

FiberstoreOS

Data Center Command Line Reference

1 Overlay Commands.....	4
1.1 vlan overlay enable.....	4
1.2 overlay.....	4
1.3 overlay ecmp mode.....	5
1.4 overlay mapping.....	5
1.5 overlay source vtep.....	6
1.6 overlay remote vtep.....	7
1.7 overlay virtual mac.....	8
1.8 overlay peer.....	8
1.9 overlay uplink.....	9
1.10 overlay static fdb.....	10
1.11 overlay gateway.....	10
1.12 overlay gateway-mac.....	11
1.13 overlay route.....	12
1.14 inner parse enable.....	12
1.15 inner-outer merge enable.....	13
1.16 Show overlay.....	14
2 PFC Commands.....	16
2.1 priority-flow-control mode.....	16
2.2 priority-flow-control enable priority.....	16
2.3 show priority-flow-control.....	17
2.4 show priority-flow-control statistics.....	17
3 EFD Commands.....	19
3.1 efd enable.....	19
3.2 efd tcp-only enable.....	19
3.3 efd flow-traffic-class.....	20
3.4 efd flow-color.....	20
3.5 show efd flow information.....	21
3.6 clear efd flow information.....	21
4 Flow hash Commands.....	23
4.1 flow hash-field-select.....	23
5 OVSDB Commands.....	25
5.1 ovsdb enable.....	25

5.2 ovsdb port enable.....	25
5.3 ovsdb controller.....	26
5.4 debug ovsdb.....	26
5.5 show ovsdb.....	27

1 Overlay Commands

1.1 vlan overlay enable

Use this command to set vlan overlay enable/disable.

Command Syntax

vlan *vlan_id* overlay (enable |disable)

vlan	Vlan id, the range is 1~4094
enable	set the overlay feature of the VLAN to enable
disable	set the overlay feature of the VLAN to disable, and it is disabled by default

Command Mode

VLAN Configuration

Default

Disable

Usage

Make Sure that overlay of vlan is enabled before configure overlay vlan and vni mapping.

Examples

The following example shows how to set overlay of vlan 2 to enable

```
Switch(config-vlan)# vlan 2 overlay enable
```

Related Commands

None

1.2 overlay

Use this command to enter overlay configure mode.

To return the configure mode, use the exit command.

Command Syntax

overlay

Command Mode

Configuration

Default

None

Usage

None

Examples

The following example shows how to enter into overlay configure mode

```
Switch(config)# overlay
Switch(config-overlay)#
```

Related Commands

None

1.3 overlay ecmp mode

Use this command to set overlay ecmp mode.

Command Syntax

overlay ecmp-mode (normal |advanced)

Command Mode

Overlay Configuration Mode

Default

Normal

Usage

There are two overlay ecmp modes, the normal mode can support all kinds of uplink ports while it can only support 1K ecmp remote vteps, it is recommended to use normal ecmp mode in traditional data center. The advanced ecmp mode can't support vlan interface uplink ports, while it can support more than 4K ecmp remote vteps, it is recommended to use advanced ecmp mode in spine-leaf data center.

Examples

The following example set the overlay normal ecmp mode:

```
Switch(config-overlay)# overlay ecmp-mode normal
```

The following example set the overlay advanced ecmp mode:

```
Switch(config-overlay)# overlay ecmp-mode advanced
```

Related Commands

None

1.4 overlay mapping

Use this command to mapping vlan id with overlay vni.

Command Syntax

vlan *vlan_id* vni *vni*

no vlan *vlan_id* vni

<i>vlan_id</i>	Range <1-4094>.
vni	Range <1-16777215>.

Command Mode

Overlay Configuration Mode

Default

None

Usage

The overlay mapping command is used to bind the vlan id with overlay vni. That means the vlan is now can work as one overlay bridge domain and all the port belong this vlan will also be in the overlay bridge domain.

Examples

The following example set the overlay mapping:

```
Switch(config-overlay)# vlan 20 vni 20000
```

The following example unset the overlay mapping:

```
Switch(config-overlay)# no vlan 20 vni
```

Related Commands

None

1.5 overlay source vtep

Use this command to set the overlay source vtep ip address.

To remove the source vtep ip address, use the no form of this command.

