

## Sun Network 10GbE Switch 72p Product Notes

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## Using This Documentation

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- **Overview** – Contains late-breaking information about this release of Oracle's Sun Network 10GbE Switch 72p
- **Audience** – Technicians, system administrators, authorized service providers, and advanced users
- **Required knowledge** – Advanced experience troubleshooting and replacing hardware

## Product Documentation Library

Documentation and resources for this product and related products are available at <http://docs.oracle.com/cd/E19934-01/index.html>.

## Feedback

Provide feedback about this documentation at <http://www.oracle.com/goto/docfeedback>.





## Late-Breaking Information

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These product notes provide important late-breaking information and instructions for upgrading the firmware to the latest version.

- “Switch Documentation Reading Order” on page 9
- “New Features” on page 10
- “Enhancements” on page 15
- “Upgrading the Switch Firmware” on page 15
- “Configure 1Gbps Mode on SFP+ Interfaces” on page 21
- “Fine Tune the VLAN Setup” on page 22
- “Managing SEFOS Configurations” on page 25
- “Configuring TACACS+” on page 27
- “Known Issues” on page 29

## Switch Documentation Reading Order

All of the switch product documentation and related documentation can be found at: <http://docs.oracle.com/cd/E19934-01/index.html>

Read the documentation in this order.

Step	Document Title or Type	Information Provided
1.	<i>Sun Network 10GbE Switch 72p Product Notes</i>	Late-breaking information, supported configurations, and system limitations.
2.	README files	Lists corrected issues and any special instructions for applying patches.
3.	<i>Sun Network 10GbE Switch 72p User's Guide</i>	Installation instructions
4.	<i>Sun Network 10GbE Switch 72p Software Configuration Guide</i>	Software configuration instructions
5.	Administration Guides	Reference and administration information for the software

## New Features

These new features are supported for this release:

- “IPv6 Switching and Routing” on page 10
- “PVRST+ Protocol” on page 11
- “Exclusive VLAN” on page 12
- “Data Center Bridging” on page 12
- “Internet Group Management Protocol” on page 13
- “PIM” on page 13
- “Q-in-Q Tunneling” on page 13
- “Server Load Balancer Layer 3” on page 13
- “Oracle ILOM 3.0 Features” on page 14

## IPv6 Switching and Routing

### ■ Multicast Listener Discovery

Multicast listener discovery (MLD) works with IPv6 to control the reception of multicast data in a network. MLD functions similarly to IGMP, which manages multicast groups for IPv4. The MLD snooping (MLDS) function supported in this release enables switches to forward multicast data to only hosts that need to receive the data, rather than to all ports. MLDS enables a switch to snoop or capture information from MLD packets that are being sent back and forth between hosts and a router. Based on this information, the switch adds or deletes the multicast addresses from its address table, thereby enabling or disabling multicast traffic that is flowing to individual host ports.

Refer to the *Sun Ethernet Fabric Operating System MLDS Administration Guide* for more information about this feature.

### ■ Open Shortest Path First version 3

Open Shortest Path First version 3 (OSPFv3) adds support for IPv6 in the OSPF protocol. As described in RFC 2740, the fundamental mechanisms of OSPF (flooding, DR election, area support, and SPF calculations) remain unchanged in OSPFv3. However, some changes to OSPF were made to handle changes in protocol semantics between IPv4 and IPv6 and increased IPv6 address sizes.

Refer to the *Sun Ethernet Fabric Operating System OSPFv3 Administration Guide* for more information about this feature.

### ■ Routing Information Protocol Next Generation

Routing Information Protocol next generation (RIPng), supported in this release, adds support for IPv6. RIPng functions similarly to RIP in IPv4 and offers the same dynamic

route learning benefits. RIPng enhancements for IPv6, as detailed in RFC 2080, include support for IPv6 addresses and prefixes and the use of an all-RIP-routers multicast group address as the destination address for RIPng update messages. The IPv6 RIPng local routing table (RIB) contains a set of IPv6 RIP routes learned from all its neighboring networking devices.

Refer to the *Sun Ethernet Fabric Operating System RIPng Administration Guide* for more information about this feature.

- **Protocol Independent Multicast v6**

Protocol Independent Multicast v6 (PIMv6) adds support for IPv6 in the PIM routing protocol. PIM is designed to provide scalable inter-domain multicast routing across the internet. PIM is a collection of multicast routing protocols, each optimized for a different environment. PIM provides multicast routing and forwarding capability to a router that runs IP along with Internet Group Management Protocol (IGMP). PIM depends on IGMP for multicast group membership information. PIM routes the multicast data packets independent of any unicast routing protocol.

Release 1.2 provides support for PIMv6 Sparse Mode.

