equipment Identity (IMEI) =                 356129070591075
 hardware Integrated Circuit Card ID (ICCID) =
89148000001470156497
 hardware Mobile Subscriber Intergrated Services Digital Network Number (MSISDN) =  4085550087

 hardware Factory Serial Number (FSN) =                                    LF911203620410
 hardware Current Modem Temperature =                                      37 deg C
 hardware PRI SKU ID =                                                     1102526
 hardware PRI Version =                                                    002.079_001
 hardware Carrier =                                                        VERIZON
 hardware OEM PRI Version =                                                000.016
 hardware Modem Status =                                                   Modem Online
 network Current System Time =     2020/11/15/23/35/12
 network Network Selection Mode =  AUTO
 network Current Service Status =  Packet switched
 network Mobile Country Code(MCC) =  311
 network Mobile Network Code(MNC) =  480
 network Current Roaming Status =  HOME
 network Network =                 Verizon
 network Packet Switch domain(PS) state =  Attached
 network EMM State =               Registered
 network EMM Sub state =           Normal-Service
 network EMM Connection State =    2
 network Tracking Area Code (TAC) =  7936
 network Cell ID =                 7962134
```

```
 network Network MTU =             1428
 radio-details Radio Power Mode =           online
 radio-details Radio Access Technology(RAT) Preference =  AUTO
 radio-details Radio Access Technology(RAT) Selected =  LTE
 radio-details LTE RX Channel Number =      2075
 radio-details LTE TX Channel Number =      20075
 radio-details LTE Band =                   4
 radio-details LTE Bandwidth =              15 MHz
 radio-details Current RSSI =               -73 dBm
 radio-details Current RSRP =               -103 dBm
 radio-details Current RSRQ =               -10 dB
 radio-details Current SNR =                5 dB
 radio-details PCI =                        169
Profile 3, Packet Session Status = ACTIVE
Call end mode = None
Session disconnect reason type = None(0)
Session disconnect reason = None(0)
PDN 0
Back off timer is NOT running
Back off error count = 0
Back off timer index = 0
Back off timer array (in minutes) = 0 1 1 1 5 10 15 30 60
Cellular interface back-off is not enforced
Period of back-off = 0 minute(s)
 profile-details 1
  PDP-Type       IPv4v6
  APN-Name       ims
  state          INACTIVE
  PDP-Address    0.0.0.0
  Authentication None
  Username
  Password
 profile-details 2
  PDP-Type       IPv4v6
  APN-Name       vzwadmin
  state          INACTIVE
  PDP-Address    0.0.0.0
  Authentication None
  Username
  Password
 profile-details 3
  PDP-Type       IPv4v6
  APN-Name       we01.VZWSTATIC
  state          ACTIVE
  PDP-Address    192.168.100.101
  Authentication None
  Username
  Password
 profile-details 4
  PDP-Type       IPv4v6
  APN-Name       vzwapp
  state          INACTIVE
  PDP-Address    0.0.0.0
  Authentication None
  Username
  Password
 profile-details 5
  PDP-Type       IPv4v6
  APN-Name       vzw800
  state          INACTIVE
  PDP-Address    0.0.0.0
  Authentication None
  Username
  Password
```

```
 profile-details 6
  PDP-Type       IPv4v6
  APN-Name       vzwclass6
  state          INACTIVE
  PDP-Address    0.0.0.0
  Authentication None
  Username
  Password
 status Firmware Upgrade Status =  "Not Initiated"
 status DM Logging Status =  Stopped
SIM
ID   SIM STATUS
-------------------
0    OK
1    Not inserted
```

show cellular 1/0

To display cellular information, use the **show cellular 1/0** command in privileged EXEC mode.

show cellular 1/0

Syntax Description

connection	Displays cellular connection information.
details	Displays cellular basic information.
hardware	Displays cellular hardware information.
network	Displays cellular network information.
profile-details	Displays cellular profile details.
radio-details	Displays cellular radio details.
status	Displays cellular status details.

Command Default

None

Command Modes

Privileged EXEC (#)

Command History

Release	Modification
4.4.1	This command was introduced.

Example

The following examples shows the individual cellular information using the **show cellular 1/0** command.

The command **show cellular 1/0 connection** is used to display the status and details of the cellular connection on a specific interface.

```
nfvis# show cellular 1/0 connection
Profile 3, Packet Session Status = ACTIVE
Call end mode = None
Session disconnect reason type = None(0)
Session disconnect reason = None(0)
PDN 0
Back off timer is NOT running
Back off error count = 0
Back off timer index = 0
Back off timer array (in minutes) = 0 1 1 1 5 10 15 30 60
Cellular interface back-off is not enforced
Period of back-off = 0 minute(s)
```

The command **show cellular 1/0 details** is used to provide detailed information about the cellular interface 1/0.

```
nfvis# show cellular 1/0 details
details IPv4 address =     192.168.100.101
```

```
details Default Gateway Address =  192.168.100.102
details Interface subnet mask =  255.255.255.252
details Interface name =   int-CELL-1-0
details Interface Status =  up
details DNS IP Address =   198.224.173.135
details Modem Status =     Call_Connected
```

The command **show cellular 1/0 hardware** provides detailed hardware information for the cellular interface 1/0 on a Cisco IOS XE Catalyst SD-WAN device.

```
nfvis# show cellular 1/0 hardware
hardware Modem Firmware Version =                                          SWI9X30C_02.33.03.00
hardware Device Model ID =                                                     EM7455
hardware International Mobile Subscriber Identity(IMSI) =                      311480148702353
hardware International Mobile Equipment Identity (IMEI) =                      356129070591075
hardware Integrated Circuit Card ID (ICCID) =                                 89148000001470156497
hardware Mobile Subscriber Intergrated Services Digital Network Number (MSISDN) =  4085550087
hardware Factory Serial Number (FSN) =                                         LF911203620410
hardware Current Modem Temperature =                                           37 deg C
hardware PRI SKU ID =                                                          1102526
hardware PRI Version =                                                         002.079_001
hardware Carrier =                                                             VERIZON
hardware OEM PRI Version =                                                     000.016
hardware Modem Status =                                                        Modem Online
```

The command **show cellular 1/0 network** provides detailed network information for the cellular interface 1/0 on a Cisco IOS XE Catalyst SD-WAN device.

```
nfvis# show cellular 1/0 network
C8200-NFVIS# show cellular 1/0 network
network Current System Time =     2020/11/15/23/39/52
network Network Selection Mode =  AUTO
network Current Service Status =  Packet switched
network Mobile Country Code(MCC) =  311
network Mobile Network Code(MNC) =  480
network Current Roaming Status =  HOME
network Network =                 Verizon
network Packet Switch domain(PS) state =  Attached
network EMM State =               Registered
network EMM Sub state =           Normal-Service
network EMM Connection State =    2
network Tracking Area Code (TAC) =  7936
network Cell ID =                 7962134
network Network MTU =             1428
```

The command **show cellular 1/0 profile-details** provides detailed information about the profiles configured on the cellular interface 1/0 of a Cisco IOS XE Catalyst SD-WAN device.

```
nfvis# show cellular 1/0 profile-details
profile-details 1
 PDP-Type       IPv4v6
 APN-Name       ims
 state          INACTIVE
 PDP-Address    0.0.0.0
 Authentication None
 Username
 Password
profile-details 2
 PDP-Type       IPv4v6
 APN-Name       vzwadmin
 state          INACTIVE
 PDP-Address    0.0.0.0
 Authentication None
 Username
 Password
```

```
profile-details 3
 PDP-Type       IPv4v6
 APN-Name       we01.VZWSTATIC
 state          ACTIVE
 PDP-Address    192.168.100.101
 Authentication None
 Username
 Password
profile-details 4
 PDP-Type       IPv4v6
 APN-Name       vzwapp
 state          INACTIVE
 PDP-Address    0.0.0.0
 Authentication None
 Username
 Password
profile-details 5
 PDP-Type       IPv4v6
 APN-Name       vzw800
 state          INACTIVE
 PDP-Address    0.0.0.0
 Authentication None
 Username
 Password
profile-details 6
 PDP-Type       IPv4v6
 APN-Name       vzwclass6
 state          INACTIVE
 PDP-Address    0.0.0.0
 Authentication None
 Username
 Password
```

The command **show cellular 1/0 radio-details** provides information about the radio parameters and current signal status for the cellular interface 1/0 on a Cisco IOS XE Catalyst SD-WAN device.

```
nfvis# show cellular 1/0 radio-details
radio-details Radio Power Mode =           online
radio-details Radio Access Technology(RAT) Preference =  AUTO
radio-details Radio Access Technology(RAT) Selected =  LTE
radio-details LTE RX Channel Number =      2075
radio-details LTE TX Channel Number =      20075
radio-details LTE Band =                   4
radio-details LTE Bandwidth =              15 MHz
radio-details Current RSSI =               -72 dBm
radio-details Current RSRP =               -103 dBm
radio-details Current RSRQ =               -17 dB
radio-details Current SNR =                7 dB
radio-details PCI =                        169
```

The command **show cellular 1/0 status** provides an overview of the status for the cellular interface 1/0 on a Cisco IOS XE Catalyst SD-WAN device.

```
nfvis# show cellular 1/0 status
status Firmware Upgrade Status =  "Not Initiated"
status DM Logging Status =  Stopped
SIM
ID   SIM STATUS
-------------------
0    OK
1    Not inserted
```

support show config-drive content

To display the brief content of VM Day-0 configuration file, use the **support show config-drive content** command in privileged EXEC mode.

support show config-drive content *domain*

Syntax Description

domain	Specifies the domain ID or name.

Command Default

None

Command Modes

Privileged EXEC (#)

Command History

Release	Modification
3.7.1	This command was introduced.

Example

```
nfvis# support show config-drive content 12
<version text="1"/> <hypervisor text="nfvis"/> <guest text="TEST"/> <gateway addr="10.1.1.1"/>

<mgmt-intf text="Virtual2"/>
<data-intf text="SHARED"/> <localip addr="10.1.1.1" mask="10.1.1.1"/> <int-intf
text="Virtual1"/>
<intip addr="10.20.0.3" mask="255.255.255.0"/> <cm addr="10.1.1.1"/> <ntp addr="10.1.1.1"/>
 </bootstrap>
 vWAAS-6000R <bootstrap> <version text="1"/> <hypervisor text="nfvis"/> <guest text="TEST"/>
 <gateway addr="10.1.1.1"/>
<mgmt-intf text="Virtual2"/> <data-intf text="SHARED"/> <localip addr="10.1.1.1"
mask="10.1.1.1"/>
<int-intf text="Virtual1"/> <intip addr="10.20.0.3" mask="255.255.255.0"/>
<cm addr="10.1.1.1"/> <ntp addr="10.1.1.1"/> </bootstrap>
vWAAS-6000R
{"files":[{"path":"bootstrap-cfg.xml","content_path":"/content/0000"},{"path":"model.txt","content_path":
"/content/0001"}]}
```

support show cpuinfo

To display CPU information, use the **support show cpuinfo** command in privileged EXEC mode.

support show cpuinfo

Syntax Description

This command has no arguments or keywords.

Command Default

None

Command Modes

Privileged EXEC (#)

Command History

Release	Modification
3.7.1	This command was introduced.

Example

