

Virtual Services Commands

- show virtual-service list, page 2
- show virtual-service detail, page 4
- show virtual-service storage pool list, page 7
- show virtual-service utilization, page 8
- show virtual-service version, page 10
- show virtual-service version installed, page 11
- show virtual-service, page 12
- virtual-service, page 16
- virtual-service connect, page 18
- virtual-service install, page 20
- virtual-service uninstall, page 22
- virtual-service move, page 24

show virtual-service list

To display the status of installation of all applications on the virtual service container, use the **show** virtual-service list command in privileged EXEC mode.

show virtual-service list

- **Syntax Description** This command has no keywords or arguments.
- **Command Modes** Privileged EXEC (#)

 Command History
 Release
 Modification

 6.0(2)U1(1)
 This command was introduced.

Examples The following is sample output of the **show virtual-service list** command with the status of the installation is shown as Installing.

Device# show virtual-se System busy installing Virtual Service List:		'WAAS'. The request may take several minutes
Name	Status	Package Name
multiova	Activated	multiova-working.ova
WAAS fe-ovr2#	Installing	ISR4451X-WAAS-5.2.0-b
	VIRT_SERVICE-5-IN	NSTALL_STATE: Successfully installed virtual service

The following is sample output of the **show virtual-service list** command with the status of the installation is shown as Installed.

Device# show virtual-se	ice# show virtual-service list			
Virtual Service List:	tual Service List:			
Name	Status	Package Name		
multiova	Activated	multiova-working.ova		
WAAS	Installed	ISR4451X-WAAS-5.2.0-b		

ſ

Command	Description
Status	Indicates the status of installation of all applications installed in the virtual services container of a device. It can be one of the following:
	• Initializing—Indicates that support for the application is being initialized.
	• Installing—Indicates that the application e is being installed.
	• Installed—Indicates that the application has been installed but has not been activated yet.
	 Activating—Indicates that virtual services package has been installed and is being activated.
	• Activated—Indicates that virtual services package has been installed and activated.
	• Activate Failed—Indicates that activation of the application has failed.
	• Deactivated—Indicates that the application has been deactivated.

Table 1: show virtual-service Field Descriptions

Related Commands	Command	Description
	activate	Activates an application installed in a virtual services container.
	show virtual-service version	Displays the version of an application installed in the virtual service container of a device.
	show virtual-service version installed	Displays the version of OpenFlow Agent application installed on the virtual services container of device.
	virtual-service	Provisions an application installed in the virtual services container of a device.
	virtual-service install	Installs an application on the virtual services container of a device.

show virtual-service detail

To display the resources committed by applications installed in the virtual services container of a device upon activation, use the **show virtual-service detail** command in privileged EXEC mode.

show virtual-service [detail [name virtual-service-name]]

Syntax Description	name virtual-service-name	(Optional) Specifies the name of the application for which resources committed is to be displayed. The maximum length of the name is 20. The hyphen is not a valid character.
Command Modes	Privileged EXEC (#)	
Command History	Release	Modification
	6.0(2)U1(1)	This command was introduced.
Examples	The following is sample output	at of the show virtual-service detail command:
	Device# show virtual-serv	ice detail
	Virtual Service vm_foo De	tail:
	Certificate type : D OVA path : / State : A Watchdog : D Disk reservation : 8 Memory reservation : 5 CPU reservation : 2 VCPUs : 1 Attached devices: Type Name	Sample suite - HelloNetwork evelopment Package bootflash/foo.ova ctivated isabled 1 MB 10 MB 0% system CPU Alias
	Serial/shell Disk /mnt/co Disk / Serial/Trace Serial/Syslog Serial/aux Serial/shell	nfig_disk serial3 serial2 serial1 serial0
	The following is sample output	at of the show virtual-service detail name command:
	Device# show virtual-serv	ice detail name openflow_agent
	Virtual service openflow_ State : Package information	agent detail Installed

Name Path Application Name	: ofa-1.0.0-n3000-SPA-k9.ova : bootflash:/ofa-1.0.0-n3000-SPA-k9.ova : OpenflowAgent	ì
Installed version Description Signing		
Key type Method Licensing	: Cisco development key : SHA-1	
Name Version Resource reservation	: None : None	
Disk Memory CPU reservation	: 55 MB : 0 MB : 0% system CPU	
Attached devices	. Un System CFU	
	ame Alias	
Disk /r	serial3 serial2 mnt/core mnt/ofa rootfs	