Refer to the *Sun Ethernet Fabric Operating System PIMv6 Administration Guide* for more information about this feature.

## PVRST+ Protocol

For an Ethernet network to function properly, only one active path must exist between two stations. Multiple active paths between stations in a bridged network can cause loops in which Ethernet frames can endlessly circulate. STP can logically break such loops and prevent looping traffic from clogging the network. The dynamic control of the topology provides continued network operation in the presence of redundant or unintended looping paths.

Rapid spanning tree is a link management protocol that provides path redundancy while preventing undesirable loops in the network, such as multiple active paths between stations by forcing redundant paths into a standby or blocked state. PVRST+, which is supported in this release of the switch, is an enhancement of RSTP that works in conjunction with VLANs to provide better control over traffic in the network. A separate spanning tree is maintained for each active VLAN in the network, providing load balancing through multiple instances of the spanning tree, fault tolerance (because failure of one spanning tree instance does not affect other spanning trees), and rapid reconfiguration support through the RSTP.

---

**Note** - In PVRST+ spanning tree mode, the interface trunk encapsulation type ISL is not supported.

---

Refer to the *Sun Ethernet Fabric Operating System PVRST+ Administration Guide* for more information about this feature.

---

**Note** - When using the PVRST+ feature, create the entire configuration from scratch to avoid possible conflicts with features from an existing configuration saved from the previous release of the firmware.

---

## Exclusive VLAN

In a traditional VLAN, the VLAN represents an L3 broadcast domain or a subnet. Exclusive VLAN (XVLAN) provides a discrete isolation of ports belonging to a traditional VLAN. Therefore, one host in an XVLAN can communicate with some of the hosts in the XVLAN, while another host cannot do the same even though they are in the same XVLAN and configured in the same subnet.

Refer to the *Sun Ethernet Fabric Operating System XVLAN Administration Guide* for more information about this feature. For information about supported XVLAN commands, refer to the *Sun Ethernet Fabric Operating System CLI Base Reference Manual*.

---

**Note** - See [“Changing the Default Value for `default-vlan-id` Could Result in VLAN Misconfiguration \(7015004\)” on page 30](#) for information about the required settings for `default-vlan-id` in XVLAN configurations.

---

## Data Center Bridging

Data center bridging (DCB) Ethernet enhancements are available to improve Ethernet networking and management in data center environments. DCB is a framework that defines the enhancements that are required for switches and endpoints. DCB includes the following features:

- PG, also known as ETS, which is a priority grouping specification that provides bandwidth management as well as a scheduling algorithm for various traffic classes on a converged link.
- PFC, which is an enhancement to the existing Ethernet-pause protocol, that allows o-drop packet delivery for certain traffic classes.

This release of the SEFOS DCB feature supports DCB version 1.0.1, as specified by the DCB task group.

Refer to the *Sun Ethernet Fabric Operating System DCB Administration Guide* for more information about this feature. For information about supported DCB commands, refer to the *Sun Ethernet Fabric Operating System CLI Base Reference Manual*.

## Internet Group Management Protocol

The Internet Group Management Protocol (IGMP) (RFC 4604) implementation is used to learn and proxy the group membership information of the hosts connected to a router. Multicast routing protocols, like PIM, use this information to forward multicast packets that are received by the router. An IGMP proxy learns group membership and forwards multicast traffic based on this information. The proxy does not need to run any multicast routing protocols. IGMP proxy substitutes the information to upstream router interface, based on the requirements of IGMP hosts. This release of the firmware provides support for IGMP proxy.

## PIM

Protocol Independent Multicast (PIM) is a multicast routing protocol designed to provide scalable interdomain multicast routing across the internet. There are two main PIM protocols, PIM Sparse Mode (PIM-SM) and PIM Dense Mode (PIM-DM). This release provides support for PIM Sparse Mode (RFC 2362).

## Q-in-Q Tunneling

Q-in-Q tunneling expands the VLAN space in the service provider network. This feature enables the service provider to assign a VLAN ID to each customer, without losing the original customer VLAN IDs within the service provider network (tunnel).

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**Note** - See [“Packets Might Be Dropped When Using Q-in-Q Interop in Certain Configurations \(6989048\)”](#) on page 31 for information about special requirements for third-party switches.

---

## Server Load Balancer Layer 3

Server load balancer (SLB) provides traffic load distribution functionality for this release of the switch firmware. Load distribution can be performed at layer 2 or layer 3 of the networking protocol stack. This release provides support for only load distribution at layer 3.