Command Syntax

source *A.B.C.D*

no source

<i>A.B.C.D</i>	The overlay source vtep ip address, it should be a valid interface ip address.
----------------	--

Command Mode

Overlay Configuration Mode

Default

None

Usage

Overlay source vtep ip address is used to encap and decap overlay packets. It is recommended that the source vtep ip address is the same with some loopback interface address so that ip routing can be reachable.

Examples

The following example sets the source vtep ip address of overlay:

```
Switch(config-overlay)# source 1.1.1.1
```

The following example removes the source vtep ip address of overlay:

```
Switch(config- overlay)# no source
```

Related Commands

None

1.6 overlay remote vtep

Use the overlay remote vtep command to specify the peer ip address and type of overlay entry. Use the no form of this command to remove the peer ip address and type of overlay entry.

Command Syntax

remote-vtep *index* ip-address *A.B.C.D* type (vxlan | nvgre | geneve)

no remote-vtep *index* ip-address *A.B.C.D* type (vxlan | nvgre | geneve)

index	Remote vtep index, range is <1-65535>
vxlan-peer	Remote vtep is vxlan vtep
nvgre-peer	Remote vtep is nvgre vtep
geneve-peer	Remote vtep is geneve vtep
A.B.C.D	The overlay peer ip address, it should be a valid interface ip address.

Command Mode

Overlay Configuration Mode

Default

None

Usage

This command is used to specify overlay vtep peer address and type on remote device, administrator must know all the peer addresses and types on the Data Center network and make sure that they can route between each other.

Examples

The following example sets the overlay vxlan vtep peer address 2.2.2.2:

```
Switch(config- overlay)# remote-vtep 20 ip-address 2.2.2.2 type vxlan-peer
```

The following example removes remote vtep:

```
Switch(config- overlay)# no remote-vtep 20
```

Related Commands

None

1.7 overlay virtual mac

Use the overlay virtual mac command to specify the virtual route mac address of remote vtep. Use the no form of this command to remove the virtual mac address of remote vtep.

Command Syntax

remote-vtep *index* virtual-mac *MAC*

no remote-vtep *index* virtual-mac *MAC*

index	Remote vtep index, range is <1-65535>
MAC	The virtual mac address of remote vtep

Command Mode

Overlay Configuration Mode

Default

None

Usage

The virtual mac address will be used as the inner mac address of DVR routes which don't specify the inner mac address.

Examples

The following example sets the overlay remote vtep with the virtual mac a.a.a:

```
Switch(config- overlay)# remote-vtep 20 virtual-mac a.a.a
```

The following example removes remote vtep virtual mac address:

```
Switch(config- overlay)# no remote-vtep virtual-mac a.a.a
```

Related Commands

None

1.8 overlay peer

Use the overlay peer command to specify the peer ip address and type of overlay vlan entry. Use the no form of this command to remove the peer ip address and type of overlay vlan entry.

Command Syntax

vlan *vlan_id* **remote-vtep** *index* [keep-vlan-tag] (vm-aware|)

no vlan *vlan_id* **remote-vtep** *index*

vlan_id	Range <1-4094>.
Index	The overlay remote vtep index, the range is <1-65535>
keep-vlan-tag	means the vlan tags of original packet will not be stripped
vm-aware	If set, ACL/Flow tracing will use inner packet header information

Command Mode

Overlay Configuration Mode

Default

None

Usage

Make sure the remote vtep is already created when setting vlan with remote vtep index.

Examples

The following example sets the overlay vlan 20 with remote vtep 2 :

```
Switch(config- overlay)# vlan 20 remote-vtep 2
```

The following example removes remote vtep 3 from vlan 20:

```
Switch(config- overlay)# no vlan 20 remote-vtep 3
```

Related Commands

None

1.9 overlay uplink

Use the overlay uplink command to enable or disable overlay uplink port capability.

Command Syntax

overlay uplink (enable | disable)

enable	Enable overlay uplink port
disable	Disable overlay uplink port

Command Mode

Interface Configuration

Default

Disable

Usage

The command is allow setting on ether type port. When the port is routed port or routed link agg port, it can work both on normal ecmp mode and advanced ecmp mode. When the port belongs to vlan interface, it can only work on normal ecmp mode.