Table 2: show virtual-service detail Field Description

Field	Description
State	Indicates the status of the installation of an application on the virtual services container of a device. It can be one of the following:
	• Initializing—Indicates that support for the application is being initialized.
	• Installing—Indicates that the application is being installed.
	• Installed—Indicates that the application has been installed but has not been activated yet.
	• Activating—Indicates that the application has been installed and is being activated.
	• Activated—Indicates that the application has been installed and activated.
	• Activate Failed—Indicates that the application activation has failed.
	• Deactivated—Indicates that the application has been deactivated.
Package information	Displays information related to the application installation package with .ova extension (OVA file) used for installation.

Field	Description
Application	Displays information related to the installed application.
Signing	Displays information related to the method used to sign the OVA file. • SHA-1—Cisco signed package
Licensing	Displays the name and version of the license of the OVA file.
Resource reservation	Resources reserved by the application. This includes disk space, memory, and CPU usage.
Attached devices	Type, name, and alias of the device attached to the application. This is defined in the machine definitions file delivered with the OVA package.

show virtual-service storage pool list

To display an overview of storage locations (pools) used for virtual service containers, use the **show** virtual-service storage pool list command in privileged EXEC mode.

show virtual-service storage pool list

Syntax Description This command has no keywords or arguments.

Command Modes Privileged EXEC (#)

I

 Release
 Modification

 6.0(2)U1(1)
 This command was introduced.

Examples The following is sample output of the **show virtual-service storage pool list** command:

Device# show virtual-service storage pool list

Virtual-Service storage pool list

Name	Pool Type	Path
virt_strg_pool_bf_vdc_1	directory	/bootflash/virt_strg_pool_bf_vdc_1

Related Commands	Command	Description
	virtual-service	Provisions an application installed in the virtual services container of a device.

show virtual-service utilization

To display an overview of resources used by applications installed in the virtual services container of a device, use the **show virtual-service utilization** command in privileged EXEC mode.

show virtual-service utilization name virtual-service-name

Syntax Description	name virtual-service-name	Specified the name of an application installed in the virtual services container of the device.
Command Modes	Privileged EXEC (#)	
Command History	Release	Modification
	6.0(2)U1(1)	This command was introduced.
Examples		ne show virtual-service utilization command: rersion utilization name openflow plugin
	Virtual-Service Utilization:	
	CPU Utilization: CPU Time: 0 % (30 second av CPU State: R : Running	erage)
	Memory Utilization: Memory Allocation: 716800 Kb Memory Used: 20272 Kb	
	Storage Utilization: Name: N/A, Alias: N/A RD Bytes: 0 RD Requests: 0 Errors: 0 Capacity(1K blocks): 0 Available(1K blocks): 0	WR Bytes: 0 WR Requests: 0 Used(1K blocks): 0 Usage: 0 %
	Name: /mnt/core, Alias: N/A RD Bytes: 0 RD Requests: 0 Errors: 0 Capacity(1K blocks): 0 Available(1K blocks): 0	WR Bytes: 0 WR Requests: 0 Used(1K blocks): 0 Usage: 0 %
	Name: /mnt/ofa, Alias: N/A RD Bytes: 0 RD Requests: 0 Errors: 0 Capacity(1K blocks): 0 Available(1K blocks): 0	WR Bytes: 0 WR Requests: 0 Used(1K blocks): 0 Usage: 0 %
	Name: _rootfs, Alias: N/A	

RD Bytes: 0	
RD Requests: 0	
Errors: 0	
Capacity(1K blocks):	0
Available(1K blocks):	0

WR Bytes: 0 WR Requests: 0 Used(1K blocks): 0 Usage: 0 %

Related Commands

ſ

Command	Description
virtual-service	Provisions an application installed in the virtual services container of a device.

show virtual-service version

To display the version of an application installed in the virtual service container of a device, use the **show** virtual-service version command in privileged EXEC mode.

show virtual-service version [name virtual-service-name installed]