When used at layer 3, LBGs consist of server members identified by layer 3 protocol (IP) addresses. Server members are next hop targets of a targeted equal cost multiple path (ECMP) route. The LBG is identified by a Virtual IP address prefix (VIP) which is used to represent a virtual server. From the clients' point of view, the virtual server is a highly available server

entity with expandable resource. Load distribution is performed through the routing hash function of the switch. Load distribution policies are based on the contents of the L3/4 packet header. Failover is supported at the server member's level. A failed member within an LBG is replaced by another server member that is part of the same group. Health check is performed by the switch through an ICMP ping.

Refer to the *Sun Ethernet Fabric Operating System SLB Administration Guide* for more information about this feature.

---

**Note** - When using the SLB feature, create the entire configuration from scratch to avoid possible conflicts with features from an existing configuration saved from the previous release of the firmware.

---

## Uplink Port Trailing

The Uplink Port Trailing feature monitors the state of the uplink port and manages the downlink ports according to the state of the uplink port. When the uplink goes down, the downlink port (s) will be shut down, providing the HA feature with the feedback it needs to switch over to alternate link or path. For more details, refer to the *Uplink Trailing Administration Guide*.

## VRRPv3

VRRPv3 (VRRP version 3) extends capability to IPv6 in addition to IPv4. Version 3 supports sub-second operation. It also supports accept-mode configuration. For more details, refer to the *VRRPv3 Administration Guide*.

## Oracle ILOM 3.0 Features

- **TACACS+.**

TACACS+ (Terminal Access Controller Access-Control System Plus) is an access control protocol for routers, network access servers, and other networked computing devices. TACACS+ provides separate authentication, authorization and accounting services. See [“Configuring TACACS+” on page 27](#).

- **LDAP and LDAP over SSL.**

Oracle ILOM supports LDAP authentication for users, based on the OpenLDAP software. LDAP is a general-purpose directory service. A directory service is a centralized database

for distributed applications designed to manage the entries in a directory. Thus, multiple applications can share a single-user database. LDAP over SSL offers enhanced security to LDAP users by way of SSL technology.

---

**Note** - SEFOS supports nonlocal usernames up to 14 characters.

---

## Enhancements

This release includes enhancements, change requests, and corrected issues.

- mac-flapping detection support
- Change Request (CR) fixes. See the README files for details.

## Upgrading the Switch Firmware

Use the newest version of the package to upgrade the switch and required components.

Perform these tasks to upgrade the switch firmware.

- [“Back Up the Current Configuration Before Upgrading” on page 15](#)
- [“Download the Switch Firmware Package” on page 17](#)
- [“Install the Switch Updates” on page 18](#)

### ▼ **Back Up the Current Configuration Before Upgrading**

Save the current configuration to a remote site before upgrading the software. Refer to the *Sun Network 10GbE Switch 72p Software Configuration Guide* for additional information.

If the switch is running the 1.0.1.x release, you can also use the backup and restore feature from Oracle ILOM to save the current Oracle ILOM and SEFOS configurations to a remote server. You can then restore the switch configuration after upgrading the firmware. See [“Managing SEFOS Configurations” on page 25](#).

---

**Note** - During the upgrade, if you answer yes to the question `Preserve existing configuration (y/n)?`, the Oracle ILOM and SEFOS configurations are automatically preserved and there is no need to explicitly restore the configuration. If a syslog server address was configured in Oracle ILOM, the address is not preserved (see CR 7022288), and you must reconfigure the syslog server setting after the upgrade or restore.

---

**1. Configure the default IP address.**

**a. Enter Global Configuration mode.**

```
SEFOS# configure terminal
```

**b. Configure the default IP address and subnet mask as 10.0.0.100 and 255.255.0.0.**

```
SEFOS(config)# default ip address 10.0.0.100 subnet-mask 255.255.0.0
```

**c. Exit Global Configuration mode.**

```
SEFOS(config)# end
```

**2. Configure the restoration file name.**



---

**Caution** - If you are upgrading the firmware from the 1.0.0.x version, you must complete [Step 2d](#) (disabling the incremental-save feature) to save the configuration correctly before upgrading.

---

**a. Enter Global Configuration mode.**

```
SEFOS# configure terminal
```

**b. Configure a configuration restoration file name.**

```
SEFOS(config)# default restore-file myconfig.conf
```

**c. Exit Global Configuration mode.**

```
SEFOS(config)# end
```



**d. Disable the incremental save feature.**

```
SEFOS# configure terminal
SEFOS(config)# incremental-save disable
SEFOS(config)# end
```

**3. Save the current configuration for restoration.**

```
SEFOS(config)# write startup-config
```

**4. Copy the configuration file to a remote location.**

```
SEFOS(config)# copy startup-config tftp://12.0.0.100/switch.conf
```

**5. Exit and restart the switch.**

---

**Note** - The switch might currently be low on memory. The restart frees up memory for a more reliable upgrade.

---

```
SEFOS# exit
-> reset /SP
Are you sure you want to reset /SP (y/n)? y
Performing reset on /SP
```

**6. Login and Save the current configuration again before starting the upgrade.**

```
SEFOS# write startup-config
SEFOS# copy startup-config tftp://12.0.0.100/switch.conf
```

**7. Download the switch firmware package.**

See [“Download the Switch Firmware Package”](#) on page 17.

