# ExtremeXOS Release Notes

Software Version ExtremeXOS 12.4.1

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# Contents

# 1 Overview

These Release Notes document ExtremeXOS® 12.4.1, which enables new hardware products and software features.

This chapter contains the following sections:



## Features and Feature Enhancements in ExtremeXOS 12.4.1

This section lists the features and feature enhancements supported in ExtremeXOS 12.4.1 software:

- **Address Resolution Protocol (ARP) Payload Virtual MAC Learning by Bridge**—This feature provides the capability to learn MAC addresses that exist in the ARP payload.
- **Bidirectional Forwarding Detection (BFD)**—BFD allows you to register a discovered neighbor with the BFD process and get the status of that neighbor. It also provides rapid failure detections and informs of user of path convergence.
- **Border Gateway Protocol (BGP) 4-Byte Autonomous System (AS) Number**—This feature provides the ability to configure 4-byte AS numbers for BGP, as well as the ability to peer simultaneously with 2-byte and 4-byte peers. This feature also introduces optional, transitive attributes AS4_PATH and AS4_AGGREGATOR to propagate 4-byte AS path information across BGP speakers that do not support 4-byte AS numbers.
- **CLI Scripting Enhancements—**The CLI scripting enhancements allow you to:
  - Nest script loading up to three levels
  - Exit from a script with an error code
  - Configure a script abort timer (time-out)
  - Manually set an SNMP trap using a CLI command
  - Configure time delay  (TCL after function)
- **Connectivity Fault Management (CFM) Support on a Service VLAN (SVLAN)**—CFM support on a SVLAN allows you to configure SVLAN ports to act as a maintenance end points (MEPs) and maintenance intermediate points (MIPs).
- **CFM Support on VPLS Node**—This feature allows each VPLS node to be treated as a MIP in CFM. VPLS-based MIPs process and respond to link trace messages (LTMs) and loopback messages (LBM).
- **Digital Diagnostics Monitoring Interface (DDMI)**—DDMI is an optional feature designed for debugging optic modules. DDMI provides critical system information about Gigabit and 10 Gigabit

optical transceiver modules. Not all transceivers support DDMI capability. In ExtremeXOS 12.4.1, DDMI is supported only on XFPs.

- **Domain Name Service (DNS) Client Support for IPv6**—DNS client support for IPv6 provides ExtremeXOS applications the ability to convert hostnames to IP addresses by querying an external DNS server.
- **Equal Cost Multi-path (ECMP) Scaling**— This scaling feature increases the number of IPv4 longest prefix match (LPM) routes that can use equal cost multi-path (ECMP) by sharing common ECMP gateway "sets" in hardware. This feature is supported on the following platforms: BlackDiamond 8000 a- and e-series modules, BlackDiamond 8800 c-series modules, BlackDiamond 8900 modules, BlackDiamond 20800 modules, and Summit X250e, X450a, X450e, X480, and X650 switches.
- **Extreme Loop Recovery Protocol (ELRP) Port Shutdown**—ELRP port shutdown allows you to monitor individual VLANs for loops. In addition to log and trap notifications, this feature provides the option of disabling a port on loop detection.
- **Hitless Failover with Nettools**—Hitless failover with Nettool protects a switch from rebooting when the Nettools process fails, providing a moderate level of hitless failover.
- **Identity Management**—This feature allows you to track users or devices that access a network based on device name or user name (that is, user identity). User identity is captured based on network login authentication, Link Layer Discovery Protocol (LLDP) discovery, and Kerberos snooping. The user or device identity is mapped to its associated IP address, MAC address, computer hostname, domain name, VLAN, and switch port location of the users. This information can also be sent to EPICenter for centralized reporting.
- I**Pv6 Routes With Masks Greater Than 64 Bits**—BlackDiamond 8900 modules and Summit X650 and Summit X480 support hardware forwarding for these routes by using dedicated hardware. BlackDiamond 8000 a- and e-series modules, BlackDiamond 8800 c-series modules and Summit X250e, X450a, and X450e switches also support hardware forwarding for up to 256 routes with masks greater than 64 bits by sharing the hardware used for ACL support.
- **Medium-Specific Configuration CLI**—Medium-specific configurations on combo ports allows users to select the medium (fiber or copper) they want to configure. Configuration for each medium is stored separately and simultaneously. This feature is only supported on Summit platforms having combo ports.
- **MIB Support for Connectivity Fault Management (CFM)**—This feature provides read access for CFM MIB objects via SNMP.
- **Multicast Debug Tools**—The multicast trouble shooting tools mrinfo and mtrace are now included in the implementation of multicast manager. Mtrace is the multicast equivalent of unicast "trace route" mechanism and is an effective tool for debugging multicast reachability problems. The multicast router information tool, mrinfo, requests information from a router.
- **Multiprotocol Label Switching (MPLS) Support for Standalone Summit X480 Series Switches**—MPLS support is now available on standalone Summit X480 series switches.
- **MPLS Support for Running on a Virtual Router (VR) Other Than a Default VR**—MPLS runs on one VR at a time, but can now be deleted from the default VR and added to a user-created VR.
- **PIM-DM State Refresh**—This feature periodically refreshes the prune state for multicast groups. Without this feature, bandwidth is lost to periodic broadcast and prune cycles, that occur when the prune state times out.
- **Provider Backbone Bridge (PBB) Support on a BlackDiamond 20808 Switch**—A PBB network enables vMAN transport over the internet, and is defined by the IEEE 802.1ah Backbone Bridge standard, which is an amendment to the IEEE 802.1Q VLAN standard. This standard allows Internet Service Providers (ISPs) to use Ethernet to create a separate backbone over which the subscriber's frames are transported. The PBB network technology is sometimes referred to as MAC-in-MAC.