Examples

This example shows how to enable overlay uplink on interface:

```
Switch(config)# interface eth-0-1  
Switch(config-if)# overlay uplink enable
```

This example shows how to disable overlay uplink on interface:

```
Switch(config)# interface eth-0-1  
Switch(config-if)# overlay uplink disable
```

Related Commands

None

1.10 overlay static fdb

Use the overlay static fdb command to add or delete overlay static fdb.

Command Syntax

mac-address-table *mac-addr* **forward remote-vtep** *index* **vlan** *vlan-id*

no mac-address-table *mac-addr* **forward remote-vtep** *index* **vlan** *vlan-id*

mac-addr	Destination MAC addresses (unicast) to add to the address table. Packets with this destination address received in the specified VLAN are forwarded to the specified interface
index	The index of remote vtep, the range is <1-65535>
vlan-id	Specify the VLAN for which the packet with the specified MAC address is received. The range is 1 to 4094

Command Mode

Configuration

Default

None

Usage

None

Examples

This example shows how to add a static overlay fdb with remote-vtep 3 and vlan 2:

```
Switch(config)# mac-address-table 1.1.1 forward remote-vtep 3 vlan 2
```

This example shows how to delete a static overlay fdb with remote-vtep 3 and vlan 2

```
Switch(config)# no mac-address-table 1.1.1 forward remote-vtep 3 vlan 2
```

Related Commands

None

1.11 overlay gateway

Use the overlay dvr enable command to enable or disable advanced function for overlay gateway.

Command Syntax

overlay gateway (enable | disable)

Command Mode

Vrf Configuration

Global Configuration

Default

Disable

Usage

This command will let the central gateway do routing, when there is none local dvr route entry. The command in Global Configuration is for default vrf

Examples

This example shows how to enable overlay gateway advanced function on default vrf:

```
Switch(config)# overlay gateway enable
```

This example shows how to disable overlay dvr on vrf

```
Switch(config-vrf)# overlay gateway disable
```

Related Commands

None

1.12 overlay gateway-mac

Use the overlay gateway command to add or delete overlay gateway mac address.

Command Syntax

vlan *vlan_id* **gateway-mac** *mac-addr*

no vlan *vlan_id* **gateway-mac** *mac-addr*

vlan_id	Range <1-4094>.
mac-addr	Gateway MAC addresses (unicast) which VMs will use when they need to do routing.

Command Mode

Overlay Configuration

Default

None

Usage

The downlink port should be in trunk mode.

Examples

This example shows how to add an overlay gateway with vlan 2:

```
Switch(config-overlay)# vlan 2 gateway-mac 2.2.2
```

This example shows how to delete an static overlay fdb with nvgre vtep peer 2.2.2.2 and vlan 2

```
Switch(config-overlay)# no vlan 2 gateway-mac 2.2.2
```

Related Commands

None

1.13 overlay route

Use the overlay route command to add or delete overlay static routes.

Command Syntax

ip route vrf *vrf_name* (*ADDRESS WILDCARD-MASK* | *ADDRESS/PREFIX-LENGTH*)
remote-vtep *index vni vni* (**inner-macda** *mac-addr*)

no ip route vrf *vrf_name* (*ADDRESS WILDCARD-MASK* | *ADDRESS/PREFIX-LENGTH*)
remote-vtep *index vni vni* (**inner-macda** *mac-addr*)

Vrf_name	Vrf name
ADDRESS	IPv4 address
WILDCARD-MASK	Mask for the associated IP subnet
PREFIX-LENGTH	Prefix length of the address
index	The index of remote vtep, range is <1-65535>
vni	Range <1-16777215>.
Mac_addr	Inner mac destination address

Command Mode

Configuration

Default

None

Usage

If the inner mac destination address is not specified, it will use the remote vtep's virtual mac address as the inner mac destination address.

Examples

This example shows how to add an overlay route:

```
Switch(config)# ip route vrf tenant1 3.3.3.3/32 remote-vtep 2 vni 50000 inner-macda a.a.a
Switch(config)# ip route vrf tenant1 3.3.3.5/32 remote-vtep 2 vni 50000
```

This example shows how to delete an an overlay route

```
Switch(config)# no ip route vrf tenant1 3.3.3.3/32 nvgre-peer 5.5.5.5 vni 50000
inner-macda a.a.a
Switch(config)# no ip route vrf tenant1 3.3.3.3/32 nvgre-peer 5.5.5.5 vni 50000
```

Related Commands

None

1.14 inner parse enable

Use inner packet information to process packet (eg ACL, Flow tracing processing). This command is used for overlay packets without tunnel decapsulation processing.