## ▼ Download the Switch Firmware Package

After backing up your current configuration, download the switch firmware upgrade package.

**1. Sign in to My Oracle Support at:**

<http://support.oracle.com>

2. **Select the Patches & Updates tab.**
3. **Under the Patch Search section, select Product or Family (Advanced Search).**
4. **Type `switch` in the Product field and select Sun Network 10GbE Switch 72p.**
5. **Select the down arrow in the Release field and select the Sun Network 10GbE Switch 72p folder.**
6. **Select the newest release.**
7. **Click the Search button.**
8. **Click the number in the Patch Name column.**
9. **Click Download.**
10. **Click the filename of the .zip file to begin the download.**
11. **Save the file to an appropriate location.**
12. **Upgrade the firmware.**  
See [“Install the Switch Updates” on page 18](#).

## ▼ Install the Switch Updates

---

**Note** - You must be logged in as `root` to perform the upgrade.

---

**Note** - Before upgrading the switch firmware, back up the current configuration as described in [“Back Up the Current Configuration Before Upgrading” on page 15](#).

---



**Caution** - If the switch is being upgraded from the 1.0.0 release, then you must perform this upgrade using only the Oracle ILOM CLI. Using the web interface with the URL or file browser method results in an incomplete upgrade as noted in [“Firmware Upgrade With the Web UI is Incomplete \(7022295\)” on page 30](#).

---

1. **Ensure that you have a network configuration in place on the switch.**  
For more information, refer to the *Sun Network 10GbE Switch 72p User's Guide*.

2. **(Optional) If you have not restarted the switch as part of backing up the configuration, restart the switch now.**

---

**Note** - The switch might currently be low on memory. The restart frees up memory for a more reliable upgrade.

---

```
SEFOS# exit
-> reset /SP
Are you sure you want to reset /SP y
Performing reset on /SP
```

3. **Use TFTP, FTP, or the Oracle ILOM web interface to copy the firmware image to your server.**
4. **Answer the questions that appear on the screen as you proceed through the installation.**

The following example illustrates the switch upgrade process using FTP from a server with an IP address of 192.168.1.100.

```
-> cd /SP/firmware/
/SP/firmware
-> load -source ftp://username:password@192.168.1.100/
Sun_Network_10GbE_Switch_72p_sefos-1_2_2_17.pkg
Downloading firmware image. This will take several minutes.
..
NOTE: An upgrade takes about 6 minutes to complete. ILOM
will enter a special mode to load new firmware. No
other tasks can be performed in ILOM until the
firmware upgrade is complete and ILOM is reset.

Are you sure you want to load the specified file (y/n)? y
Preserve existing configuration (y/n)? y
Starting FW upgrade. This will take approximately 3 minutes.

Checking "jffs2 root file system image"

Starting Root File System upgrade
Upgrading Root File System image to partition 1
.nand_erase: attempt to erase a bad block at page 0x00025a40
.....
.....
Validating File System and updating Time Stamp.
This will take 2-3 minutes. Please wait.
```

```
Checking "compressed kernel image"

Starting kernel upgrade
Upgrading kernel image to partition 1
.....
Syncing configuration files
.....
Checking "FPGA image"

Starting FPGA upgrade. This process may take up to 3 minutes.
Programing FPGA image
FPGA upgrade requires SEFOS to be stopped. Please wait while
FPGA is being programmed.
Skip upgrading FPGA (same version).
.
Checking "U-Boot image"

Starting U-Boot upgrade
Skip upgrading U-Boot (same version).

Firmware update is complete.
The system must be reset for the new image to be loaded

-> reset /SP
Are you sure you want to reset /SP (y/n)? y
Performing reset on /SP
...
```

---

**Note** - If the hostname was not set prior to upgrade, the switch displays SUNSP-unknown in the login prompt. You must reset the switch a second time to clear this condition.