```
nfvis# support show cpuinfo
processor : 0
vendor_id : GenuineIntel
cpu family : 6
model : 79
model name : Intel(R) Xeon(R) CPU E5-2630 v4 @ 2.20GHz
stepping : 1
microcode : 0xb00001f
cpu MHz : 1265.859
cache size : 25600 KB
physical id : 0
siblings : 20
core id : 0
cpu cores : 10
apicid : 0
initial apicid : 0
fpu : yes
fpu_exception : yes
cpuid level : 20
wp : yes
flags : fpu vme de pse tsc msr pae mce cx8 apic sep mtrr pge mca cmov pat pse36 clflush dts
 acpi mmx fxsr sse sse2 ss ht tm pbe syscall nx pdpe1gb rdtscp lm constant_tsc arch_perfmon
 pebs bts rep_good nopl xtopology nonstop_tsc aperfmperf eagerfpu pni pclmulqdq dtes64
monitor ds_cpl vmx smx est tm2 ssse3 fma cx16 xtpr pdcm pcid dca sse4_1 sse4_2 x2apic movbe
 popcnt tsc_deadline_timer aes xsave avx f16c rdrand lahf_lm abm 3dnowprefetch ida arat epb
 pln pts dtherm intel_pt tpr_shadow vnmi flexpriority ept vpid fsgsbase tsc_adjust bmi1 hle
 avx2 smep bmi2 erms invpcid rtm cqm rdseed adx smap xsaveopt cqm_llc cqm_occup_llc
cqm_mbm_total cqm_mbm_local
bogomips : 4389.33
clflush size : 64
cache_alignment : 64
address sizes : 46 bits physical, 48 bits virtual
power management:
...
```

support show date-time

To display the date and time information, use the **support show date-time** command in privileged EXEC mode.

support show date-time

Syntax Description

This command has no arguments or keywords.

Command Default

None

Command Modes

Privileged EXEC (#)

Command History

Release	Modification
3.7.1	This command was introduced.

Example

```
nfvis# support show date-time
Thu Nov 16 10:50:52 UTC 2017
```

support show df

To display the amount of disk space used and available, use the **support show df** command in privileged EXEC mode.

support show df

Syntax Description

This command has no arguments or keywords.

Command Default

None

Command Modes

Privileged EXEC (#)

Command History

Release	Modification
3.7.1	This command was introduced.

Example

```
nfvis# support show df
Filesystem Type 1024-blocks Used Available Capacity Mounted on
/dev/mapper/vg_nfv-lv_root ext4 8125880 1755256 5934812 23% /
devtmpfs devtmpfs 65863696 0 65863696 0% /dev
tmpfs tmpfs 65874332 12 65874320 1% /dev/shm
tmpfs tmpfs 65874332 1224 65873108 1% /run
tmpfs tmpfs 65874332 0 65874332 0% /sys/fs/cgroup
/dev/sda2 ext4 739536 112860 572916 17% /boot
/dev/mapper/vg_nfv-lv_var ext4 3997376 137112 3634168 4% /var
/dev/mapper/vg_nfv-lv_data ext4 2311085988 4765488 2305792116 1% /data
tmpfs tmpfs 13174868 0 13174868 0% /run/user/0
```

support show domainname

To display the information about domain name, use the **support show domainname** command in privileged EXEC mode.

support show domainname

Syntax Description

This command has no arguments or keywords.

Command Default

None

Command Modes

Privileged EXEC (#)

Command History

Release	Modification
3.7.1	This command was introduced.

Example

```
nfvis# support show domainname
```

support show dmidecode

To display the system hardware information, use the **support show dmidecode** command in privileged EXEC mode.

support show dmidecode

Syntax Description

This command has no arguments or keywords.

Command Default

None

Command Modes

Privileged EXEC (#)

Command History

Release	Modification
3.7.1	This command was introduced.

Example

```
nfvis# support show dmidecode
# dmidecode 3.0
Scanning /dev/mem for entry point.
SMBIOS 3.0.0 present.
Handle 0x0001, DMI type 1, 27 bytes
System Information
Manufacturer: Cisco Systems Inc
Product Name: UCSC-C220-M4S
Version: A0
Serial Number: FCH2110V0DX
UUID: EB7C9CE9-9DF9-3142-898B-C84A16B10706
Wake-up Type: Power Switch
SKU Number: Not Specified
Family: Not Specified
Handle 0x0002, DMI type 2, 15 bytes
Base Board Information
Manufacturer: Cisco Systems Inc
Product Name: UCSC-C220-M4S
Version: 74-12419-02
Serial Number: FCH2108JLC4
Asset Tag: Unknown
Features:
Board is a hosting board
Board is replaceable
Location In Chassis: Not Specified
Chassis Handle: 0x0003
Type: Server Blade
Contained Object Handles: 0
Handle 0x0003, DMI type 3, 25 bytes
Chassis Information
Manufacturer: Cisco Systems Inc
Type: Rack Mount Chassis
Lock: Not Present
Version: 74-12502-02
Serial Number: FCH2110V0DX
Asset Tag: Unknown
Boot-up State: Safe
```

```
Power Supply State: Safe
Thermal State: Safe
Security Status: None
OEM Information: 0x00018755
Height: 1 U
Number Of Power Cords: 1
Contained Elements: 1
```

support show ethtool

To display the standard information about a device, use the **support show ethtool** command in privileged EXEC mode.

support show ethtool *devicename*

Syntax Description

devicename	Specifies the name of the device.

Command Default

None

Command Modes

Privileged EXEC (#)

Command History

Release	Modification
3.7.1	This command was introduced.

Example

```
nfvis# support show ethtool eth1
nfvis# support show ethtool eth1
Driver information for device eth1
driver: igb
version: 5.3.0-k
firmware-version: 1.63, 0x80000b15, 0.384.130
expansion-rom-version:
bus-info: 0000:01:00.1
supports-statistics: yes
supports-test: yes
supports-eeprom-access: yes
supports-register-dump: yes
supports-priv-flags: no

Features for eth1:
rx-checksumming: on
tx-checksumming: on
 tx-checksum-ipv4: off [fixed]
 tx-checksum-ip-generic: on
 tx-checksum-ipv6: off [fixed]
 tx-checksum-fcoe-crc: off [fixed]
 tx-checksum-sctp: on
scatter-gather: on
 tx-scatter-gather: on
 tx-scatter-gather-fraglist: off [fixed]
tcp-segmentation-offload: on
 tx-tcp-segmentation: on
 tx-tcp-ecn-segmentation: off [fixed]
 tx-tcp6-segmentation: on
udp-fragmentation-offload: off [fixed]
generic-segmentation-offload: on
generic-receive-offload: on
large-receive-offload: off [fixed]
rx-vlan-offload: on
tx-vlan-offload: on
ntuple-filters: off
receive-hashing: on
```

```
highdma: on [fixed]
rx-vlan-filter: on [fixed]
vlan-challenged: off [fixed]
tx-lockless: off [fixed]
netns-local: off [fixed]
tx-gso-robust: off [fixed]
tx-fcoe-segmentation: off [fixed]
tx-gre-segmentation: off [fixed]
tx-ipip-segmentation: off [fixed]
tx-sit-segmentation: off [fixed]
tx-udp_tnl-segmentation: off [fixed]
tx-mpls-segmentation: off [fixed]
fcoe-mtu: off [fixed]
tx-nocache-copy: off
loopback: off [fixed]
rx-fcs: off [fixed]
rx-all: off
tx-vlan-stag-hw-insert: off [fixed]
rx-vlan-stag-hw-parse: off [fixed]
rx-vlan-stag-filter: off [fixed]
busy-poll: off [fixed]
tx-sctp-segmentation: off [fixed]
l2-fwd-offload: off [fixed]
hw-tc-offload: off [fixed]
Permanent address: 70:db:98:70:2f:6f
Pause parameters for eth1:
Autonegotiate: on
RX:  off
TX:  off


NIC statistics:
     rx_packets: 0
     tx_packets: 0
     rx_bytes: 0
     tx_bytes: 0
     rx_broadcast: 0
     tx_broadcast: 0
     rx_multicast: 0
     tx_multicast: 0
     multicast: 0
     collisions: 0
     rx_crc_errors: 0
     rx_no_buffer_count: 0
     rx_missed_errors: 0
     tx_aborted_errors: 0
     tx_carrier_errors: 0
     tx_window_errors: 0
     tx_abort_late_coll: 0
     tx_deferred_ok: 0
     tx_single_coll_ok: 0
     tx_multi_coll_ok: 0
     tx_timeout_count: 0
     rx_long_length_errors: 0
     rx_short_length_errors: 0
     rx_align_errors: 0
     tx_tcp_seg_good: 0
     tx_tcp_seg_failed: 0
     rx_flow_control_xon: 0
     rx_flow_control_xoff: 0
     tx_flow_control_xon: 0
     tx_flow_control_xoff: 0
     rx_long_byte_count: 0
     tx_dma_out_of_sync: 0
```

```
tx_smbus: 0
rx_smbus: 0
dropped_smbus: 0
os2bmc_rx_by_bmc: 0
os2bmc_tx_by_bmc: 0
os2bmc_tx_by_host: 0
os2bmc_rx_by_host: 0
tx_hwtstamp_timeouts: 0
rx_hwtstamp_cleared: 0
rx_errors: 0
tx_errors: 0
tx_dropped: 0
rx_length_errors: 0
rx_over_errors: 0
rx_frame_errors: 0
rx_fifo_errors: 0
tx_fifo_errors: 0
tx_heartbeat_errors: 0
tx_queue_0_packets: 0
tx_queue_0_bytes: 0
tx_queue_0_restart: 0
tx_queue_1_packets: 0
tx_queue_1_bytes: 0
tx_queue_1_restart: 0
tx_queue_2_packets: 0
tx_queue_2_bytes: 0
tx_queue_2_restart: 0
tx_queue_3_packets: 0
tx_queue_3_bytes: 0
tx_queue_3_restart: 0
tx_queue_4_packets: 0
tx_queue_4_bytes: 0
tx_queue_4_restart: 0
tx_queue_5_packets: 0
tx_queue_5_bytes: 0
tx_queue_5_restart: 0
tx_queue_6_packets: 0
tx_queue_6_bytes: 0
tx_queue_6_restart: 0
tx_queue_7_packets: 0
tx_queue_7_bytes: 0
tx_queue_7_restart: 0
rx_queue_0_packets: 0
rx_queue_0_bytes: 0
rx_queue_0_drops: 0
rx_queue_0_csum_err: 0
rx_queue_0_alloc_failed: 0
rx_queue_1_packets: 0
rx_queue_1_bytes: 0
rx_queue_1_drops: 0
rx_queue_1_csum_err: 0
rx_queue_1_alloc_failed: 0
rx_queue_2_packets: 0
rx_queue_2_bytes: 0
rx_queue_2_drops: 0
rx_queue_2_csum_err: 0
rx_queue_2_alloc_failed: 0
rx_queue_3_packets: 0
rx_queue_3_bytes: 0
rx_queue_3_drops: 0
rx_queue_3_csum_err: 0
rx_queue_3_alloc_failed: 0
rx_queue_4_packets: 0
rx_queue_4_bytes: 0
```

```
     rx_queue_4_drops: 0
     rx_queue_4_csum_err: 0
     rx_queue_4_alloc_failed: 0
     rx_queue_5_packets: 0
     rx_queue_5_bytes: 0
     rx_queue_5_drops: 0
     rx_queue_5_csum_err: 0
     rx_queue_5_alloc_failed: 0
     rx_queue_6_packets: 0
     rx_queue_6_bytes: 0
     rx_queue_6_drops: 0
     rx_queue_6_csum_err: 0
     rx_queue_6_alloc_failed: 0
     rx_queue_7_packets: 0
     rx_queue_7_bytes: 0
     rx_queue_7_drops: 0
     rx_queue_7_csum_err: 0
     rx_queue_7_alloc_failed: 0