Syntax Description	name virtual-service-name	(Optional) Specifies the name of an application installed in the virtual services container of a device.
	installed	Specifies that the installed version of OpenFlow Agent must be displayed.
Command Modes	Privileged EXEC (#)	
Command History	Release	Modification
	6.0(2)U1(1)	This command was introduced.
	Device# show virtual-service ve Virtual service openflow_agent Name : OpenflowAgent Version : 1.0	ersion name openflow_agent installed installed version:
Related Commands	Command	Description
	activate	Activates an application installed in a virtual services container.
	show virtual-service list	Displays the status of installation of all applications on the virtual service container.
	show virtual-service version installed	Displays the version of OpenFlow Agent application installed on the virtual services container of device.
	virtual-service	Provisions an application installed in the virtual services container of a device.
	virtual-service install	Installs an application on the virtual services container of a device.

show virtual-service version installed

To display the version of OpenFlow Agent application installed on the virtual services container of device, use the **show virtual-service version installed** command in privileged EXEC mode.

show virtual-service version installed

- **Syntax Description** This command has no keywords or arguments.
- **Command Modes** Privileged EXEC (#)

I

 Command History
 Release
 Modification

 6.0(2)U1(1)
 This command was introduced.

Examples The following is sample output of the **show virtual-service version installed** command:

Device# show virtual-service version installed

Virtual service openflow_agent installed version: Name : OpenflowAgent Version : 1.0

Related Commands	Command	Description
	virtual-service	Provisions an application installed in the virtual services container of a device.

show virtual-service

To display an overview of resources used by virtual service containers, use the **show virtual-service** command in privileged EXEC mode.

show virtual-service [detail [name virtual-service-name]| list| global| storage pool list| version [name virtual-service-name] installed| utilization {name virtual-service-name| statistics CPU}]

Syntax Description		
Syntax Description	detail	(Optional) Displays detailed information of all or a specific virtual service container.
	name virtual-service-name	(Optional) Specifies the name of the virtual service. The length of the name is 20 characters. Hyphen is not a valid character.
	list	(Optional) Displays a list of all virtual services.
	global	(Optional) Displays information related to all virtual services containers.
	storage pool list	(Optional) Displays location of pools where virtual services are stored.
	version name virtual-service-name installed	(Optional) Displays version information of the specified virtual services container.
	version installed	(Optional) Displays version information of all virtual services container.
	utilization name virtual-service-name	(Optional) Displays resource utilization of a virtual services container.
Command Modes	Privileged EXEC (#)	
Command History	Release	Modification
	Cisco Nexus 3000 Series NX-OS Ro	elease 6.0(2)U1(1) This command was introduced.
Examples	Cisco Nexus 3000 Series NX-OS Ro The following is sample output of the Device# show virtual-service	
Examples	The following is sample output of the	e show virtual-service command:

Maximum VCPUs per virtual service : 1

Committed memory	:	510 MB
Committed disk storage	:	81 MB
Committed system CPU	:	20%
Available memory	:	490 MB
Available disk storage	:	519 MB
Available system CPU	:	60%
Machine types supported	:	LXC

Device# show virtual-service global

Virtual Service Global State and Virtualization Limits:

Infrastructure version : 1.3 Total virtual services installed : 1 Total virtual services activated : 1

Maximum memory for virtualization : 768 MB Maximum HDD storage for virtualization : 0 MB Maximum bootflash storage for virtualization : 600 MB Maximum system CPU : 6% Maximum VCPUs per virtual service : 1

Committed memory Committed disk stora Committed system CPU	ge :	700 MB 285 MB 1%
Available memory Available disk stora Available system CPU Machine types suppor Machine types disabl	ge : ted :	68 MB 211 MB 5% LXC KVM

Examples

The following is sample output of the show virtual-service detail command:

Device# show virtual-service detail

Virtual Service vm foo Detail: Package Metadata: Package name : foo.ova : SampleApp Application name Application description : Sample suite - HelloNetwork Certificate type : Development Package : /bootflash/foo.ova OVA path State : Activated Watchdog : Disabled Disk reservation : 81 MB Memory reservation : 510 MB CPU reservation : 20% system CPU VCPUs : 1 Attached devices: Type Name Alias _____ _____ Serial/shell serial0 /mnt/config_disk Disk Disk / Serial/Trace serial3 Serial/Syslog serial2 Serial/aux serial1 Serial/shell serial0

Examples

The following is sample output of the show virtual-service list command:

Device# show virtual-service list

	Virtual Service List:			
	Name	Status	Package Name	
		Activated	foo.ova	
Examples	Device# show virt	ual-service stora		
			Path /bootflash/virt_strg_pool_bf_vdc_1	
Examples	The following is sam Device# show virt Virtual service op Name : OpenflowAc Version : 0.1	ual-service versi		
Examples	Device# show virt Virtual-Service U CPU Utilization: CPU Time: 0 %	ual-service versi tilization: (30 second averag	now virtual-service utilization command: on utilization name openflow_agent e)	
	CPU State: R : 1 Memory Utilization Memory Allocatio Memory Used:	n: on: 716800 Kb		
	Storage Utilizati Name: N/A, Alia: RD Bytes: (RD Requests: (Errors: (Capacity(1K b) Available(1K)	s: N/A 0 0 0 locks): 0	WR Bytes: 0 WR Requests: 0 Used(1K blocks): 0 Usage: 0 %	
	Name: /mnt/core, RD Bytes: () RD Requests: () Errors: () Capacity(1K b) Available(1K b)	0 0 0 locks): 0	WR Bytes: 0 WR Requests: 0 Used(1K blocks): 0 Usage: 0 %	
	Name: /mnt/ofa, RD Bytes: 0 RD Requests: 0 Errors: 0 Capacity(1K b) Available(1K b)	0 0 0 locks): 0	WR Bytes: 0 WR Requests: 0 Used(1K blocks): 0 Usage: 0 %	
	Name: _rootfs, A RD Bytes: (RD Requests: (Errors: (Capacity(1K b)	0 0 0	WR Bytes: 0 WR Requests: 0 Used(1K blocks): 0	

Available(1K blocks): 0

Usage: 0 %

Command	Description
Status	Indicates the status of the virtual services container. It can be one of the following:
	• Initializing—Indicates that support for virtual services is being initialized for the device.
	• Installing—Indicates that the virtual service package is being installed on the device.
	• Installed—Indicates that the virtual service package has been installed on the device but has not been activated yet.
	• Activating—Indicates that virtual services package has been installed and is being activated on the device.
	• Activated—Indicates that virtual services package has been installed and activated on the device.
	• Activate Failed—Indicates that virtual services package activation has failed.
	• Deactivated—Indicates that the virtual services package has been deactivated.
Machine Types supported	Indicates the operating system-level virtualization method used for running multiple isolated containers. The following machine types are supported:
	• LXC - Linux Containers.

Table 3: show virtual-service Field Descriptions

Related Commands	Command	Description
	virtual-service	Provisions an application installed in the virtual services container of a device.

virtual-service

To provision an application installed in the virtual services container of a device and enter virtual services configuration mode, use the **virtual-service** command in global configuration mode. To remove the provisioning of an application installed in the virtual services container of a device and exit virtual services configuration mode, use the **no** form of this command.

virtual-service *virtual-service-name*

no virtual-service virtual-service-name

Syntax Description	virtual-service-name	Name of the application installed on the virtual services container of a device.
Command Default	An installed application is not	provisioned.
Command Modes	Global configuration (config)	
Command History	Release	Modification
	6.0(2)U1(1)	This command was introduced.
Usage Guidelines Examples	Device# hardware profile	irtual service container at a time. openflow agent nstall name openflow agent package
	bootflash:/ofa-1.0.0-n300	0-SPA-k9.ova
	'openflow_agent'. Once th virtual-service list' for	:23 n3k-202-194-2 %\$ VDC-1 %\$ %VMAN-2-INSTALL_STATE: Successfully e 'openflow_agent' 1 ervice openflow_agent
Related Commands	Command	Description
	show virtual-service list	Displays the status of installation of all applications on the virtual

service container.