---

- 5. When the switch reboots after the upgrade, type the `version` command to verify that software version is upgraded.**
- 6. To show the system information, type these commands.**

```
-> cd /SYS/fs_cli/
cd: Connecting to Fabric Switch CLI

ORACLESP-465769T=1242R901GL SEFOS# show system information

Hardware Version           : 2.5.8_00209384
Firmware Version          : TOR-1.2.2.17
Switch Name                : TOR 72P
System Contact             :
System Location            :
```

```

Logging Option           : Console Logging
Login Authentication Mode : Local
Config Save Status      : Not Initiated
Remote Save Status      : Not Initiated
Config Restore Status    : Not Initiated

```

## Configuring the Switch

- [“Configure 1Gbps Mode on SFP+ Interfaces” on page 21](#)
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### ▼ Configure 1Gbps Mode on SFP+ Interfaces

The eight SFP+ ports, 65 to 72 are dual-speed capable ports and can provide 1Gbps connectivity when used with the supported transceivers and configured for 1Gbps operation from the SEFOS CLI.

- To configure a 1G-MMF link, use the supported 10G/1G SFP+ transceiver (PN x2129a). The speed must be changed to 1G on the appropriate port (see example below).
- To configure a 1G-Cu (RJ45) link, use the supported SFP transceiver (PN x2123a), which provides a RJ45 interface. This is a 1G-only transceiver and the speed must be changed to 1G on the appropriate port (see the following example).



**Caution** - When using 1Gbps mode, autonegotiation **must be** disabled on the link-partner. The link-partner must be configured in 1Gbps-Forced-FDX mode.

1. **Obtain the SEFOS prompt.**
2. **Type these commands to configure the speed to 1Gbps.**

For example, to configure ports 71 and 72:

```

SEFOS# config terminal
SEFOS(config)# interface range extreme-ethernet 0/71-72
SEFOS(config-if)# shutdown
SEFOS(config-if)# speed 1000
SEFOS(config-if)# no shutdown
SEFOS(config-if)# end

```

```
SEFOS# write startup-config
```

## ▼ Fine Tune the VLAN Setup

The switch provides flexibility in managing ingress VLAN traffic. For example, you can set port ingress filtering to enabled and can also specify the acceptable frame type to implement fine-grained control on the ingress traffic. Refer to the *Sun Ethernet Fabric Operating System CLI Base Reference Manual* for details.

1. **Obtain the SEFOS prompt.**
2. **Display the default port configuration.**

```
SEFOS# show vlan port config port extreme-ethernet 0/3
```

```
Vlan Port configuration table
-----
Port Ex0/3
Port Vlan ID                : 1
Port Acceptable Frame Type  : Admit All
Port Ingress Filtering      : Disabled
Port Mode                   : Hybrid
Port Gvrp Status            : Enabled
Port Gmrp Status            : Enabled
Port Gvrp Failed Registrations : 0
Gvrp last pdu origin        : 00:00:00:00:00:00
Port Restricted Vlan Registration : Disabled
Port Restricted Group Registration : Disabled
Mac Based Support           : Disabled
Subnet Based Support        : Disabled
Port-and-Protocol Based Support : Enabled
Default Priority            : 0
Filtering Utility Criteria  : Default
Port Protected Status       : Disabled
-----
```

3. **Reconfigure the port.**

For example, to reconfigure the 10GbE port Ex0/3 as a tagged port in vlan 3 and allowing only tagged frames:

```
SEFOS# config terminal
SEFOS(config)# vlan 3
SEFOS(config-vlan)# port extreme-ethernet 0/3
```

```
SEFOS(config-vlan)# exit
SEFOS(config)# interface extreme-ethernet 0/3
SEFOS(config-if)# switchport ingress-filter
SEFOS(config-if)# switchport acceptable-frame-type tagged
SEFOS(config-if)# end
SEFOS# show vlan port config port extreme-ethernet 0/3
```

Vlan Port configuration table

```
-----
Port Ex0/3
Port Vlan ID                : 1
Port Acceptable Frame Type  : Admit Only Vlan Tagged
Port Ingress Filtering      : Enabled
Port Mode                   : Hybrid
Port Gvrp Status            : Enabled
Port Gmrp Status            : Enabled
Port Gvrp Failed Registrations : 0
Gvrp last pdu origin        : 00:00:00:00:00:00
Port Restricted Vlan Registration : Disabled
Port Restricted Group Registration : Disabled
Mac Based Support           : Disabled
Subnet Based Support        : Disabled
Port-and-Protocol Based Support : Enabled
Default Priority            : 0
Filtering Utility Criteria  : Default
Port Protected Status      : Disabled
```

#### 4. Add an untagged port.

- To use the preferred method, go to [Step 5](#).
- To use the alternate method, go to [Step 6](#).