Coalesce parameters for eth1:
Adaptive RX: off  TX: off
stats-block-usecs: 0
sample-interval: 0
pkt-rate-low: 0
pkt-rate-high: 0

rx-usecs: 3
rx-frames: 0
rx-usecs-irq: 0
rx-frames-irq: 0

tx-usecs: 0
tx-frames: 0
tx-usecs-irq: 0
tx-frames-irq: 0

rx-usecs-low: 0
rx-frame-low: 0
tx-usecs-low: 0
tx-frame-low: 0

rx-usecs-high: 0
rx-frame-high: 0
tx-usecs-high: 0
tx-frame-high: 0

Ring parameters for eth1:
Pre-set maximums:
RX:  4096
RX Mini: 0
RX Jumbo: 0
TX:  4096
Current hardware settings:
RX:  256
RX Mini: 0
RX Jumbo: 0
TX:  256
```

support show ifconfig

To display the configuration details of all network interfaces or a specific interface, use the **support show ifconfig** command in privileged EXEC mode.

support show ifconfig *interface*

Syntax Description

interface	Specifies the interface name.

Command Default

None

Command Modes

Privileged EXEC (#)

Command History

Release	Modification
3.7.1	This command was introduced.

Example

```
nfvis# support show ifconfig wan-br
wan-br: flags=4163<UP,BROADCAST,RUNNING,MULTICAST> mtu 9000
inet 172.19.181.196 netmask 255.255.255.0 broadcast 172.19.181.255
inet6 fe80::72db:98ff:fe70:2f6e prefixlen 64 scopeid 0x20<link>
ether 70:db:98:70:2f:6e txqueuelen 1000 (Ethernet)
RX packets 3373533 bytes 5021452007 (4.6 GiB)
RX errors 0 dropped 3945 overruns 0 frame 0
TX packets 337841 bytes 30441490 (29.0 MiB)
TX errors 0 dropped 0 overruns 0 carrier 0 collisions 0
```

support show iostat

To display the I/O statistics of block devices, use the **support show iostat** command in privileged EXEC mode.

support show iostat

Syntax Description

This command has no arguments or keywords.

Command Default

None

Command Modes

Privileged EXEC (#)

Command History

Release	Modification
3.7.1	This command was introduced.

Example

```
nfvis# support show iostat
Major Minor Device Reads Reads Sectors Time (ms) Writes Writes Sectors Time (ms) IOs In
Time (ms) Weighted
Number Number Name Successful Merged Read Reading Completed Merged Written Writing Progress
 Doing IOs Time(ms) IOs
--------------------------------------------------------------------------------------------
8 0 sda 34721 8 938752 149830 2713238 302897 37631784 84086836 0 1098844 84236605
8 1 sda1 52 0 416 156 0 0 0 0 0 156 156
8 2 sda2 437 0 49322 629 7 1 64 0 0 469 628
8 3 sda3 34054 8 884766 148345 2713231 302896 37631720 84086836 0 1098524 84238309
253 0 dm-0 17693 0 564042 101847 66698 0 694744 74520 0 40719 176366
253 1 dm-1 218 0 4456 832 0 0 0 0 0 810 832
253 2 dm-2 15066 0 261514 42646 2911495 0 36585456 84848114 0 1056312 84891060
253 3 dm-3 1055 0 53730 4699 37951 0 351520 246240 0 20556 250939
```

support show ipsec

To display the IPsec session details, use the **support show ipsec** command in privileged EXEC mode.

support show ipsec

Command Default Information about IPsec session details is displayed.

Command Modes Privileged EXEC (#)

Command History

Release	Modification
4.5.1	This command was introduced.

Example

The following is a sample output of the **support show ipsec** command:

```
nfvis# support show ipsec

Status of IKE charon daemon (strongSwan 5.7.1, Linux 3.10.0-1062.4.1.el7.x86_64, x86_64):
  uptime: 13 minutes, since Mar 24 22:35:31 2021
  malloc: sbrk 2822144, mmap 0, used 630752, free 2191392
  worker threads: 11 of 16 idle, 5/0/0/0 working, job queue: 0/0/0/0, scheduled: 2
  loaded plugins: charon pkcs11 tpm aesni aes des rc2 sha2 sha1 md4 md5 mgf1 random nonce
x509 revocation constraints acert pubkey pkcs1 pkcs7 pkcs8 pkcs12 pgp dnskey sshkey pem
openssl gcrypt fips-prf gmp curve25519 chapoly xcbc cmac hmac ctr ccm gcm curl attr
kernel-netlink resolve socket-default stroke vici updown eap-identity eap-sim eap-aka
eap-aka-3gpp eap-aka-3gpp2 eap-md5 eap-gtc eap-mschapv2 eap-dynamic eap-radius eap-tls
eap-ttls eap-peap xauth-generic xauth-eap xauth-pam xauth-noauth dhcp led duplicheck unity
 counters
Listening IP addresses:
  192.168.1.1
  172.25.221.110
  192.168.50.1
  192.168.10.11
  169.254.1.1
Connections:
        test:  172.25.221.110...10.30.1.113  IKEv2
        test:   local:  [172.25.221.110] uses pre-shared key authentication
        test:   remote: [10.30.1.113] uses pre-shared key authentication
        test:   child:  0.0.0.0/0 === 0.0.0.0/0 TUNNEL
Security Associations (1 up, 0 connecting):
        test[1]: ESTABLISHED 13 minutes ago,
172.25.221.110[172.25.221.110]...10.30.1.113[10.30.1.113]
        test[1]: IKEv2 SPIs: 9371ee51ac1b436d_i* 52e341d1eb29f7bf_r, rekeying in 23 hours
        test[1]: IKE proposal: AES_CBC_256/HMAC_SHA2_512_256/PRF_HMAC_SHA2_512/MODP_2048
        test{1}:  INSTALLED, TUNNEL, reqid 1, ESP SPIs: c916a993_i 7bb99a5e_o
        test{1}:  AES_CBC_256/HMAC_SHA2_512_256, 8393 bytes_i (111 pkts, 1s ago), 8485
bytes_o (112 pkts, 1s ago), rekeying in 40 minutes
        test{1}:   0.0.0.0/0 === 0.0.0.0/0
```

support show loadavg

To display the load average of CPU and IO over 1, 5, and 10 minute period, use the **support show loadavg** command in privileged EXEC mode.

support show loadavg

Syntax Description

This command has no arguments or keywords.

Command Default

None

Command Modes

Privileged EXEC (#)

Command History

Release	Modification
3.7.1	This command was introduced.

Example

```
nfvis# support show loadavg
Avg CPU and IO Utilization (1m) : 0.40
Avg CPU and IO Utilization (5m) : 0.36
Avg CPU and IO Utilization (10m) : 0.33
Running/Total Num of Processes : 1/678
Last Proccess ID Used : 13411
```

support show meminfo

To display the information about system's RAM usage, use the **support show meminfo** command in privileged EXEC mode.

support show meminfo

Syntax Description

This command has no arguments or keywords.

Command Default

None

Command Modes

Privileged EXEC (#)

Command History

Release	Modification
3.7.1	This command was introduced.

Example

```
nfvis# support show meminfo
MemTotal: 131748668 kB
MemFree: 123779264 kB
MemAvailable: 128225916 kB
Buffers: 11800 kB
Cached: 4887312 kB
SwapCached: 0 kB
Active: 1842792 kB
Inactive: 4658692 kB
Active(anon): 1613936 kB
Inactive(anon): 13644 kB
Active(file): 228856 kB
Inactive(file): 4645048 kB
Unevictable: 184888 kB
Mlocked: 184888 kB
SwapTotal: 16777212 kB
SwapFree: 16777212 kB
Dirty: 5112 kB
Writeback: 0 kB
AnonPages: 1787960 kB
Mapped: 95852 kB
Shmem: 16156 kB
Slab: 240824 kB
SReclaimable: 172504 kB
SUnreclaim: 68320 kB
KernelStack: 11536 kB
PageTables: 22360 kB
NFS_Unstable: 0 kB
Bounce: 0 kB
WritebackTmp: 0 kB
CommitLimit: 82651544 kB
Committed_AS: 7245188 kB
VmallocTotal: 34359738367 kB
VmallocUsed: 507704 kB
VmallocChunk: 34291843068 kB
HardwareCorrupted: 0 kB
AnonHugePages: 1208320 kB
```

```
HugePages_Total: 0
HugePages_Free: 0
HugePages_Rsvd: 0
HugePages_Surp: 0
Hugepagesize: 2048 kB
DirectMap4k: 171680 kB
DirectMap2M: 7055360 kB
DirectMap1G: 128974848 kB
```

support show netstattcp

To display the network connection and protocol statistics information for TCP, use the **support show netstattcp** command in privileged EXEC mode.

support show netstattcp

Syntax Description

This command has no arguments or keywords.

Command Default

None

Command Modes

Privileged EXEC (#)

Command History

Release	Modification
3.7.1	This command was introduced.

Example

```
nfvis# support show netstattcp
Active Internet connections (only servers)
Proto Recv-Q Send-Q Local Address Foreign Address State
tcp 0 0 127.0.0.1:7878 0.0.0.0:* LISTEN
tcp 0 0 127.0.0.1:199 0.0.0.0:* LISTEN
tcp 0 0 127.0.0.1:2023 0.0.0.0:* LISTEN
tcp 0 0 0.0.0.0:8008 0.0.0.0:* LISTEN
tcp 0 0 0.0.0.0:5900 0.0.0.0:* LISTEN
tcp 0 0 0.0.0.0:22222 0.0.0.0:* LISTEN
tcp 0 0 0.0.0.0:111 0.0.0.0:* LISTEN
tcp 0 0 0.0.0.0:80 0.0.0.0:* LISTEN
tcp 0 0 127.0.0.1:4565 0.0.0.0:* LISTEN
tcp 0 0 0.0.0.0:22 0.0.0.0:* LISTEN
tcp 0 0 0.0.0.0:8888 0.0.0.0:* LISTEN
tcp 0 0 0.0.0.0:443 0.0.0.0:* LISTEN
tcp 0 0 0.0.0.0:830 0.0.0.0:* LISTEN
tcp 0 0 127.0.0.1:8000 0.0.0.0:* LISTEN
tcp6 0 0 :::8001 :::* LISTEN
tcp6 0 0 127.0.0.1:8005 :::* LISTEN
tcp6 0 0 ::1:7878 :::* LISTEN
tcp6 0 0 :::8009 :::* LISTEN
tcp6 0 0 :::22222 :::* LISTEN
tcp6 0 0 :::111 :::* LISTEN
tcp6 0 0 :::8080 :::* LISTEN
tcp6 0 0 :::80 :::* LISTEN
tcp6 0 0 :::8081 :::* LISTEN
tcp6 0 0 :::22 :::* LISTEN
tcp6 0 0 :::443 :::* LISTEN
tcp6 0 0 :::830 :::* LISTEN
```

support show netstatudp

To display the network connection and protocol statistics information for UDP, use the **support show netstatudp** command in privileged EXEC mode.

support show netstatudp

Syntax Description

This command has no arguments or keywords.

Command Default

None

Command Modes

Privileged EXEC (#)

Command History

Release	Modification
3.7.1	This command was introduced.

Example

```
nfvis# support show netstatudp
Active Internet connections (only servers)
Proto Recv-Q Send-Q Local Address Foreign Address State
udp 0 0 0.0.0.0:161 0.0.0.0:*
udp 0 0 127.0.0.1:323 0.0.0.0:*
udp 0 0 0.0.0.0:1610 0.0.0.0:*
udp6 0 0 ::1:323 :::*
udp6 0 0 ::1:1610 :::*
```

support show procstat

To display the statistics information for kernel or system, use the **support show procstat** command in privileged EXEC mode.

support show procstat

Syntax Description

This command has no arguments or keywords.

Command Default

None

Command Modes

Privileged EXEC (#)

Command History

Release	Modification
3.7.1	This command was introduced.

Example