Command	Description
show virtual-service version installed	Displays the version of OpenFlow Agent application installed on the virtual services container of device.
show virtual-service version	Displays the version of an application installed in the virtual service container of a device.
virtual-service install	Installs an application on the virtual services container of a device.

virtual-service connect

To connect to an application installed on the virtual services container of a device, use the **virtual-service connect** command in privileged EXEC mode.

virtual-service connect name virtual-service-name {console | aux}

Syntax Description	name virtual-service-name	Specifies the name of the application installed on the virtual services container of a device.
	console	Specifies that a connection to the application is to be made through the console port defined by the virtual services container.
		Note This does not refer to the console port of the device.
	aux	Specifies that a connection to the application is to be made through the AUX port of the virtual services container.
		Note This does not refer to the auxiliary port of the device.
Command Default	No connection exists to	the specified application installed on the virtual services container of a device.
Command Modes	Privileged EXEC (#)	
Command History	Release	Modification
	6.0(2)U1(1)	This command was introduced.
Usage Guidelines	file in XML. You cannot not specify that access to	ual service running on a device through serial ports defined in the machine definition connect to the virtual service container if the virtual machine definition file, does console or AUX port is needed.
	-	orts used in the command does not refer to the console and AUX ports of the device.
	The username requested	here is dbg. To exit the login shell, enter Ctrl-C three times.
Examples	Device# virtual-serv :	ice connect name myagent aux
	Connecting to virtua Trying 127.0.0.1 Connected to localho Escape character is	

```
MontaVista(R) Linux(R) 6.0
MontaVista Linux CGE 6 .dev-snapshot-20130430 nx3k-1.cisco.com ttyS1
nx3k-1.cisco.com login: dbg
Last login: Thu Jun 20 12:33:35 BST 2013 on pts/1
1) ps
2) wd-disable
3) wd-enable
4) ls_core
5) exit
#?^CConnection closed by foreign host.
Connection to virtual-service terminated.
Device#
```

Related Commands

I

Command	Description	
activate	Activates an application installed in a virtual services container.	
virtual-service	Provisions an application installed in the virtual services container of a device.	
virtual-service install	Installs an application on the virtual services container of a device.	
virtual-service move	Collect log and core files of an application installed in the virtual services container of a device	

virtual-service install

To install an application on the virtual services container of a device, use the **virtual-service install** command in privileged EXEC mode. To upgrade an installed application, use the **upgrade** keyword of the command.

virtual-service install name virtual-service-name package file_url

virtual-service upgrade name virtual-service-name package file_url

Syntax Description	name virtual-service-name	Specifies the name of the virtual service. The length of the name is 20 characters. Hyphen is not a valid character.
	package file-url	Specifies the complete path of the OVA package that is to be installed. This is a file with a .ova extension.
Command Default	Specified application is not inst	alled on a virtual services container.
Command Modes	Privileged EXEC (#)	
Command History	Release	Modification
	6.0(2)U1(1)	This command was introduced.
Usage Guidelines	1 0 11	on software is packaged into a file with a .ova extension (OVA file). The a location on a device using the copy scp: command before it is installed on
	The install keyword extracts the OVA file, validates the contents of the file, creates a virtual service instance, and validates the virtual machine definition file in XML. The command adds a line to the bootflash://virtual-instance.conf file. Copying configurations to the startup-config file of the device is not required to preserve the installation of the OVA file. You can install a different OVA file on the active and standby Route Processors (RPs).	
	To activate the installed virtual	services container, use the activate command.
		the software in the virtual services container with the specified package. The e. The virtual service may not be upgraded while it is activated. Use the no e it.

Examples

The following example shows how the **virtual-service install** command is used to install a virtual services container.

Device# copy scp://10.10.1.1/ofa-1.0.0-n3000-SPA-k9.ova bootflash:/ofa-1.0.0-n3000-SPA-k9.ova Device# virtual-service install name openflow_agent package bootflash:/ofa-1.0.0-n3000-SPA-k9.ova

Note: Installing package 'bootflash:/ofa-1.0.0-n3000-SPA-k9.ova' for virtual service 'openflow_agent'. Once the install has finished, the VM may be activated. Use 'show virtual-service list' for progress. Device# 2013 Mar 8 20:35:23 n3k-202-194-2 %\$ VDC-1 %\$ %VMAN-2-INSTALL_STATE: Successfully installed virtual service 'openflow_agent' Device# configure terminal Device(config)# virtual-service openflow_agent Device(config-virt-serv)# activate

The following examples shows how you can monitor the status of the installation of the virtual services container. The Status field indicates the status of the installation.