#### 5. Add an untagged port using the preferred method.

##### a. Type these commands.

For example, add 10GbE port Ex0/3 to vlan 3 as untagged.

```
SEFOS# configure terminal
SEFOS(config)# interface extreme-ethernet 0/3
SEFOS(config-if)# switchport access vlan 3
SEFOS(config-if)# end
```

##### b. Verify the port VLAN ID.

```
SEFOS# show vlan port config port extreme-ethernet 0/3
```

```
Vlan Port configuration table
```

```
-----  
Port Ex0/3  
Port Vlan ID : 3  
Port Acceptable Frame Type : Admit All  
Port Ingress Filtering : Enabled  
Port Mode : Hybrid  
Port Gvrp Status : Disabled  
Port Gmrp Status : Disabled  
Port Gvrp Failed Registrations : 0  
Gvrp last pdu origin : 00:00:00:00:00:00  
Port Restricted Vlan Registration : Disabled  
Port Restricted Group Registration : Disabled  
Mac Based Support : Disabled  
Subnet Based Support : Disabled  
Port-and-Protocol Based Support : Enabled  
Default Priority : 0  
Dot1x Protocol Tunnel Status : Peer  
LACP Protocol Tunnel Status : Peer  
Spanning Tree Tunnel Status : Peer  
GVRP Protocol Tunnel Status : Peer  
GMRP Protocol Tunnel Status : Peer  
IGMP Protocol Tunnel Status : Peer  
Filtering Utility Criteria : Default  
Port Protected Status : Disabled
```

**6. Add an untagged port using the alternate method.**

**a. Type these commands.**

For example, add 10GbE port Ex0/4 to vlan 4 as untagged.

```
SEFOS# configure terminal  
SEFOS(config)# vlan 4  
SEFOS(config-vlan)# ports extreme-ethernet 0/4 untagged extreme-ethernet 0/4  
SEFOS(config-vlan)# exit  
SEFOS(config)# interface extreme-ethernet 0/4  
SEFOS(config-if)# switchport pvid 4  
SEFOS(config-if)# end
```

**b. Verify the port VLAN ID.**

```
SEFOS# show vlan port config port extreme-ethernet 0/4
```



```

Vlan Port configuration table
-----
Port Ex0/4
Port Vlan ID                : 4
Port Acceptable Frame Type  : Admit All
Port Ingress Filtering      : Enabled
Port Mode                   : Hybrid
Port Gvrp Status           : Disabled
Port Gmrp Status           : Disabled
Port Gvrp Failed Registrations : 0
Gvrp last pdu origin       : 00:00:00:00:00:00
Port Restricted Vlan Registration : Disabled
Port Restricted Group Registration : Disabled
Mac Based Support          : Disabled
Subnet Based Support       : Disabled
Port-and-Protocol Based Support : Enabled
Default Priority           : 0
Dot1x Protocol Tunnel Status : Peer
LACP Protocol Tunnel Status : Peer
Spanning Tree Tunnel Status : Peer
GVRP Protocol Tunnel Status : Peer
GMRP Protocol Tunnel Status : Peer
IGMP Protocol Tunnel Status : Peer
Filtering Utility Criteria  : Default
Port Protected Status       : Disabled
  
```

## Managing SEFOS Configurations

These tasks assist in managing SEFOS configurations:

- [“Include the SEFOS Configuration in Backups” on page 25](#)
- [“Restore the Configuration” on page 26](#)

### ▼ Include the SEFOS Configuration in Backups

By default, only the Oracle ILOM configuration is backed up when the backup feature is used. Complete the following tasks to include the SEFOS configuration in this backup.

1. **Before backing up your SEFOS configuration using the Oracle ILOM backup feature, complete the following steps:**

- a. **Save the switch configuration.**

```
SEFOS# write startup-config
```

```
Building configuration ...  
[OK]
```

**b. Set a passphrase.**

```
-> cd /SP/config  
/SP/config  
-> set passphrase=abc123  
Set 'passphrase' to 'abc123'
```

---

**Note** - The passphrase you provide must not contain the @, ' (apostrophe), " (quotes), or \ (back slash) symbols.

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2. **Ensure that you have proper login credentials for the server where the configuration is to be backed up.**
3. **Back up the configuration to remote server.**

```
-> set dump_uri=ftp://username:password@192.168.1.100/tmp/mySwitchConfig.bak  
Dump successful
```

## ▼ Restore the Configuration

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**Note** - The administrator must always reset the SNMP engine ID prior to doing the backup or restore operation. Because of CR 6934622, the SNMP engine ID (even when previously set) is not visible after a reset of the system, and the administrator must record and set the ID explicitly.

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1. **Configure the network settings on the Oracle ILOM network management interface to communicate with the backup server.**

```
-> cd /SP/network
```

2. **Set the passphrase to the same value that was used for backup.**

See [“Include the SEFOS Configuration in Backups”](#) on page 25.

```
-> cd /SP/config  
/SP/config  
-> set passphrase=abc123  
Set 'passphrase' to 'abc123'
```

3. **Restore the configuration from the server.**

```
-> set load_uri=ftp://username:password@192.168.1.100/tmp/mySwitchConfig.bak
Load successful.
```

---

**Note** - If DHCP is used for network configuration, the DNS setting is overwritten with values supplied by the DHCP server upon restoration.