```
nfvis# support show procstat
cpu 155096 1 303421 267304458 50402 0 4774 0 52078 0
cpu0 29046 0 43045 6607705 3121 0 1175 0 0 0
cpu1 27238 0 39353 6562272 1857 0 2558 0 0 0
cpu2 0 0 231 6697805 0 0 0 0 0 0
cpu3 0 0 231 6698222 0 0 0 0 0 0
cpu4 0 0 231 6698222 0 0 0 0 0 0
cpu5 0 0 231 6698222 0 0 0 0 0 0
cpu6 0 0 231 6698222 0 0 0 0 0 0
cpu7 0 0 231 6698221 0 0 0 0 0 0
cpu8 0 0 231 6698221 0 0 0 0 0 0
cpu9 0 0 231 6698221 0 0 0 0 0 0
cpu10 0 0 262 6697886 0 0 0 0 0 0
cpu11 0 0 231 6698214 0 0 0 0 0 0
cpu12 0 0 231 6698213 0 0 0 0 0 0
cpu13 0 0 231 6698213 0 0 0 0 0 0
cpu14 0 0 231 6698212 0 0 0 0 0 0
cpu15 0 0 231 6698212 0 0 0 0 0 0
cpu16 0 0 231 6698212 0 0 0 0 0 0
cpu17 0 0 231 6698211 0 0 0 0 0 0
cpu18 0 0 231 6698211 0 0 0 0 0 0
cpu19 52484 0 27416 6600223 63 0 41 0 52078 0
cpu20 22792 0 95509 6572676 1530 0 368 0 0 0
cpu21 23533 0 89953 6524896 43829 0 631 0 0 0
cpu22 0 0 231 6698210 0 0 0 0 0 0
cpu23 0 0 231 6698210 0 0 0 0 0 0
cpu24 0 0 231 6698209 0 0 0 0 0 0
cpu25 0 0 231 6698209 0 0 0 0 0 0
cpu26 0 0 231 6698209 0 0 0 0 0 0
cpu27 0 0 231 6698209 0 0 0 0 0 0
cpu28 0 0 231 6698208 0 0 0 0 0 0
cpu29 0 0 231 6698207 0 0 0 0 0 0
cpu30 0 0 231 6698207 0 0 0 0 0 0
cpu31 0 0 231 6698207 0 0 0 0 0 0
cpu32 0 0 231 6698206 0 0 0 0 0 0
cpu33 0 0 231 6698206 0 0 0 0 0 0
cpu34 0 0 231 6698206 0 0 0 0 0 0
```

```
cpu35 0 0 231 6698205 0 0 0 0 0 0
cpu36 0 0 231 6698205 0 0 0 0 0 0
cpu37 0 0 231 6698204 0 0 0 0 0 0
cpu38 0 0 231 6698204 0 0 0 0 0 0
cpu39 0 0 231 6698204 0 0 0 0 0 0
intr 71282795 154 0 0 0 890 0 0 0 1 148338 0 0 0 0 0 0 0 0 129 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
 0 0 0 0 162766 64744
0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 533 25119 2256492 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
0 0 0 0 171740 2860624
452569 36061 40063 97867 61120 302923 0 0 33470 33470 33470 33470 33470 33470 33470 33470
0 33469 33469 33469 33469
33469 33469 33469 33469 0 0 33469 33469 33469 33469 33469 33469 33469 33469 0 0 33468 33468
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33433 33433 33433 33433 33433
33433 33433 33433 33433 33433 33433 33433 33433 33433 33433 33433 33433 0 0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
ctxt 107838268
btime 1510762560
processes 162648
procs_running 1
procs_blocked 0
softirq 73632593 9 31179219 13427 11364643 2471015 0 686 11744081 0 16859513
```

support show route

To display the route netstat information, use the **support show route** command in privileged EXEC mode.

support show route

Syntax Description

table-id	(Optional) Specifies the table ID.

Command Default

None

Command Modes

Privileged EXEC (#)

Command History

Release	Modification
3.7.1	This command was introduced.

Example

```
nfvis# support show route ?
Possible completions:
  Linux routing table number to display  |  <cr>
nfvis# support show route 220
90.90.90.1 dev ipsec0 scope link
91.91.91.0/24 dev ipsec0 proto bird scope link
92.92.92.0/24 dev ipsec0 proto bird scope link
```

support show snmp

To display the IP, ICMP, TCP, and UDP MIB information for SNMP agent, use the **support show snmp** command in privileged EXEC mode.

support show snmp

Syntax Description

This command has no arguments or keywords.

Command Default

None

Command Modes

Privileged EXEC (#)

Command History

Release	Modification
3.7.1	This command was introduced.

Example

```
nfvis# support show snmp
Ip: Forwarding DefaultTTL InReceives InHdrErrors InAddrErrors ForwDatagrams InUnknownProtos
 InDiscards InDelivers OutRequests
OutDiscards OutNoRoutes ReasmTimeout ReasmReqds ReasmOKs ReasmFails FragOKs FragFails
FragCreates
Ip: 1 64 6869229 0 0 0 0 0 3944160 3939158 407 0 0 0 0 0 0 0 0
Icmp: InMsgs InErrors InCsumErrors InDestUnreachs InTimeExcds InParmProbs InSrcQuenchs
InRedirects InEchos InEchoReps InTimestamps
 InTimestampReps InAddrMasks InAddrMaskReps OutMsgs OutErrors OutDestUnreachs OutTimeExcds
 OutParmProbs OutSrcQuenchs OutRedirects
 OutEchos OutEchoReps OutTimestamps OutTimestampReps OutAddrMasks OutAddrMaskReps
Icmp: 9732 0 0 9732 0 0 0 0 0 0 0 0 0 9735 0 9735 0 0 0 0 0 0 0 0 0 0
IcmpMsg: InType3 OutType3
IcmpMsg: 9732 9735
Tcp: RtoAlgorithm RtoMin RtoMax MaxConn ActiveOpens PassiveOpens AttemptFails EstabResets
CurrEstab InSegs OutSegs RetransSegs
InErrs OutRsts InCsumErrors
Tcp: 1 200 120000 -1 15203 14161 1119 7 402 3931354 3927811 489 0 1127 0
Udp: InDatagrams NoPorts InErrors OutDatagrams RcvbufErrors SndbufErrors InCsumErrors
Udp: 0 9732 0 9732 0 0 0
UdpLite: InDatagrams NoPorts InErrors OutDatagrams RcvbufErrors SndbufErrors InCsumErrors
UdpLite: 0 0 0 0 0 0 0
```

support show system-version

To display the information about the system version, use the **support show system-version** command in privileged EXEC mode.

support show system-version

Syntax Description

This command has no arguments or keywords.

Command Default

None

Command Modes

Privileged EXEC (#)

Command History

Release	Modification
3.7.1	This command was introduced.

Example

```
nfvis# support show system-version
Linux version 3.10.0-514.21.1.el7.x86_64 (abc@sample.localdomain) (gcc version 4.8.5 20150623
 (Red Hat 4.8.5-11) (GCC) )
 #1 SMP Tue Aug 8 14:23:12 IST 2017
```

support show system-hostname

To display the system host name, use the **support show system-hostname** command in privileged EXEC mode.

support show system-hostname

Syntax Description

This command has no arguments or keywords.

Command Default

None

Command Modes

Privileged EXEC (#)

Command History

Release	Modification
3.7.1	This command was introduced.

Example

```
nfvis# support show system-hostname
nfvis
```

support virsh all-info

To display the output of all supported virsh commands, use the **support virsh all-info** command in privileged EXEC mode.

support virsh all-info

Syntax Description

This command has no arguments or keywords.

Command Default

None

Command Modes

Privileged EXEC (#)

Command History

Release	Modification
3.7.1	This command was introduced.

Example

```
nfvis# support virsh all-info
support virsh list
 Id    Name                           State
----------------------------------------------------
 1     1510117366.RouterUnmon         running
 2     1510085877.ubuntu              running
 3     1510095552.ROUTER              running
 4     isr1-dep.isr1-vg               running


support virsh dumpxml 1
<domain type='kvm' id='1'>
  <name>1510117366.RouterUnmon</name>
  <uuid>2329b9ff-2a77-4e20-9cad-a5a5984bd4ba</uuid>
  <memory unit='KiB'>2359296</memory>
  <currentMemory unit='KiB'>2359296</currentMemory>
  <vcpu placement='static' current='2'>8</vcpu>
  <cputune>
    <vcpupin vcpu='0' cpuset='12'/>
    <vcpupin vcpu='1' cpuset='11'/>
    <emulatorpin cpuset='11-12'/>
  </cputune>
  <resource>
    <partition>/machine</partition>
  </resource>
  <os>
    <type arch='x86_64' machine='pc-i440fx-rhel7.0.0'>hvm</type>
    <boot dev='hd'/>
  </os>
  <features>
    <acpi/>
    <apic/>
    <pae/>
  </features>
  <cpu mode='host-passthrough'/>
  <clock offset='utc'/>
  <on_poweroff>restart</on_poweroff>
```

```
  <on_reboot>restart</on_reboot>
  <on_crash>destroy</on_crash>
  <devices>
    <emulator>/usr/libexec/qemu-kvm</emulator>
    <disk type='file' device='disk'>
      <driver name='qemu' type='qcow2' cache='writethrough'/>
      <source
file='/data/cisco/vm_lifecycle/volumes/2329b9ff-2a77-4e20-9cad-a5a5984bd4ba_0.img'/>
      <backingStore type='file' index='1'>
        <format type='qcow2'/>
        <source
file='/data/cisco/vm_lifecycle/volumes/isrv-universalk9.16.06.01-vga.qcow2_0.img'/>
        <backingStore/>
      </backingStore>
      <target dev='vda' bus='virtio'/>
      <alias name='virtio-disk0'/>
      <address type='pci' domain='0x0000' bus='0x00' slot='0x05' function='0x0'/>
    </disk>
    <controller type='usb' index='0'>
      <alias name='usb'/>
      <address type='pci' domain='0x0000' bus='0x00' slot='0x01' function='0x2'/>
    </controller>
    <controller type='pci' index='0' model='pci-root'>
      <alias name='pci.0'/>
    </controller>
    <interface type='bridge'>
      <mac address='52:54:00:f7:06:89'/>
      <source network='lan-net' bridge='lan-br'/>
      <virtualport type='openvswitch'>
        <parameters interfaceid='98b0908f-8ddc-4800-b970-b1a902f2f1ac'/>
      </virtualport>
      <target dev='vnic8'/>
      <model type='virtio'/>
      <alias name='net0'/>
      <address type='pci' domain='0x0000' bus='0x00' slot='0x03' function='0x0'/>
    </interface>
    <interface type='bridge'>
      <mac address='52:54:00:52:67:ba'/>
      <source network='wan-net' bridge='wan-br'/>
      <virtualport type='openvswitch'>
        <parameters interfaceid='b42b7f81-37a8-45c5-b468-ec60074a5ec4'/>
      </virtualport>
      <target dev='vnic9'/>
      <model type='virtio'/>
      <alias name='net1'/>
      <address type='pci' domain='0x0000' bus='0x00' slot='0x04' function='0x0'/>
    </interface>
    <input type='mouse' bus='ps2'>
      <alias name='input0'/>
    </input>
    <input type='tablet' bus='usb'>
      <alias name='input1'/>
      <address type='usb' bus='0' port='1'/>
    </input>
    <input type='keyboard' bus='ps2'>
      <alias name='input2'/>
    </input>
    <graphics type='vnc' port='5900' autoport='yes' listen='0.0.0.0'>
      <listen type='address' address='0.0.0.0'/>
    </graphics>
    <video>
      <model type='cirrus' vram='16384' heads='1' primary='yes'/>
      <alias name='video0'/>
      <address type='pci' domain='0x0000' bus='0x00' slot='0x02' function='0x0'/>
```

