



CHAPTER 18

Configuring MVRP

This chapter describes how to configure the IEEE 802.1ak Multiple VLAN Registration Protocol (MVRP) on the Catalyst 6500 series switches.

**Note**

For complete syntax and usage information for the commands that are used in this chapter, refer to the *Catalyst 6500 Series Switch Command Reference*

This chapter consists of these sections:

- [Understanding How MVRP Works, page 18-1](#)
[Default MVRP Configuration, page 18-2](#)
[MVRP Configuration Guidelines, page 18-2](#)
[Configuring MVRP on the Switch, page 18-3](#)



MVRP requires Catalyst 6500 series switch software release 8.7(1) or later.

Understanding How MVRP Works

P application that provides IEEE 802.1ak-compliant VLAN pruning and dynamic VLAN creation on trunk ports.

With MVRP, the switch can exchange VLAN configuration information with other MVRP switches, prune the unnecessary broadcast and unknown unicast traffic, and dynamically create and manage the VLANs on the switches that are connected through trunk ports.

**Note**

MRP and MVRP are industry-standard protocols that are described in IEEE 802.1ak.

**Note**

MVRP replaces GVRP with faster and smaller transmissions, and extends support to larger networks and 4k (4094) VLANs.

Configuring MVRP on the Switch

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Enabling MVRP Globally

[“Enabling MVRP on Individual Trunk Ports” section on page 18-4.](#)



MVRP cannot be enabled globally and on individual trunk ports if PVLANS exist.

To enable dynamic VLAN creation, you must enable dynamic VLAN creation globally on the switch. For information on enabling dynamic VLAN creation, refer to the [“Enabling MVRP Dynamic VLAN Creation” section on page 18-5.](#)

To enable MVRP globally on the switch, perform this task in privileged mode:

	Task	Command
Step 1		set mvrp enable
Step 2		show mvrp configuration

This example shows how to enable MVRP and verify the configuration:

```
Console> (enable) set mvrp enable
MVRP enabled
```

show mvrp configuration

Global MVRP Configuration:

MVRP Feature is currently enabled on the switch.

MVRP dynamic VLAN creation is disabled.

Port based MVRP Configuration:

MVRP-Status Registration Applicant Port(s)

```
-----  
Enabled      Normal      Normal      3/1-10,3/14,3/24  
Disabled     Normal      Normal      2/2-3,3/11-13,3/15-23,3/25-48  
Disabled     Fixed       Normal      2/1
```

Trunk based MVRP Configuration:

MVRP-Status Registration Applicant Trunk(s)

```
-----  
Enabled      Normal      Normal      3  
Disabled     Normal      Normal      2
```

MVRP Timers(centiseconds):

```
-----  
JoinTimer   LvTimer   LvAllTimer  Port(s)  
-----  
30          600       1000        3/1  
200         600       1000        3/2  
200         600       1000        3/3  
200         600       1000        3/4  
200         600       1000        3/14  
200         600       1000        3/24  
Console>
```

RP on Individual Trunk Ports



Note

	<i>od/port</i>

set port mvrp 3/1 enable

Enabling MVRP Dynamic VLAN Creation

-
-
-
-


Note

Task	Command
Step 1	dynamic-vlan-creation enable
	show mvrp configuration

```
mvrp dynamic-vlan-creation enable
```

Configuring MVRP Registration

-
-
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Configuring MVRP Normal Registration

	set port mvrp registration normal
	show mvrp configuration

Configuring MVRP Fixed Registration



Note

	Task	Command
Step 1		
Step 2		

```
set port mvrp 3/1 registration fixed
```

Configuring MVRP Forbidden Registration

	Task	Command
Step 1		
Step 2		

```
set port mvrp 3/1 registration forbidden
```


Task	Command
Step 1	<pre> leaveall timer_value join leave </pre>

```

imer leave 600

```

```

set port mvrp 4/2-3,4/9-10 timer join 200

```

MVRP join timer value is set to 200 centiseconds for port(s) 4/2-3,4/9-10.

```

Console> (enable)

```

	<pre> mod/port </pre>

```

Console> (enable)

```

MVRP periodic timer is enabled on port(s) 4/2-3,4/9-10,4/12-24.

```

console>

```

Displaying MVRP Configuration Summary

	[]
--	-----

```
Invalid Packets Received: 0
New Received: 0
Join In Received: 1167
In Received: 0
Join Empty Received: 22387
Empty Received: 31
Leave Received: 210
Leave All Received: 63
Packets Transmitted: 176
New Transmitted: 0
Join In Transmitted: 311
In Transmitted: 0
Join Empty Transmitted: 873
Empty Transmitted: 11065
Leave Transmitted: 167
Leave All Transmitted: 4
Packets Received: 249
Packets Dropped: 0
Y76> (enable)
Console> (enable)
```


```

Mod/Port VLAN Applicant: state & mgmt Registrar: state & mgmt
-----
3/14 0001 Aa: Anxious Normal, IN Registration_fixed
3/14 0142 Aa: Anxious Normal, MT Normal_registration
3/14 1002 Vo: Very_anxious Normal, MT Normal_registration
3/14 1003 Vo: Very_anxious Normal, MT Normal_registration
3/14 1004 Vo: Very_anxious Normal, MT Normal_registration
3/14 1005 Vo: Very_anxious Normal, MT Normal_registration
3/14 1006 Vo: Very_anxious Normal, MT Normal_registration
3/14 1007 Vo: Very_anxious Normal, MT Normal_registration
3/14 1008 Vo: Very_anxious Normal, MT Normal_registration
3/14 1009 Vo: Very_anxious Normal, MT Normal_registration
3/14 1010 Vo: Very_anxious Normal, MT Normal_registration
3/14 1011 Vo: Very_anxious Normal, MT Normal_registration
3/14 1012 Vo: Very_anxious Normal, MT Normal_registration
3/14 1016 Vo: Very_anxious Normal, MT Normal_registration

```

Console> (enable)

	mvrp trunk

Console> (enable) **show mvrp trunk 3/14**

```

Port MVRP Pruned Vlans
-----
3/14 2-4094

```

Console> (enable)

This example shows how to clear all MVRP configuration on the switch:

```
Warning:MVRP configuration will be cleared.  
Do you want to continue (y/n) [y]? y  
MVRP configuration is cleared for all ports on the switch.  
Console> (enable)
```


```
Console> (enable)
Warning:MVRP counters will be cleared.
Do you want to continue (y/n) [y]? y
MVRP counters cleared for all ports on the swtich.
Console> (enable)
```


```
Console> (enable)
Warning:MVRP statistics will be cleared.
Do you want to continue (y/n) [y]? y
MVRP Statistics for all ports are cleared.
Console> (enable)
```