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**Note** - If a syslog server address was configured in Oracle ILOM, the address is not retained when upgrading from the 1.0.1.x release (see CR 7022288). The syslog server setting must be reconfigured after the upgrade or restore.

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## Configuring TACACS+

These topics describe how to configure TACACS+:

- [“TACACS+ Properties” on page 27](#)
- [“Configure TACACS+ Settings” on page 28](#)

### TACACS+ Properties

CLI Property	Default Value	Description
address [ <i>tacacs+_server_IP_address</i> ]	0.0.0.0	Specifies the IP address or DNS name of the TACACS+ server. If you use DNS, ensure that DNS is configured and functional.
Defaultrole [a u o c r s  Administrator Operator]	Operator	Specifies the access role that is granted to all authenticated TACACS+ users.  This property supports the following legacy roles: <ul style="list-style-type: none"> <li>■ Administrator</li> <li>■ Operator</li> <li>■ Any individual role ID combinations where a = Admin, u = User Management, o = Operator, c = Console, r = Reset and Host Control, and s = Service.</li> </ul>
fs_privilege [1 15]	1	Specifies the <i>fs_privilege</i> that is used for TACACS+ authenticated users to access and control SEFOS.
port [ <i>port_number</i> ]	49	Specifies the port number used to communicate with the TACACS+ server.
protocol	ip	<i>protocol</i> identifies the TACACS+ protocol type. <i>service</i> identifies the TACACS+ service type. (see footnote) <sup>†</sup>
service	ppp	

CLI Property	Default Value	Description
secret [ <i>tacacs+_secret</i> ]	[none]	Specifies the shared secret that is used to protect sensitive data and to ensure that the client and server recognize each other.
state [enabled disabled]	Disabled	Specifies whether the TACACS+ client is enabled or disabled.

<sup>†</sup>In the TACACS+ server, the combination of `ppp` and `ip` can be configured to send additional fields in packet data. For Oracle ILOM clients this is used to send Oracle ILOM-specific fields like `sefos-fs-privilege` and `ilom-role`.

## ▼ Configure TACACS+ Settings

### Before You Begin

**Note** - Before you configure TACACS+ settings for use with SEFOS ensure that the User Management (u) role is enabled. Also ensure that you have collected all relevant information about your TACACS+ environment, then configure the appropriate settings from Oracle ILOM to enable authentication using TACACS+.

1. **Log in to the Oracle ILOM CLI.**
2. **Navigate to the `tacacs+` directory.**
3. **Use the `set` command to configure the TACACS+ properties.**

```
-> cd /SP/clients/tacacs+
```

4. **Use the `show` command to view the TACACS+ properties.**

```
-> set/SP/clients/tacacs+ state=enabled address=10.12.235.32
Set 'state' to 'enabled'
Set 'address' to '10.12.235.32'
```

```
-> show /SP/clients/tacacs+
/SP/clients/tacacs+
Targets:
```

```
Properties:
  address = 10.12.235.32
  defaultrole = o
  fs_privilege = 1
  port = 49
  protocol = ip
  secret = *****
  service = ppp
  state = enabled
```

Commands :

```
cd
set
show
```

## Known Issues

The following known issues exist at the time of this release.

- “Manually Deleting Static Routes Does Not Affect the Corresponding SLB Entry (7123134)” on page 30
- “PIMv6-SSM Mode is Not Supported in This Release (7114280)” on page 30
- “Firmware Upgrade With the Web UI is Incomplete (7022295)” on page 30
- “Changing the Default Value for `default-vlan-id` Could Result in VLAN Misconfiguration (7015004)” on page 30
- “Some of the IGMP Conformance Results Do Not Match Expectations (7006297 and 6997415)” on page 30
- “QoS - `set algo-type tailDrop queue-drop-algo` Does Not Work (6991230)” on page 31
- “Packets Might Be Dropped When Using Q-in-Q Interop in Certain Configurations (6989048)” on page 31
- “The `no default-metric [,short(1-16)>]` Command Does Not Work as Documented (6987482)” on page 31
- “Using `vlan 1` as Shown in Various Examples in the Documentation Generates Error Codes (6968484)” on page 31
- “When Multiple Configuration Scripts Are Run in Parallel, SEFOS Can Crash (6936742)” on page 31
- “The `switch` Command Line Option Is Unsupported” on page 32
- “`vrrp_v3`: Role is incorrect for vlan with no preemempt configuration after save/reboot (19547263)” on page 32
- “SSL V3.0 POODLE DISABLE SSL V3 (19842635)” on page 32
- “Re-configure IP address after a “no ip address”, previous config re-appears (18794861)” on page 33

## Manually Deleting Static Routes Does Not Affect the Corresponding SLB Entry (7123134)

SLB tracks and manages static route entries that correspond to a load balancing group created by the SLB commands. If a static route entry was created by executing SLB commands, do not use the `no ip route` command to remove that static route directly.