```
    </video>
    <memballoon model='none'/>
  </devices>
  <seclabel type='dynamic' model='selinux' relabel='yes'>
    <label>system_u:system_r:svirt_t:s0:c379,c571</label>
    <imagelabel>system_u:object_r:svirt_image_t:s0:c379,c571</imagelabel>
  </seclabel>
  <seclabel type='dynamic' model='dac' relabel='yes'>
    <label>+107:+107</label>
    <imagelabel>+107:+107</imagelabel>
  </seclabel>
</domain>
...
```

support virsh capabilities

To display the host capabilities, use the **support virsh capabilities** command in privileged EXEC mode.

support virsh capabilities

Syntax Description

This command has no arguments or keywords.

Command Default

None

Command Modes

Privileged EXEC (#)

Command History

Release	Modification
3.7.1	This command was introduced.

Example

```
nfvis# support virsh capabilities
<capabilities>
<host>
<uuid>eb7c9ce9-9df9-3142-898b-c84a16b10706</uuid>
<cpu>
<arch>x86_64</arch>
<model>Broadwell</model>
<vendor>Intel</vendor>
<topology sockets='1' cores='10' threads='2'/>
<feature name='vme'/>
<feature name='ds'/>
<feature name='acpi'/>
<feature name='ss'/>
<feature name='ht'/>
<feature name='tm'/>
<feature name='pbe'/>
<feature name='dtes64'/>
<feature name='monitor'/>
<feature name='ds_cpl'/>
<feature name='vmx'/>
<feature name='smx'/>
<feature name='est'/>
<feature name='tm2'/>
<feature name='xtpr'/>
<feature name='pdcm'/>
<feature name='dca'/>
<feature name='osxsave'/>
<feature name='f16c'/>
<feature name='rdrand'/>
<feature name='arat'/>
<feature name='tsc_adjust'/>
<feature name='cmt'/>
<feature name='xsaveopt'/>
<feature name='mbm_total'/>
<feature name='mbm_local'/>
<feature name='pdpe1gb'/>
<feature name='abm'/>
<feature name='invtsc'/>
```

```
<pages unit='KiB' size='4'/>
<pages unit='KiB' size='2048'/>
<pages unit='KiB' size='1048576'/>
</cpu>
<power_management>
<suspend_mem/>
<suspend_disk/>
<suspend_hybrid/>
</power_management>
<migration_features>
<live/>
<uri_transports>
<uri_transport>tcp</uri_transport>
<uri_transport>rdma</uri_transport>
</uri_transports>
</migration_features>
<topology>
<cells num='2'>
<cell id='0'>
<memory unit='KiB'>66995472</memory>
<pages unit='KiB' size='4'>16748868</pages>
<pages unit='KiB' size='2048'>0</pages>
<pages unit='KiB' size='1048576'>0</pages>
<distances>
<sibling id='0' value='10'/>
<sibling id='1' value='21'/>
</distances>
<cpus num='20'>
<cpu id='0' socket_id='0' core_id='0' siblings='0,20'/>
<cpu id='1' socket_id='0' core_id='1' siblings='1,21'/>
<cpu id='2' socket_id='0' core_id='2' siblings='2,22'/>
<cpu id='3' socket_id='0' core_id='3' siblings='3,23'/>
<cpu id='4' socket_id='0' core_id='4' siblings='4,24'/>
<cpu id='5' socket_id='0' core_id='8' siblings='5,25'/>
<cpu id='6' socket_id='0' core_id='9' siblings='6,26'/>
<cpu id='7' socket_id='0' core_id='10' siblings='7,27'/>
<cpu id='8' socket_id='0' core_id='11' siblings='8,28'/>
<cpu id='9' socket_id='0' core_id='12' siblings='9,29'/>
<cpu id='20' socket_id='0' core_id='0' siblings='0,20'/>
<cpu id='21' socket_id='0' core_id='1' siblings='1,21'/>
<cpu id='22' socket_id='0' core_id='2' siblings='2,22'/>
<cpu id='23' socket_id='0' core_id='3' siblings='3,23'/>
<cpu id='24' socket_id='0' core_id='4' siblings='4,24'/>
<cpu id='25' socket_id='0' core_id='8' siblings='5,25'/>
<cpu id='26' socket_id='0' core_id='9' siblings='6,26'/>
<cpu id='27' socket_id='0' core_id='10' siblings='7,27'/>
<cpu id='28' socket_id='0' core_id='11' siblings='8,28'/>
<cpu id='29' socket_id='0' core_id='12' siblings='9,29'/>
</cpus>
</cell>
<cell id='1'>
<memory unit='KiB'>67108864</memory>
<pages unit='KiB' size='4'>16777216</pages>
<pages unit='KiB' size='2048'>0</pages>
<pages unit='KiB' size='1048576'>0</pages>
<distances>
<sibling id='0' value='21'/>
<sibling id='1' value='10'/>
</distances>
<cpus num='20'>
<cpu id='10' socket_id='1' core_id='0' siblings='10,30'/>
<cpu id='11' socket_id='1' core_id='1' siblings='11,31'/>
<cpu id='12' socket_id='1' core_id='2' siblings='12,32'/>
<cpu id='13' socket_id='1' core_id='3' siblings='13,33'/>
```

```
<cpu id='14' socket_id='1' core_id='4' siblings='14,34'/>
<cpu id='15' socket_id='1' core_id='8' siblings='15,35'/>
<cpu id='16' socket_id='1' core_id='9' siblings='16,36'/>
<cpu id='17' socket_id='1' core_id='10' siblings='17,37'/>
<cpu id='18' socket_id='1' core_id='11' siblings='18,38'/>
<cpu id='19' socket_id='1' core_id='12' siblings='19,39'/>
<cpu id='30' socket_id='1' core_id='0' siblings='10,30'/>
<cpu id='31' socket_id='1' core_id='1' siblings='11,31'/>
<cpu id='32' socket_id='1' core_id='2' siblings='12,32'/>
<cpu id='33' socket_id='1' core_id='3' siblings='13,33'/>
<cpu id='34' socket_id='1' core_id='4' siblings='14,34'/>
<cpu id='35' socket_id='1' core_id='8' siblings='15,35'/>
<cpu id='36' socket_id='1' core_id='9' siblings='16,36'/>
<cpu id='37' socket_id='1' core_id='10' siblings='17,37'/>
<cpu id='38' socket_id='1' core_id='11' siblings='18,38'/>
<cpu id='39' socket_id='1' core_id='12' siblings='19,39'/>
</cpus>
</cell>
</cells>
</topology>
<secmodel>
<model>selinux</model>
<doi>0</doi>
<baselabel type='kvm'>system_u:system_r:svirt_t:s0</baselabel>
<baselabel type='qemu'>system_u:system_r:svirt_tcg_t:s0</baselabel>
</secmodel>
<secmodel>
<model>dac</model>
<doi>0</doi>
<baselabel type='kvm'>+107:+107</baselabel>
<baselabel type='qemu'>+107:+107</baselabel>
</secmodel>
</host>
<guest>
<os_type>hvm</os_type>
<arch name='i686'>
<wordsize>32</wordsize>
<emulator>/usr/libexec/qemu-kvm</emulator>
<machine maxCpus='240'>pc-i440fx-rhel7.0.0</machine>
<machine canonical='pc-i440fx-rhel7.0.0' maxCpus='240'>pc</machine>
<machine maxCpus='240'>rhel6.0.0</machine>
<machine maxCpus='240'>rhel6.1.0</machine>
<machine maxCpus='240'>rhel6.2.0</machine>
<machine maxCpus='240'>rhel6.3.0</machine>
<machine maxCpus='240'>rhel6.4.0</machine>
<machine maxCpus='240'>rhel6.5.0</machine>
<machine maxCpus='240'>rhel6.6.0</machine>
<domain type='qemu'/>
<domain type='kvm'>
<emulator>/usr/libexec/qemu-kvm</emulator>
</domain>
</arch>
<features>
<cpuselection/>
<deviceboot/>
<disksnapshot default='off' toggle='no'/>
<acpi default='on' toggle='yes'/>
<apic default='on' toggle='no'/>
<pae/>
<nonpae/>
</features>
</guest>
<guest>
<os_type>hvm</os_type>
```

```
<arch name='x86_64'>
<wordsize>64</wordsize>
<emulator>/usr/libexec/qemu-kvm</emulator>
<machine maxCpus='240'>pc-i440fx-rhel7.0.0</machine>
<machine canonical='pc-i440fx-rhel7.0.0' maxCpus='240'>pc</machine>
<machine maxCpus='240'>rhel6.0.0</machine>
<machine maxCpus='240'>rhel6.1.0</machine>
<machine maxCpus='240'>rhel6.2.0</machine>
<machine maxCpus='240'>rhel6.3.0</machine>
<machine maxCpus='240'>rhel6.4.0</machine>
<machine maxCpus='240'>rhel6.5.0</machine>
<machine maxCpus='240'>rhel6.6.0</machine>
<domain type='qemu'/>
<domain type='kvm'>
<emulator>/usr/libexec/qemu-kvm</emulator>
</domain>
</arch>
<features>
<cpuselection/>
<deviceboot/>
<disksnapshot default='off' toggle='no'/>
<acpi default='on' toggle='yes'/>
<apic default='on' toggle='no'/>
</features>
</guest>
</capabilities>
```

support virsh cpu-stats

To display the CPU statistics for a domain, use the **support virsh cpu-stats** command in privileged EXEC mode.

support virsh cpu-stats *domain*

Syntax Description

domain	Specifies the domain name.

Command Default

None

Command Modes

Privileged EXEC (#)

Command History

Release	Modification
3.7.1	This command was introduced.

Example

```
nfvis# support virsh cpu-stats 1512149985.ROUTER
Time used by the domain:
cpu_time    : 55311955404 ns
system_time : 3910000000 ns
user_time   : 810000000 ns
```

support virsh domiflist

To display the list of interfaces in a domain, use the **support virsh domiflist** command in privileged EXEC mode.

support virsh domiflist *domain*

Syntax Description

domain	Specifies the domain name.

Command Default

None

Command Modes

Privileged EXEC (#)

Command History

Release	Modification
3.7.1	This command was introduced.

Example

```
nfvis# support virsh domiflist 2
Interface  Type       Source     Model       MAC
-------------------------------------------------------
vnic2      bridge     wan-net    virtio      52:54:00:db:4d:10
vnic3      bridge     lan-net    virtio      52:54:00:8a:58:f5
```

support virsh dumpxml

To display the VM XML dump of the configuration file, use the **support virsh dumpxml** command in privileged EXEC mode.

support virsh dumpxml *domain*

Syntax Description

domain	Specifies the name or ID of the domain.

Command Default

None

Command Modes

Privileged EXEC (#)

Command History

Release	Modification
3.7.1	This command was introduced.

Example

```
nfvis# support virsh dumpxml 2
<domain type='kvm' id='2'>
  <name>1505948272.vmdk</name>
  <uuid>285b8c3f-9f10-4e6b-b9bc-e87caaf7d877</uuid>
  <memory unit='KiB'>4456448</memory>
  <currentMemory unit='KiB'>4456448</currentMemory>
  <vcpu placement='static' current='2'>8</vcpu>
  <cputune>
    <vcpupin vcpu='0' cpuset='17'/>
    <vcpupin vcpu='1' cpuset='16'/>
  </cputune>
  <resource>
    <partition>/machine</partition>
  </resource>
  <os>
    <type arch='x86_64' machine='pc-i440fx-rhel7.0.0'>hvm</type>
    <boot dev='hd'/>
  </os>
  <features>
    <acpi/>
    <apic/>
    <pae/>
  </features>
  <cpu mode='host-passthrough'/>
  <clock offset='utc'/>
  <on_poweroff>restart</on_poweroff>
  <on_reboot>restart</on_reboot>
  <on_crash>destroy</on_crash>
  <devices>
    <emulator>/usr/libexec/qemu-kvm</emulator>
    <disk type='file' device='disk'>
      <driver name='qemu' type='qcow2' cache='writethrough'/>
      <source
file='/data/cisco/vm_lifecycle/volumes/285b8c3f-9f10-4e6b-b9bc-e87caaf7d877_0.img'/>
      <backingStore type='file' index='1'>
        <format type='qcow2'/>
        <source file='/data/cisco/vm_lifecycle/volumes/vwlc.vmdk_0.img'/>
```