Command Syntax

(no) inner parse enable

no	Disable inner parse
----	---------------------

Command Mode

Interface Configuration

Default

Disable

Usage

This command is used to force inner packet header process for overlay packets without tunnel decapsulation.

Examples

This example shows how to enable force inner parse on interface:

```
Switch(config)# interface eth-0-1
Switch(config-if)# inner parse enable
```

Related Commands

None

1.15 inner-outer merge enable

Use inner and outer packet information to process packet (eg ACL, Flow tracing processing).

Command Syntax

(no) inner-outer merge enable

no	Disable inner-outer merge mode
----	--------------------------------

Command Mode

Interface Configuration

Default

Disable

Usage

This command is used to force inner and packet header information process for overlay packets.

Examples

This example shows how to enable inner and outer parse on interface:

```
Switch(config)# interface eth-0-1
Switch(config-if)# inner parse enable
Switch(config-if)# inner-outer merge enable
```

Related Commands

None

1.16 Show overlay

Use the show overlay command to show related overlay information.

Command Syntax

show overlay (vlan <1-4094>)

<1-4094>	Vlan id
----------	---------

Command Mode

EXEC

Default

None

Usage

None

Examples

This example shows all the overlay information:

```
Switch(config)# show overlay
-----
ECMP Mode      : Normal
Source VTEP    : 1.1.1.1
Remote VTEP Index: 1, Ip address: 2.2.2.2, Type: VxLAN
Remote VTEP Index: 2, Ip address: 3.3.3.3, Type: VxLAN
-----
VLAN ID       : 2
VNI           : 20000
Remote VTEP NUM: 2
               Index: 1, Ip address: 2.2.2.2, Type: VxLAN
               Index: 2, Ip address: 3.3.3.3, Type: VxLAN
DVR Gateway NUM: 0
-----
VLAN ID       : 3
VNI           : 3000
Remote VTEP NUM: 1
               Index: 2, Ip address: 3.3.3.3, Type: VxLAN
DVR Gateway NUM: 0
-----
```

This example shows the overlay information of vlan 2:

```
Switch(config)# show overlay vlan 2
-----
ECMP Mode      : Normal
Source VTEP    : 1.1.1.1
Remote VTEP Index: 1, Ip address: 2.2.2.2, Type: VxLAN
Remote VTEP Index: 2, Ip address: 3.3.3.3, Type: VxLAN
-----
VLAN ID       : 2
VNI           : 20000
Remote VTEP NUM: 2
               Index: 1, Ip address: 2.2.2.2, Type: VxLAN
```

```
Index: 2, Ip address: 3.3.3.3, Type: VxLAN  
DVR Gateway NUM: 0  
-----
```

Related Commands

None

2 PFC Commands

2.1 priority-flow-control mode

Use this command to enable or disable priority-based flow control function on the interface.

Command Syntax

priority-flow-control mode (on | auto)

no priority-flow-control

on	enable priority-based flowcontrol no matter how the peer configures
auto	enable priority-based flowcontrol negotiating with the peer

Command Mode

Interface Configuration

Default

Enable priority-based flowcontrol on priority 3

Usage

Use the priority-flow-control interface Configuration command to set the interface's ability to send pause frames to on or off on the speialed priorities.

Examples

This example shows how to enable priority-based flowcontrol on the interface:

```
Switch(config-if)# priority-flow-control mode on/auto
```

Related Commands

None

2.2 priority-flow-control enable priority

Use this command to enable or disable priority-based flow control function on which priority.

Command Syntax

priority-flow-control enable priority <0-7> (<0-7> (<0-7> (<0-7> (<0-7> (<0-7> (<0-7> (<0-7> (<0-7>)))))

no priority-flow-control enable priority <0-7> (<0-7> (<0-7> (<0-7> (<0-7> (<0-7> (<0-7> (<0-7> (<0-7>)))))

Command Mode

Interface Configuration

Default

Enable priority-based flowcontrol on priority 3

Usage

Use the priority-flow-control enable priority interface Configuration command to set the interface's ability to send pause frames to on or off on which priorities.