## PIMv6-SSM Mode is Not Supported in This Release (7114280)

**Workaround:** Do not use SSM mode for PIMv6 with this release of the product.

## Firmware Upgrade With the Web UI is Incomplete (7022295)

**Workaround:** Use the Oracle ILOM CLI for the upgrade as described in [“Upgrading the Switch Firmware” on page 15](#). Upgrading with the web UI is supported if you are upgrading from 1.0.1.4 to patch 1.0.1.8.

## Changing the Default Value for `default-vlan-id` Could Result in VLAN Misconfiguration (7015004)

**Workaround:** If you need to change `default-vlan-id` from 1 (the default value) to some other value, you must do so before doing any other VLAN configuration. When using XVLAN features, only `default-vlan-id 1` is supported. In order to use the XVLAN feature, you must restore the default value of 1 for `default-vlanid` if it was changed.

## Some of the IGMP Conformance Results Do Not Match Expectations (7006297 and 6997415)

The switch does not fully adhere to the University of New Hampshire (UNH) IGMPv3 Conformance Test Suite.

**Workaround:** No workaround is available. If you experience a suspected IGMP interoperability problem or other issue with the switch, contact your authorized Oracle service provider.

## QoS - set algo-type tailDrop queue-drop-algo Does Not Work (6991230)

The tailDrop keyword is not supported for use with this product.

## Packets Might Be Dropped When Using Q-in-Q Interop in Certain Configurations (6989048)

**Workaround:** If you use Q-in-Q interop between the Sun Network 10GbE Switch 72p and a third-party switch, manually turn on the Jumbo Frame feature on the third-party switch.

## The no default-metric [,short(1-16)>] Command Does Not Work as Documented (6987482)

**Workaround:** Ignore the keyword short when it appears in the syntax of any command and execute the command without it. Using this CR's synopsis as an example, the command is issued as no default-metric 1.

## Using vlan 1 as Shown in Various Examples in the Documentation Generates Error Codes (6968484)

**Workaround:** Instead of using vlan 1 as shown in the product documentation, use any unused VLAN.

## When Multiple Configuration Scripts Are Run in Parallel, SEFOS Can Crash (6936742)

The current release of the SEFOS configuration and management application doesn't support multiple, concurrent updates to the configuration database.

**Workaround:** Multiple SEFOS login sessions are allowed to read the system status at any time, however, use only one of these sessions to configure and update the switch.

## The switch Command Line Option Is Unsupported

The `switch` option in various commands is not supported when you are connected to SEFOS. In the SEFOS documentation, disregard the `switch` option listed in any command and disregard any output examples that show multiple instances. Output examples that show a single instance are valid in SEFOS.

## vrrp\_v3: Role is incorrect for vlan with no preempt configuration after save/reboot (19547263)

**Workaround:** If no preempt is configured for a vlan in VRRP, the default advertisement timer should be changed to 8 seconds to avoid the incorrect role. This change must be done on both the Master and Backup routers only for the vlan where no preempt is configured.

This example shows `vlan 22`:

```
configure terminal
router vrrp
interface vlan 22
no vrrp 2 preempt
vrrp 2 timer 8
end
copy running-config startup-config
```

## SSL V3.0 POODLE DISABLE SSL V3 (19842635)

**Workaround:** Disable SSLv3 from ILOM under `/SP/service/https`.

```
-> cd /SP/services/https
/SP/services/https

-> set sslv3=disabled
Set 'sslv3' to 'disabled'
```



```
-> show
/SP/services/https
  Targets:
    ssl

  Properties:
    port = 443
    servicestate = enabled
    sslv2 = disabled
    sslv3 = disabled
    tlsv1 = enabled
    weak_ciphers = disabled

  Commands:
    cd
    set
    show
```

## Re-configure IP address after a "no ip address", previous config re-appears (18794861)

When multiple secondary addresses are configured on a VLAN interface, deleting them with a single "no ip address" command or by deleting them one at a time does not delete them internally. Later on if a new secondary address needs to be added, an error is thrown "% Maximum secondary addresses allowed on interface exceeded".

### Workaround:

1. Delete only one secondary address, and add the new address right after deleting.

or

2. Delete the L3 interface vlan and re-configure all ip addresses again. For example, if it is vlan 100, do the following to delete the vlan.

```
conf term
no int vlan 100
end
```