The following is sample output of the **show virtual-service list** command with status of the installation is 'Installing'.

```
Device# show virtual-service list
System busy installing virtual-service 'WAAS'. The request may take several minutes...
Virtual Service List:
Name
                      Status
                                        Package Name
 _____
multiova
                      Activated
                                       multiova-working.ova
                                       ISR4451X-WAAS-5.2.0-b...
WAAS
                      Installing
Device#
*Feb 13 14:08:25.276: %VIRT SERVICE-5-INSTALL STATE: Successfully installed virtual service
WAAS
```

The following is sample output of the **show virtual-service list** command with the status of the installation is 'Installed'.

Device# show virtual-se Virtual Service List:	rvice list	
Name	Status	Package Name
multiova WAAS	Activated Installed	multiova-working.ova ISR4451X-WAAS-5.2.0-b

Command	Description
activate	Activates an application installed in a virtual services container.
virtual-service	Provisions an application installed in the virtual services container of a device.
show virtual-service	
virtual-service connect	Connects to an application installed on the virtual services container of a device.
show virtual-service list	Displays the status of installation of all applications on the virtual service container.
virtual-service move	Collect log and core files of an application installed in the virtual services container of a device
	activate activate virtual-service show virtual-service virtual-service connect show virtual-service list

virtual-service uninstall

To uninstall an application from the virtual services container of a device, use the **virtual-service uninstall** command in privileged EXEC mode.

virtual-service uninstall name virtual-service-name

	name virtual-service-name	Specifies the name of the application installed in the virtual services container of a device.
Command Modes	Privileged EXEC (#)	
Command History	Release	Modification
	6.0(2)U1(1)	This command was introduced.
Usage Guidelines	The uninstall keyword removes the while it is configured or activated	he installed virtual service container. The virtual service may not be uninstalled d.
	•	rices container, use the no virtual-service command to remove the and the no activate command to deactivate it.
Examples	•	and the no activate command to deactivate it. vice openflow_plugin o activate nd
Examples Related Commands	Device# configure terminal Device (config)# virtual-ser Device (config-virt-serv)# m Device (config-virt-serv)# e	and the no activate command to deactivate it. vice openflow_plugin o activate nd
	configurations of the application Device# configure terminal Device(config)# virtual-ser Device(config-virt-serv)# m Device(config-virt-serv)# ex Device# virtual-service unit	and the no activate command to deactivate it. vice openflow_plugin o activate nd nstall name openflow_plugin
	configurations of the application Device# configure terminal Device(config)# virtual-ser Device(config-virt-serv)# m Device(config-virt-serv)# e Device# virtual-service unit	and the no activate command to deactivate it. vice openflow_plugin o activate nd nstall name openflow_plugin Description
	configurations of the application Device# configure terminal Device (config)# virtual-ser Device (config-virt-serv)# m Device (config-virt-serv)# e Device# virtual-service unit Command activate	and the no activate command to deactivate it. vice openflow_plugin o activate nd nstall name openflow_plugin Description Activates an application installed in a virtual services container. Provisions an application installed in the virtual services container of
	configurations of the application Device# configure terminal Device(config)# virtual-ser Device(config-virt-serv)# m Device(config-virt-serv)# e Device# virtual-service unit Command activate virtual-service	and the no activate command to deactivate it. vice openflow_plugin o activate nd nstall name openflow_plugin Description Activates an application installed in a virtual services container. Provisions an application installed in the virtual services container of

Command	Description
virtual-service move	Collect log and core files of an application installed in the virtual services container of a device

virtual-service move

To collect log and core files of an application installed in the virtual services container of a device, use the **virtual-service move** command in privileged EXEC mode.

virtual-service move name virtual-service-name $\{core \mid log\}$ to destination-url

tax Description	name virtual-service-name	Specifies the name of the application installed on the virtual services container of a device.
	core	Moves core files generated by the virtual service container.
	log	Moves log files generated by the virtual service container.
		Specifies the noth to which some on los files are moved
nmand Default	to destination-url This command has no default be	Specifies the path to which core or log files are moved.
nmand Default nmand Modes		
	This command has no default be	

Examples The following example shows how to collect log files of an application.

Device# virtual-service move name myagent log to bootflash://module-1/

Related Commands	Command	Description
	virtual-service	Provisions an application installed in the virtual services container of a device.
	virtual-service connect	Connects to an application installed on the virtual services container of a device.
	virtual-service install	Installs an application on the virtual services container of a device.