```
      <backingStore/>
    </backingStore>
    <target dev='vda' bus='virtio'/>
    <alias name='virtio-disk0'/>
    <address type='pci' domain='0x0000' bus='0x00' slot='0x05' function='0x0'/>
  </disk>
  <controller type='usb' index='0'>
    <alias name='usb'/>
    <address type='pci' domain='0x0000' bus='0x00' slot='0x01' function='0x2'/>
  </controller>
  <controller type='pci' index='0' model='pci-root'>
    <alias name='pci.0'/>
  </controller>
  <interface type='bridge'>
    <mac address='52:54:00:db:4d:10'/>
    <source network='wan-net' bridge='wan-br'/>
    <virtualport type='openvswitch'>
      <parameters interfaceid='ad1fb82a-b6c3-4f39-adc0-72788820e798'/>
    </virtualport>
    <target dev='vnic2'/>
    <model type='virtio'/>
    <alias name='net0'/>
    <address type='pci' domain='0x0000' bus='0x00' slot='0x03' function='0x0'/>
  </interface>
  <interface type='bridge'>
    <mac address='52:54:00:8a:58:f5'/>
    <source network='lan-net' bridge='lan-br'/>
    <virtualport type='openvswitch'>
      <parameters interfaceid='58070073-58ab-4ec6-92e3-81da3f7468ad'/>
    </virtualport>
    <target dev='vnic3'/>
    <model type='virtio'/>
    <alias name='net1'/>
    <address type='pci' domain='0x0000' bus='0x00' slot='0x04' function='0x0'/>
  </interface>
  <input type='mouse' bus='ps2'>
    <alias name='input0'/>
  </input>
  <input type='tablet' bus='usb'>
    <alias name='input1'/>
    <address type='usb' bus='0' port='1'/>
  </input>
  <input type='keyboard' bus='ps2'>
    <alias name='input2'/>
  </input>
  <graphics type='vnc' port='5901' autoport='yes' listen='0.0.0.0'>
    <listen type='address' address='0.0.0.0'/>
  </graphics>
  <video>
    <model type='cirrus' vram='16384' heads='1' primary='yes'/>
    <alias name='video0'/>
    <address type='pci' domain='0x0000' bus='0x00' slot='0x02' function='0x0'/>
  </video>
  <memballoon model='none'/>
 </devices>
 <seclabel type='dynamic' model='selinux' relabel='yes'>
  <label>system_u:system_r:svirt_t:s0:c726,c919</label>
  <imagelabel>system_u:object_r:svirt_image_t:s0:c726,c919</imagelabel>
 </seclabel>
 <seclabel type='dynamic' model='dac' relabel='yes'>
  <label>+107:+107</label>
  <imagelabel>+107:+107</imagelabel>
 </seclabel>
</domain>
```

support virsh iface-list

To display a list of interfaces on the host, use the **support virsh iface-list** command in privileged EXEC mode.

support virsh iface-list

Syntax Description

This command has no arguments or keywords.

Command Default

None

Command Modes

Privileged EXEC (#)

Command History

Release	Modification
3.7.1	This command was introduced.

Example

```
nfvis# support virsh iface-list
Name                 State      MAC Address
-------------------------------------------------
 eth0                active     70:db:98:70:2f:6e
 int-mgmt-net-br     active     c6:13:e5:4d:e1:46
 lan-br              active     70:db:98:07:1f:35
 lo                  active     00:00:00:00:00:00
 wan-br              active     70:db:98:70:2f:6e
```

support virsh iface-dumpxml

To display the XML dump of an interface, use the **support virsh iface-dumpxml** command in privileged EXEC mode.

support virsh iface-dumpxml *interface*

Syntax Description

interface	Specifies the interface name.

Command Default

None

Command Modes

Privileged EXEC (#)

Command History

Release	Modification
3.7.1	This command was introduced.

Example

```
nfvis# support virsh iface-dumpxml wan-br
<interface type='ethernet' name='wan-br'>
   <protocol family='ipv4'>
     <ip address='172.19.181.196' prefix='24'/>
   </protocol>
   <protocol family='ipv6'>
     <ip address='2001:420:30d:200:72db:98ff:fe70:2f6e' prefix='64'/>
     <ip address='2001:420:30d:201:ffff:ffff:fffd:fa50' prefix='64'/>
     <ip address='fe80::72db:98ff:fe70:2f6e' prefix='64'/>
   </protocol>
   <link state='unknown'/>
   <mac address='70:db:98:70:2f:6e'/>
</interface>
```

support virsh list

To display a list of VM domains provisioned in the system, use the **support virsh list** command in privileged EXEC mode.

support virsh list

Syntax Description

This command has no arguments or keywords.

Command Default

None

Command Modes

Privileged EXEC (#)

Command History

Release	Modification
3.7.1	This command was introduced.

Example

```
nfvis# support virsh list
Id    Name                           State
----------------------------------------------------
 2     1505948272.vmdk                running
 3     1505947515.raw                 running
 -     1505946928.iso                 shut off
 -     1505948274.iso2                shut off
```

support virsh memory-stats

To display the memory statistics for a domain, use the **support virsh memory-stats** command in privileged EXEC mode.

support virsh memory-stats *domain*

Syntax Description

domain	Specifies the domain name.

Command Default

None

Command Modes

Privileged EXEC (#)

Command History

Release	Modification
3.7.1	This command was introduced.

Example

```
nfvis# support virsh memory-stats name 1510771542.OTHER
Memory used:
rss: 119808 KB
```

support virsh net-dumpxml

To display the XML dump of a network, use the **support virsh net-dumpxml** command in privileged EXEC mode.

support virsh net-dumpxml *network*

Syntax Description

network	Specifies the network name.

Command Default

None

Command Modes

Privileged EXEC (#)

Command History

Release	Modification
3.7.1	This command was introduced.

Example

```
nfvis# support virsh net-dumpxml wan-net
<network connections='1'>
   <name>wan-net</name>
   <uuid>e51f65c5-fec4-4b3c-a7cd-540b748bde57</uuid>
   <forward mode='bridge'/>
   <bridge name='wan-br'/>
   <virtualport type='openvswitch'/>
</network>
```

support virsh net-list

To display a list of networks in the host, use the **support virsh net-list** command in privileged EXEC mode.

support virsh net-list

Syntax Description

This command has no arguments or keywords.

Command Default

None

Command Modes

Privileged EXEC (#)

Command History

Release	Modification
3.7.1	This command was introduced.

Example

```
nfvis# support virsh net-list
Name                 State      Autostart     Persistent
----------------------------------------------------------
 int-mgmt-net         active     yes           yes
 lan-net              active     yes           yes
 wan-net              active     yes           yes
```

support virsh net-info

To display information about a network, use the **support virsh net-info** command in privileged EXEC mode.

support virsh net-info *network*

Syntax Description

network	Specifies the name of the network.

Command Default

None

Command Modes

Privileged EXEC (#)

Command History

Release	Modification
3.7.1	This command was introduced.

Example

```
nfvis# support virsh net-info wan-net
Name:           wan-net
UUID:           e51f65c5-fec4-4b3c-a7cd-540b748bde57
Active:         yes
Persistent:     yes
Autostart:      yes
Bridge:         wan-br
```

support virsh nodecpustats

To display the system-wide CPU statistics, use the **support virsh nodecpustats** command in privileged EXEC mode.

support virsh nodecpustats

Syntax Description

This command has no arguments or keywords.

Command Default

None

Command Modes

Privileged EXEC (#)

Command History

Release	Modification
3.7.1	This command was introduced.

Example

```
nfvis# support virsh nodecpustats
usage:            0.1%
user:             0.0%
system:           0.0%
idle:           100.0%
iowait:           0.0%
```

support virsh pool-list

To display a list of all storage pools in the system, use the **support virsh pool-list** command in privileged EXEC mode.

support virsh pool-list

Syntax Description

This command has no arguments or keywords.

Command Default

None

Command Modes

Privileged EXEC (#)

Command History

Release	Modification
3.7.1	This command was introduced.

Example

```
nfvis# support virsh pool-list
Name                 State      Autostart
-----------------------------------------
 cisco_datastore1     active     no
```

support virsh pool-dumpxml

To display the XML dump of a storage pool, use the **support virsh pool-dumpxml** command in privileged EXEC mode.

support virsh pool-dumpxml *poolname*

Syntax Description

poolname	Specifies the pool name.

Command Default

None

Command Modes

Privileged EXEC (#)

Command History

Release	Modification
3.7.1	This command was introduced.

Example

```
nfvis# support virsh pool-dumpxml cisco_datastore1
<pool type='dir'>
  <name>cisco_datastore1</name>
  <uuid>51487524-16fe-40c9-a598-6384c914e191</uuid>
  <capacity unit='bytes'>2304488226816</capacity>
  <allocation unit='bytes'>256696770560</allocation>
  <available unit='bytes'>2047791456256</available>
  <source>
  </source>
  <target>
    <path>/data/cisco/vm_lifecycle/volumes</path>
    <permissions>
      <mode>0755</mode>
      <owner>0</owner>
      <group>0</group>
      <label>system_u:object_r:etc_runtime_t:s0</label>
    </permissions>
  </target>
</pool>
```

support virsh sys-info

To display the system information, use the **support virsh sys-info** command in privileged EXEC mode.

support virsh sys-info

Syntax Description

This command has no arguments or keywords.

Command Default

None

Command Modes

Privileged EXEC (#)

Command History

Release	Modification
3.7.1	This command was introduced.

Example

```
nfvis# support virsh sys-info
Sys info: <sysinfo type='smbios'>
<bios>
<entry name='vendor'>Cisco Systems, Inc.</entry>
<entry name='version'>C220M4.2.0.13g.0.1113162259</entry>
<entry name='date'>11/13/2016</entry>
<entry name='release'>5.11</entry>
</bios>
<system>
<entry name='manufacturer'>Cisco Systems Inc</entry>
<entry name='product'>UCSC-C220-M4S</entry>
<entry name='version'>A0</entry>
<entry name='serial'>FCH2110V0DX</entry>
<entry name='uuid'>EB7C9CE9-9DF9-3142-898B-C84A16B10706</entry>
<entry name='sku'>Not Specified</entry>
<entry name='family'>Not Specified</entry>
</system>
<baseBoard>
<entry name='manufacturer'>Cisco Systems Inc</entry>
<entry name='product'>UCSC-C220-M4S</entry>
<entry name='version'>74-12419-02</entry>
<entry name='serial'>FCH2108JLC4</entry>
<entry name='asset'>Unknown</entry>
<entry name='location'>Not Specified</entry>
</baseBoard>
<processor>
<entry name='socket_destination'>CPU1</entry>
<entry name='type'>Central Processor</entry>
<entry name='family'>Xeon</entry>
<entry name='manufacturer'>Intel(R) Corporation</entry>
<entry name='signature'>Type 0, Family 6, Model 79, Stepping 1</entry>
<entry name='version'>Intel(R) Xeon(R) CPU E5-2630 v4 @ 2.20GHz</entry>
<entry name='external_clock'>100 MHz</entry>
<entry name='max_speed'>4000 MHz</entry>
<entry name='status'>Populated, Enabled</entry>
<entry name='serial_number'>Not Specified</entry>
<entry name='part_number'>Not Specified</entry>
</processor>
```