Examples

This example shows how to enable priority-based flowcontrol on which priorities:

```
Switch(config-if)# Priority-flow-control enable priority 2 3 5 7
```

Related Commands

None

2.3 show priority-flow-control

Use this command to display priority-based flowcontrol information.

Command Syntax

show priority-flow-control (INTERFACE|)

INTERFACE	Interface name
-----------	----------------

Command Mode

Privileged EXEC

Default

None

Usage

Use the command to display priority-based flowcontrol admin-config and operation-config information of each port.

Examples

This example shows how to display priority-based flowcontrol information:

```
Switch# show priority-flow-control interface eth-0-1
```

Related Commands

None

2.4 show priority-flow-control statistics

Use this command to display priority-based flowcontrol information.

Command Syntax

show priority-flow-control statistics (INTERFACE|)

INTERFACE	Interface name
-----------	----------------

Command Mode

Privileged EXEC

Default

None

Usage

Use the command to display the counting information of pause frames for priority-based flowcontrol.

Examples

This example shows how to display the counting information of pause frames for priority-based flowcontrol:

```
Switch# show priority-flow-control statistics interface eth-0-1
```

Related Commands

None

3 EFD Commands

3.1 efd enable

Use this command to enable EFD detect on interface.

Command Syntax

efd enable

no efd enable

Command Mode

Interface Configuration

Default

EFD detect is disabled

Usage

When the rate of the flow is 60Mbps, this flow shall be a elephant flow.

Examples

This example shows how to enable EFD on the interface:

```
Switch(config-if) # efd enable
```

Related Commands

None

3.2 efd tcp-only enable

Use this command to enable detect EFD with TCP packet.

Command Syntax

efd tcp-only enable

no efd tcp-only enable

Command Mode

Global Configuration

Default

All flow will be detect

Usage

None

Examples

This example shows how to enable EFD on the interface:

```
Switch(config)# efd tcp-only enable
```

Related Commands

None

3.3 efd flow-traffic-class

Use this command to set traffic class for flow detected as EFD.

Command Syntax

efd flow-traffic-class <0-6>

no efd flow-traffic-class

<0-6>	Traffic class value
-------	---------------------

Command Mode

Global Configuration

Default

Disabled

Usage

None

Examples

This example shows how to set flow-traffic-class as 5 for EFD flow:

```
Switch(config)# efd flow-traffic-class 5
```

Related Commands

None

3.4 efd flow-color

Use this command to set flow color for flow detected as EFD.

Command Syntax

efd flow-color (green| red| yellow)

no efd flow-color

Command Mode

Global Configuration

Default

Disabled

Usage

None

Examples

This example shows how to set flow color as yellow for EFD flow:

```
Switch(config)# efd flow-color yellow
```

Related Commands

None

3.5 show efd flow information

Use this command to display EFD flow information.

Command Syntax

show efd flow information

Command Mode

Privileged EXEC

Default

None

Usage

None

Examples

This example shows how to display EFD flow information:

```
Switch# show efd flow information
```

Related Commands

None

3.6 clear efd flow information

Use this command to clear EFD flow information.

Command Syntax

clear efd flow information

Command Mode

Privileged EXEC

Default

None

Usage

None

Examples

This example shows how to clear EFD flow information:

```
Switch# clear efd flow information
```

Related Commands

None

4

Flow hash Commands

4.1 flow hash-field-select

Use this command to enable or disable priority-based flow control function on the interface. Use this command to calculate packet's hash value, this hash value is used to identify the packet. Flow hash value is used by EFD to select flow entry from EFD flow table. Flow hash value is also used by ECMP to select flow entry from ECMP flow table.