```
<processor>
<entry name='socket_destination'>CPU2</entry>
<entry name='type'>Central Processor</entry>
<entry name='family'>Xeon</entry>
<entry name='manufacturer'>Intel(R) Corporation</entry>
<entry name='signature'>Type 0, Family 6, Model 79, Stepping 1</entry>
<entry name='version'>Intel(R) Xeon(R) CPU E5-2630 v4 @ 2.20GHz</entry>
<entry name='external_clock'>100 MHz</entry>
<entry name='max_speed'>4000 MHz</entry>
<entry name='status'>Populated, Enabled</entry>
<entry name='serial_number'>Not Specified</entry>
<entry name='part_number'>Not Specified</entry>
</processor>
<memory_device>
<entry name='size'>16384 MB</entry>
<entry name='form_factor'>DIMM</entry>
<entry name='locator'>DIMM_A1</entry>
<entry name='bank_locator'>NODE 0 CHANNEL 0 DIMM 0</entry>
<entry name='type'>DDR4</entry>
<entry name='type_detail'>Registered (Buffered)</entry>
<entry name='speed'>2400 MHz</entry>
<entry name='manufacturer'>0xCE00</entry>
<entry name='serial_number'>34E462C9</entry>
<entry name='part_number'>M393A2K40BB1-CRC</entry>
</memory_device>
<memory_device>
<entry name='size'>16384 MB</entry>
<entry name='form_factor'>DIMM</entry>
<entry name='locator'>DIMM_B1</entry>
<entry name='bank_locator'>NODE 0 CHANNEL 1 DIMM 0</entry>
<entry name='type'>DDR4</entry>
<entry name='type_detail'>Registered (Buffered)</entry>
<entry name='speed'>2400 MHz</entry>
<entry name='manufacturer'>0xCE00</entry>
<entry name='serial_number'>34E4536B</entry>
<entry name='part_number'>M393A2K40BB1-CRC</entry>
</memory_device>
<memory_device>
<entry name='size'>16384 MB</entry>
<entry name='form_factor'>DIMM</entry>
<entry name='locator'>DIMM_C1</entry>
<entry name='bank_locator'>NODE 0 CHANNEL 2 DIMM 0</entry>
<entry name='type'>DDR4</entry>
<entry name='type_detail'>Registered (Buffered)</entry>
<entry name='speed'>2400 MHz</entry>
<entry name='manufacturer'>0xCE00</entry>
<entry name='serial_number'>34E4539A</entry>
<entry name='part_number'>M393A2K40BB1-CRC</entry>
</memory_device>
<memory_device>
<entry name='size'>16384 MB</entry>
<entry name='form_factor'>DIMM</entry>
<entry name='locator'>DIMM_D1</entry>
<entry name='bank_locator'>NODE 0 CHANNEL 3 DIMM 0</entry>
<entry name='type'>DDR4</entry>
<entry name='type_detail'>Registered (Buffered)</entry>
<entry name='speed'>2400 MHz</entry>
<entry name='manufacturer'>0xCE00</entry>
<entry name='serial_number'>34E4544B</entry>
<entry name='part_number'>M393A2K40BB1-CRC</entry>
</memory_device>
<memory_device>
<entry name='size'>16384 MB</entry>
<entry name='form_factor'>DIMM</entry>
```

```
<entry name='locator'>DIMM_E1</entry>
<entry name='bank_locator'>NODE 1 CHANNEL 0 DIMM 0</entry>
<entry name='type'>DDR4</entry>
<entry name='type_detail'>Registered (Buffered)</entry>
<entry name='speed'>2400 MHz</entry>
<entry name='manufacturer'>0xCE00</entry>
<entry name='serial_number'>34E468CE</entry>
<entry name='part_number'>M393A2K40BB1-CRC</entry>
</memory_device>
<memory_device>
<entry name='size'>16384 MB</entry>
<entry name='form_factor'>DIMM</entry>
<entry name='locator'>DIMM_F1</entry>
<entry name='bank_locator'>NODE 1 CHANNEL 1 DIMM 0</entry>
<entry name='type'>DDR4</entry>
<entry name='type_detail'>Registered (Buffered)</entry>
<entry name='speed'>2400 MHz</entry>
<entry name='manufacturer'>0xCE00</entry>
<entry name='serial_number'>34E44191</entry>
<entry name='part_number'>M393A2K40BB1-CRC</entry>
</memory_device>
<memory_device>
<entry name='size'>16384 MB</entry>
<entry name='form_factor'>DIMM</entry>
<entry name='locator'>DIMM_G1</entry>
<entry name='bank_locator'>NODE 1 CHANNEL 2 DIMM 0</entry>
<entry name='type'>DDR4</entry>
<entry name='type_detail'>Registered (Buffered)</entry>
<entry name='speed'>2400 MHz</entry>
<entry name='manufacturer'>0xCE00</entry>
<entry name='serial_number'>34E46927</entry>
<entry name='part_number'>M393A2K40BB1-CRC</entry>
</memory_device>
<memory_device>
<entry name='size'>16384 MB</entry>
<entry name='form_factor'>DIMM</entry>
<entry name='locator'>DIMM_H1</entry>
<entry name='bank_locator'>NODE 1 CHANNEL 3 DIMM 0</entry>
<entry name='type'>DDR4</entry>
<entry name='type_detail'>Registered (Buffered)</entry>
<entry name='speed'>2400 MHz</entry>
<entry name='manufacturer'>0xCE00</entry>
<entry name='serial_number'>34E468D0</entry>
<entry name='part_number'>M393A2K40BB1-CRC</entry>
</memory_device>
</sysinfo>
```

support virsh vol-dumpxml

To display the XML dump of a volume, use the **support virsh vol-dumpxml** command in privileged EXEC mode.

support virsh vol-dumpxml *poolname volumename*

Syntax Description

poolname	Specifies the pool name.
volumename	Specifies the volume name.

Command Default

None

Command Modes

Privileged EXEC (#)

Command History

Release	Modification
3.7.1	This command was introduced.

Example

```
nfvis# support virsh vol-dumpxml cisco_datastore1 vwlc.vmdk_0.img
<volume type='file'>
  <name>vwlc.vmdk_0.img</name>
  <key>/data/cisco/vm_lifecycle/volumes/vwlc.vmdk_0.img</key>
  <source>
  </source>
  <capacity unit='bytes'>8589934592</capacity>
  <allocation unit='bytes'>200704</allocation>
  <target>
    <path>/data/cisco/vm_lifecycle/volumes/vwlc.vmdk_0.img</path>
    <format type='qcow2'/>
    <permissions>
      <mode>0600</mode>
      <owner>107</owner>
      <group>107</group>
      <label>system_u:object_r:virt_content_t:s0</label>
    </permissions>
    <timestamps>
      <atime>1505921732.573554833</atime>
      <mtime>1505921559.789556401</mtime>
      <ctime>1505921732.494554834</ctime>
    </timestamps>
    <compat>1.1</compat>
    <features/>
  </target>
</volume>
```

support virsh vol-list

To display the list of interfaces in a domain, use the **support virsh vol-list** command in privileged EXEC mode.

support virsh vol-list *poolname*

Syntax Description

poolname	Specifies the pool name.

Command Default

None

Command Modes

Privileged EXEC (#)

Command History

Release	Modification
3.7.1	This command was introduced.

Example

```
nfvis# support virsh vol-list cisco_datastore1
Name                 Path
--------------------------------------------------------------------------------
 24ef7a32-4490-49ca-bbc8-c9a01ec20ae4_0.img
/data/cisco/vm_lifecycle/volumes/24ef7a32-4490-49ca-bbc8-c9a01ec20ae4_0.img
 285b8c3f-9f10-4e6b-b9bc-e87caaf7d877_0.img
/data/cisco/vm_lifecycle/volumes/285b8c3f-9f10-4e6b-b9bc-e87caaf7d877_0.img
 5db7f935-501b-4606-935b-bf650fefdc02_0.img
/data/cisco/vm_lifecycle/volumes/5db7f935-501b-4606-935b-bf650fefdc02_0.img
 d4a8df33-3bc1-43db-9a82-b96dc8429fb3_0.img
/data/cisco/vm_lifecycle/volumes/d4a8df33-3bc1-43db-9a82-b96dc8429fb3_0.img
 fattest_0.img        /data/cisco/vm_lifecycle/volumes/fattest_0.img
 TinyLinux.qcow2_0.img /data/cisco/vm_lifecycle/volumes/TinyLinux.qcow2_0.img
 vwlc.vmdk_0.img      /data/cisco/vm_lifecycle/volumes/vwlc.vmdk_0.img
```

support ovs all-info

To display the output of all supported ovs commands, use the **support ovs all-info** command in privileged EXEC mode.

support ovs all-info

Syntax Description

This command has no arguments or keywords.

Command Default

None

Command Modes

Privileged EXEC (#)

Command History

Release	Modification
3.7.1	This command was introduced.

Example

```
nfvis# support ovs all-info
support ovs vsctl show
c23984a8-7379-445d-9ca3-0980bf1db317
    Bridge wan-br
        Port "vnic4"
            Interface "vnic4"
        Port wan-br
            Interface wan-br
                type: internal
        Port "vnic2"
            Interface "vnic2"
        Port "eth0"
            Interface "eth0"
        Port "vnic9"
            Interface "vnic9"
        Port "vnic0"
            Interface "vnic0"
    Bridge int-mgmt-net-br
        Port "vnic3"
            Interface "vnic3"
        Port int-mgmt-net-br
            Interface int-mgmt-net-br
                type: internal
    Bridge lan-br
        Port lan-br
            Interface lan-br
                type: internal
        Port "eth6"
            Interface "eth6"
        Port "eth7"
            Interface "eth7"
        Port "eth4"
            Interface "eth4"
        Port "eth2"
            Interface "eth2"
        Port "eth1"
            Interface "eth1"
```

```
        Port "vnic8"
            Interface "vnic8"
        Port "eth5"
            Interface "eth5"
        Port "vnic1"
            Interface "vnic1"
        Port "eth3"
            Interface "eth3"
    ovs_version: "2.5.2"
support ovs vsctl list-br
int-mgmt-net-br
lan-br
wan-br
...
```

support ovs appctl fdb-show

To display information about the ports of a bridge , use the **support ovs appctl fdb-show** command in privileged EXEC mode.

support ovs appctl fdb-show *bridge*

Syntax Description

bridge	Specifies the bridge name.

Command Default

None

Command Modes

Privileged EXEC (#)

Command History

Release	Modification
3.7.1	This command was introduced.

Example

```
nfvis# support ovs appctl fdb-show wan-br
port  VLAN  MAC                Age
    1     0  00:24:14:de:0f:b0  275
    1     0  00:19:2f:bc:f9:40  271
    1     0  b4:14:89:cb:7a:18  252
    1     0  a8:9d:21:04:2c:a1  228
    1     0  c4:71:fe:60:51:40  211
    1     0  00:d0:c9:bd:b1:ca  187
    1     0  00:0c:29:25:71:45  176
    1     0  0c:4d:e9:c7:14:eb  176
    1     0  ac:87:a3:01:5d:38  175
    1     0  00:1a:a1:21:a9:08  172
    1     0  00:17:08:50:27:9b  153
    1     0  00:50:56:87:24:11  150
    1     0  00:1a:a1:df:48:70  143
    1     0  00:6b:f1:25:13:f0  139
    1     0  00:78:88:50:95:40  139
    1     0  00:03:ba:85:a1:16  123
    1     0  00:11:92:fa:07:d1  123
    1     0  50:57:a8:e1:5f:48  122
    1     0  70:db:98:c3:fb:00  110
    1     0  a8:9d:21:f4:74:10  110
    1     0  50:3d:e5:9d:5a:a8  107
    1     0  00:17:95:42:67:e0  106
    1     0  00:50:56:8b:01:37  105
    1     0  a8:9d:21:ce:de:50   81
    1     0  fa:9d:46:a0:61:ce   80
    1     0  6c:ae:8b:15:f3:c6   61
    1     0  4c:4e:35:44:25:ca   59
    1     0  80:e0:1d:37:1c:68   54
    1     0  00:f2:8b:c3:97:70   52
    1     0  a2:6e:e7:10:a1:bb   50
    1     0  00:6b:f1:25:13:fc   50
    1     0  44:2b:03:16:db:83   50
    1     0  80:e0:1d:36:e3:7d   50
    1     0  d8:b1:90:40:7a:0f   49
    1     0  70:db:98:70:0a:d9   47
```

```
     1     0  a8:9d:21:93:65:06   46
     1     0  bc:f1:f2:da:f9:41   40
     1     0  5c:f3:fc:2b:2d:79   35
     1     0  70:db:98:6f:fb:c0   33
     1     0  ce:b2:05:54:47:82   32
     1     0  84:b8:02:b8:5a:fc   32
     1     0  00:f2:8b:c3:97:7c   32
     1     0  10:05:ca:9d:8a:21   31
     1     0  d4:6d:50:cf:9e:8d   31
     1     0  84:b8:02:5b:cd:d9   29
     1     0  00:1e:be:10:81:9a   29
     1     0  80:e0:1d:37:2a:80   27
     6     0  52:54:00:82:95:43   26
     1     0  f8:66:f2:da:0a:80   26
     1     0  da:eb:ea:3f:ed:04   25
     1     0  50:3d:e5:17:b4:00   23
     1     0  e4:c7:22:f0:16:f9   16
     1     0  a8:9d:21:ce:de:4b   15
     1     0  00:1d:70:7e:5d:80   14
     1     0  f8:0b:cb:d6:a6:d5   14
     1     0  00:6b:f1:25:13:7c   14
     1     0  70:db:98:6f:fb:bb   14
     1     0  d4:6d:50:cf:c1:81   13
     1     0  80:e0:1d:36:e3:82   13
     1     0  a8:9d:21:93:65:02   11
     1     0  00:b0:64:fd:06:87   11
     1     0  d4:6d:50:cf:c1:86   11
     1     0  70:db:98:c3:fa:80   10
     1     0  70:db:98:c3:f9:68   10
     9     0  52:54:00:85:8a:7a   10
     1     0  bc:f1:f2:da:f9:04    9
     1     0  00:0c:29:3d:50:1e    7
     1     0  00:0c:29:3d:50:0a    7
     1     0  52:54:00:54:78:e4    7
     1     0  d6:b2:96:90:eb:25    6
     1     0  84:b8:02:b8:5a:f7    5
     1     0  00:6b:f1:25:13:fd    5
     1     0  00:0d:60:84:1e:c0    5
     1     0  00:25:45:0e:c3:c0    5
     1     0  00:05:73:a0:00:08    2
     1     0  00:25:b4:47:44:00    0
     1     0  00:09:e6:00:39:d6    0
     1     0  68:bc:0c:5b:cb:01    0
     1     0  00:00:0c:9f:f0:06    0
 LOCAL     0  70:db:98:70:2f:6e    0
     1     0  3c:ce:73:da:60:00    0
     1     0  00:05:73:a0:00:01    0
     1     0  00:00:0c:9f:f0:15    0
```

support ovs dpctl show

To display an overview of the database contents, use the **support ovs dpctl show** command in privileged EXEC mode.

support ovs dpctl show

Syntax Description

This command has no arguments or keywords.

Command Default

None

Command Modes

Privileged EXEC (#)

Command History

Release	Modification
3.7.1	This command was introduced.

Example

```
nfvis# support ovs dpctl show
system@ovs-system:
 lookups: hit:9883843 missed:715875 lost:0
 flows: 27
 masks: hit:38834243 total:4 hit/pkt:3.66
 port 0: ovs-system (internal)
 port 1: eth4
 port 2: eth5
 port 3: eth3
 port 4: eth1
 port 5: eth7
 port 6: eth6
 port 7: lan-br (internal)
 port 8: eth2
 port 9: eth0
 port 10: wan-br (internal)
 port 11: int-mgmt-net-br (internal)
 port 12: vnic0
 port 13: vnic1
 port 14: vnic2
 port 15: vnic3
 port 16: vnic4
 port 17: vnic5
 port 18: vnic6
 port 19: vnic7
```

support ovs ofctl dump-ports

To display the port statistics, use the **support ovs ofctl dump-ports** command in privileged EXEC mode.

support ovs ofctl dump-ports *bridge*

Syntax Description

bridge	Specifies the name of the bridge.

Command Default

None

Command Modes

Privileged EXEC (#)

Command History

Release	Modification
3.7.1	This command was introduced.

Example

```
nfvis# support ovs ofctl dump-ports wan-br
OFPST_PORT reply (xid=0x2): 6 ports
  port 10: rx pkts=0, bytes=0, drop=0, errs=0, frame=0, over=0, crc=0
           tx pkts=513, bytes=80488, drop=5259654, errs=0, coll=0
  port  8: rx pkts=0, bytes=0, drop=0, errs=0, frame=0, over=0, crc=0
           tx pkts=2280, bytes=365070, drop=6185138, errs=0, coll=0
  port  6: rx pkts=2315, bytes=97662, drop=0, errs=0, frame=0, over=0, crc=0
           tx pkts=3153581, bytes=501088395, drop=31404, errs=0, coll=0
  port  1: rx pkts=14451444, bytes=3479151791, drop=0, errs=0, frame=0, over=0, crc=0
           tx pkts=1450836, bytes=167179629, drop=0, errs=0, coll=0
  port LOCAL: rx pkts=8318452, bytes=11458196810, drop=6920, errs=0, frame=0, over=0, crc=0

           tx pkts=1416016, bytes=164944277, drop=0, errs=0, coll=0
  port  9: rx pkts=892, bytes=51312, drop=0, errs=0, frame=0, over=0, crc=0
           tx pkts=2940893, bytes=467376770, drop=54234, errs=0, coll=0
```

support ovs ofctl dump-ports-desc

To display the port descriptions, use the **support ovs ofctl dump-ports-desc** command in privileged EXEC mode.

support ovs ofctl dump-ports-desc *bridge*

Syntax Description

bridge	Specifies the name of the bridge.

Command Default

None

Command Modes

Privileged EXEC (#)

Command History

Release	Modification
3.7.1	This command was introduced.

Example

```
nfvis# support ovs ofctl dump-ports-desc wan-br
OFPST_PORT_DESC reply (xid=0x2):
 1(eth0): addr:70:db:98:70:2f:6e
     config:     0
     state:      0
     current:    1GB-FD COPPER AUTO_NEG
     advertised: 10MB-HD 10MB-FD 100MB-HD 100MB-FD 1GB-FD COPPER AUTO_NEG
     supported:  10MB-HD 10MB-FD 100MB-HD 100MB-FD 1GB-FD COPPER AUTO_NEG AUTO_PAUSE
     speed: 1000 Mbps now, 1000 Mbps max
 6(vnic2): addr:fe:54:00:82:95:43
     config:     0
     state:      0
     current:    10MB-FD COPPER
     speed: 10 Mbps now, 0 Mbps max
 8(vnic1): addr:fe:54:00:3a:f1:c0
     config:     0
     state:      0
     current:    10MB-FD COPPER
     speed: 10 Mbps now, 0 Mbps max
 9(vnic3): addr:fe:54:00:85:8a:7a
     config:     0
     state:      0
     current:    10MB-FD COPPER
     speed: 10 Mbps now, 0 Mbps max
 10(vnic6): addr:fe:54:00:e4:a3:3a
     config:     0
     state:      0
     current:    10MB-FD COPPER
     speed: 10 Mbps now, 0 Mbps max
 LOCAL(wan-br): addr:70:db:98:70:2f:6e
     config:     0
     state:      0
     speed: 0 Mbps now, 0 Mbps max
```

support ovs vsctl list-br

To display the names of all bridges, use the **support ovs vsctl list-br** command in privileged EXEC mode.

support ovs vsctl list-br

Syntax Description

This command has no arguments or keywords.

Command Default

None

Command Modes

Privileged EXEC (#)

Command History

Release	Modification
3.7.1	This command was introduced.

Example

```
nfvis# support ovs vsctl list-br
int-mgmt-net-br
lan-br
wan-br
```

support ovs vsctl list interface

To display information about a specific interface or all interfaces, use the **support ovs vsctl list interface** command in privileged EXEC mode.

support ovs vsctl list interface *interface*

Syntax Description

interface	Specifies the interface name.

Command Default

Displays information about all interfaces.

Command Modes

Privileged EXEC (#)

Command History

Release	Modification
3.7.1	This command was introduced.

Example

```
nfvis# support ovs vsctl list interface wan-br
_uuid               : be31801b-9729-41c4-8053-52534a59a9c4
admin_state         : up
bfd                 : {}
bfd_status          : {}
cfm_fault           : []
cfm_fault_status    : []
cfm_flap_count      : []
cfm_health          : []
cfm_mpid            : []
cfm_remote_mpids    : []
cfm_remote_opstate  : []
duplex              : []
external_ids        : {}
ifindex             : 12
ingress_policing_burst: 0
ingress_policing_rate: 0
lacp_current        : []
link_resets         : 1
link_speed          : []
link_state          : up
mac                 : []
mac_in_use          : "70:db:98:70:2f:6e"
mtu                 : 1500
name                : wan-br
ofport              : 65534
ofport_request      : []
options             : {}
other_config        : {}
statistics          : {collisions=0, rx_bytes=11457008582, rx_crc_err=0, rx_dropped=6907,
rx_errors=0, rx_frame_err=0,
rx_over_err=0, rx_packets=8310154, tx_bytes=164896735, tx_dropped=0, tx_errors=0,
tx_packets=1415893}
status              : {driver_name=openvswitch}
type                : internal
```

support ovs vsctl list-ports

To display the names of all ports on a bridge , use the **support ovs vsctl list-ports** command in privileged EXEC mode.

support ovs vsctl list-ports *bridge*

Syntax Description

bridge	Specifies the bridge name.

Command Default

None.

Command Modes

Privileged EXEC (#)

Command History

Release	Modification
3.7.1	This command was introduced.

Example

```
nfvis# support ovs vsctl list-ports wan-br
eth0
vnic1
vnic2
vnic3
vnic6
```

support ovs vsctl show

To display an overview of the database contents, use the **support ovs vsctl show** command in privileged EXEC mode.

support ovs vsctl show

Syntax Description

This command has no arguments or keywords.

Command Default

None

Command Modes

Privileged EXEC (#)

Command History

Release	Modification
3.7.1	This command was introduced.

Example

```
nfvis# support ovs vsctl show
c9c52c5d-d0f3-4d8d-9ee2-ebd9728b83a6
    Bridge wan-br
        Port "vnic2"
            Interface "vnic2"
        Port "vnic3"
            Interface "vnic3"
        Port wan-br
            Interface wan-br
                type: internal
        Port "eth0"
            Interface "eth0"
        Port "vnic6"
            Interface "vnic6"
        Port "vnic1"
            Interface "vnic1"
    Bridge int-mgmt-net-br
        Port "vnic0"
            Interface "vnic0"
        Port int-mgmt-net-br
            Interface int-mgmt-net-br
                type: internal
        Port "vnic5"
            Interface "vnic5"
    Bridge lan-br
        Port "vnic4"
            Interface "vnic4"
        Port "eth3"
            Interface "eth3"
        Port "eth4"
            Interface "eth4"
        Port lan-br
            Interface lan-br
                type: internal
        Port "eth2"
            Interface "eth2"
        Port "eth7"
```

```
        Interface "eth7"
    Port "eth1"
        Interface "eth1"
    Port "eth5"
        Interface "eth5"
    Port "vnic7"
        Interface "vnic7"
    Port "eth6"
        Interface "eth6"
ovs_version: "2.3.2"
```