Command Syntax

flow hash-field-select {ipda | ipsa | ip-protocol | sourceport | destport | vxlan-vni | nvgre-vsids | inner-ipda | inner-ipsa | inner-ip-protocol | inner-sourceport | inner-destport}

no flow hash-field-select

ipda	IP Destination Address
ipsa	IP Source Address
ip-protocol	IP Header protocol
sourceport	Layer4 Source Port
destport	Layer4 Destination Port
vxlan-vni	VXLAN VNI
nvgre-vsids	NVGRE VSID
inner-ipda	Inner header's IP Source Address
inner-ipsa	Inner header's IP Destination Address
inner-ip-protocol	Inner header's IP Header protocol
inner-sourceport	Inner header's Layer4 Source Port
inner-destport	Inner header's Layer4 Destination Port

Command Mode

Configuration

Default

Use ipda, ipsa, ip-protocol, sourceport and destport

Usage

Use this command to generate flow hash value to identify the packet/flow, and this flow hash value is used to select EFD entry from EFD flow table. This flow hash value is also used to select ECMP entry from ECMP flow table in dynamic ECMP.

Examples

This example shows how to select ipsa and ipsa for hash filed calculate:

```
Switch(config)# flow hash-field-select ipda ipsa
```

Related Commands

None

5

OVSDB Commands

5.1 ovsdb enable

Use this command to set ovsdb enable/disable.

Command Syntax

ovsdb enable (management-ip *A.B.C.D*) (none-mgmt-if)

no ovsdb enable

management-ip <i>A.B.C.D</i>	Configure the management IP address, it will be set to VTEP database
none-mgmt-if	Configure the client connect to OVSDB server from in-band interface

Command Mode

Global Configuration

Default

Disable

Usage

All overlay configurations will be controlled by OVSDB after OVSDB function enabled in switch. The passive TCP connection will be opened with port 6632 when ovsdb enabling.

Examples

The following example shows how to enable OVSDB

```
Switch(config)# ovsdb enable management-ip 192.168.1.1
```

Related Commands

ovsdb port enable

5.2 ovsdb port enable

Use this command to let the port controlled by OVSDB. To restore the default value, use the no form of this command.

Command Syntax

ovsdb port enable

no ovsdb port enable

Command Mode

Interface Configuration

Default

None

Usage

There are no overlay configurations specified by OVSDB if none port is controlled by OVSDB

Examples

The following example shows how to enable OVSDB on port

```
Switch(config-if)# ovbdb port enable
```

Related Commands

ovbdb enable

5.3 ovbdb controller

Use this command to configure IP address of OVSDB controller. To restore the default value, use the no form of this command.

Command Syntax

ovbdb controller *A.B.C.D* (**port** *NUM*)

no ovbdb controller

<i>A.B.C.D</i>	Specify IP address of OVSDB controller
port <i>NUM</i>	Specify the port for TCP connection, range in [1,65535], default value is 6632

Command Mode

Global Configuration

Default

None

Usage

The default TCP port for connection is 6632.

Examples

The following example shows how to configure the IP address of controller:

```
Switch(config)# ovbdb controller 192.168.1.2
```

Related Commands

ovbdb enable

5.4 debug ovbdb

Use this command to configure the level of OVSDB log to display. To restore the default value, use the no form of this command.

Command Syntax

debug ovsdb (server|agent) level (error|warning|informaiton|debug)

no debug ovsdb (server | agent) level

server	Configure level for OVSDb server
agent	Configure level for OVSDb agent
error	The level of log to display is ERROR
warning	The level of log to display is WARNING
informaiton	The level of log to display is INFORMATION
debug	The level of log to display is DEBUG

Command Mode

Privileged EXEC

Default

None

Usage

For the configuration take effect, this command should be input after OVSDb enabled on switch.

Examples

The following example shows how to modify the level of OVSDb log to display:

```
Switch# debug ovsdb server level debug
```

Related Commands

ovsdb enable

5.5 show ovsdb

Use this command to display the information in VTEP database.

Command Syntax

show ovsdb (physical-switch (port | binding *IFNAME*) | logical-switch|remote-macs (*LSNAME*))

physical-switch	Display the information of physical switch in VTEP database
port	Display the information of physical port in VTEP database
binding <i>IFNAME</i>	Display the bindings of specified port in VTEP database
logical-switch	Display the information of logical switch in VTEP database
remote-macs (<i>LSNAME</i>)	Display the remote MACs of specified logical switch in VTEP database

Command Mode

Privileged EXEC

Default

None

Usage

None

Examples

The following example shows how to display the physical switch in VTEP database:

```
Switch # show ovssdb physical-switch
Physical Switch Name : FiberstoreA4D992AFF400
Management IP address :
Tunnel IP address    : 2.2.2.1
```

Related Commands

ovssdb enable