- **Simple Network Management Protocol (SNMP) Support for IPv6**—This feature adds the ability to manage an IPv6 agent from an IPv6 SNMP manager. The agent supports IPv6 for communication of SNMP management requests.
- **Simple Network Time Protocol (SNTP) Client Support for IPv6**—SNTP client support for IPv6 provides ExtremeXOS SNTP clients the ability to get the current time by querying an NTP server running over IPv6.
- **Spanning Tree Protocol (STP) Edge Safeguard Enhancements**—This feature allows STP edge safeguard to disable a port as soon as a bridge protocol data unit (BPDU) is received by allowing a new CLI keyword `bpdu-restrict`. It also provides a timer option to re-enable a disabled port.
- **vMAN Terminology Change**—The "vMAN" term is an Extreme Networks term that became familiar to Extreme Networks customers before the Portable Bridge Notation (PBN) standard was complete. The vMAN term is used in the ExtremeXOS software to support customers who are familiar with this term. The PBN term is also used to establish the relationship between this industry standard technology and the Extreme Networks vMAN feature.
- **vMAN Enhancements**—The feature enhancements allow you to configure tagged VLANs and untagged vMANs on the same physical port. It also allows you to configure tagged VLANs and tagged vMANs on the same physical port when the vMAN ethertype is not 0x8100.
- **VPLS MIB Support—**VPLS MIB support is now available for enabling SNMP to obtain information about Layer 2 (L2) VPNs. These MIBs identify the pseudo-wires that are part of an L2 VPN. The MIBs also enable the association of a pseudo-wire with its transport link state PDU (LSP). Extreme proprietary MIBs allow you to identify primary and secondary LSPs in an RSVP LSP group. Support has also been added for pseudo-wire up and down traps (SNMP notifications).
- **VPLS With STP Redundancy—**This feature provides a reliable method of directly connecting an STP-protected VLAN to a VPLS network. Redundant VPLS nodes work with STP to handle topology changes in a customer network, including informing other VPLS nodes when an FDB flush is required. There is also no longer a CLI restriction preventing configuring a VPLS service on an STP-protected VLAN.
- **Virtual Router Redundancy Protocol (VRRP) Preempt Delay Option**—VRRP preempt delay allows a user to configure a delay time before preempting a lower priority master. Preempt delay is configurable on a per VRRP instance. This option avoids black holing traffic when an active gateway (for example, a router with a higher priority) recovers and preempts the backup router before the active gateway is fully operational.

# New Hardware Supported in ExtremeXOS 12.4.1

The following modules are supported in ExtremeXOS 12.4.1:

- BlackDiamond 8900 xl-series
  - 8900-G48X-xl
  - 8900-G48T-xl
  - 8900-10G8X-xl
- BlackDiamond 20800 Series Switch
  - BlackDiamond 20804
  - XFM-2
- Summit X480
  - Summit X480-24x
  - Summit X480-48x

- Summit X480-48t
- VIM2-SummitStack
- VIM2-SummitStack128
- VIM2-10G4x

- Summit X650
  - VIM1-SummitStack256

# Supported Hardware

Refer to the Extreme Networks hardware installation guides for more information about supported hardware. The following tables list the software filenames for the hardware that requires software.

## BlackDiamond 8800 Series of Switches Component Support

BlackDiamond 8800 and BlackDiamond 8806 components supported with ExtremeXOS 12.4.1, and the minimum BootROM version required by the chassis to support each component, include:

**Table 1: BlackDiamond 8800 Series of Switches Component Support**

| BlackDiamond 8810 and BlackDiamond 8806 Components | ExtremeXOS Filenames | ExtremeXOS Required | BootROM Version |
|---|---|---|---|
| MSM-G8X | bd8800-12.4.1xos | 11.1.1.9 | 1.0.1.7 |
| MSM-48 | bd8800-12.4.1.xos | 11.6.1.9 | 1.0.1.11 |
| MSM-48c | bd8800-12.4.1.xos | 12.1.1.4 | 1.0.3.7 |
| 8500-MSM24 | bd8800-12.4.1.xos | 12.3.1 | 1.0.4.2 |
| 8500-G48T-e | N/A | 12.3.1 | 1.0.4.0 |
| 8500-G24X-e | N/A | 12.3.1 | 1.0.4.0 |
| 8900-MSM128 | bd8800-12.4.1.xos | 12.3.1 | 1.0.4.2 |
| 8900-10G24X-c | N/A | 12.3.1 | 1.0.1.0 |
| 8900-G96T-c | N/A | 12.3.2 | 1.0.1.0 |
| 8900-G48X-xl | N/A | 12.4.1 | 1.0.1.2 |
| 8900-G48T-xl | N/A | 12.4.1 | 1.0.1.2 |
| 8900-10G8X-xl | N/A | 12.4.1 | 1.0.1.2 |
| G48Te | N/A | 11.5.1.4 | 1.0.1.10 |
| G48Pe | N/A | 11.5.1.4 | 1.0.1.10 |
| G48Ta | N/A | 11.5.1.4 | 1.0.1.10 |
| G48Xa | N/A | 11.5.1.4 | 1.0.1.10 |
| G48P | N/A | 11.1.1.9 | 1.0.1.7 |
| G48T | N/A | 11.1.1.9 | 1.0.1.7 |
| G48Tc | N/A | 12.1.1.4 | 1.0.3.7 |
| G48Te2 | N/A | 12.1.1.4 | 1.0.3.7 |
| G48Xc | N/A | 12.1.1.4 | 1.0.3.7 |
| G24X | N/A | 11.1.1.9 | 1.0.1.7 |

**Table 1: BlackDiamond 8800 Series of Switches Component Support (Continued)**

| BlackDiamond 8810 and BlackDiamond 8806 Components | ExtremeXOS Filenames | ExtremeXOS Required | BootROM Version |
|---|---|---|---|
| G24Xc | N/A | 12.1.1.4 | 1.0.3.7 |
| S-G8Xc | N/A | 12.1.1.4 | 1.0.3.7 |
| 10G4X | N/A | 11.1.1.9 | 1.0.1.7 |
| 10G4Xa | N/A | 11.6.1.9 | 1.0.1.11 |
| 10G4Ca | N/A | 12.0.1.11 | 1.0.1.11 |
| 10G4Xc | N/A | 12.1.1.4 | 1.0.3.7 |
| 10G8Xc | N/A | 12.1.1.4 | 1.0.3.7 |
| S-10G1Xc | N/A | 12.1.1.4 | 1.0.3.7 |
| PSU Controller | N/A | 11.1.1.9 | 2.13 |
| 700/1200 W AC PSU (Model # 60020/PS 2336) | N/A | 11.1.1.9 | N/A |
| 600/900 W AC PSU (Model # 41050/PS 2431) (BlackDiamond 8806 only) | N/A | 11.6.1.9 | N/A |
| 1200 W DC PSU (Model # 60021/PS 2350) | N/A | 11.3.2.6 | N/A |

**NOTE**

*Upgrading the BootROM on a BlackDiamond 8810 or BlackDiamond 8806 switch is not automatic when you upgrade the software. You must be running the minimum required BootROM version or later. Use the install firmware command after upgrading the ExtremeXOS image to insure the BootROM is at the latest level.*

# BlackDiamond 10808 Switch Component Support

BlackDiamond 10808 components supported with ExtremeXOS 12.4.1, and the minimum ExtremeXOS version required by the chassis to support each component, include:

**Table 2: BlackDiamond 10808 Component Support**

| BlackDiamond Component | ExtremeXOS Filenames | ExtremeXOS Required | BootROM Version |
|---|---|---|---|
| MSM-1 | bd10k-12.4.1.xos | 10.1.0 | 1.0.1.5 |
| MSM-1XL | bd10k-12.4.1.xos | 10.1.0 | 1.0.1.5 |
| 10G2X | N/A | 11.1.1 | 1.3.0.0 |
| 10G2H | N/A | 11.2.0 | 1.3.0.0 |
| 10G6X | N/A | 10.1.0 | 1.3.0.0 |
| G20X | N/A | 11.1.1 | 1.3.0.0 |
| G60X | N/A | 10.1.0 | 1.3.0.0 |
| G60T | N/A | 10.1.0 | 1.3.0.0 |
| PSU Controller | N/A | 10.1.0 | N/A |
| 700/1200 W AC PSU (Model # 60020/PS 2336) | N/A | 10.1.0 | N/A |

**Table 2: BlackDiamond 10808 Component Support (Continued)**

| BlackDiamond Component | ExtremeXOS Filenames | ExtremeXOS Required | BootROM Version |
|---|---|---|---|
| 1200 W DC PSU (Model # 60021/PS 2350) | N/A | 11.3.2.6 | N/A |

Following are the part numbers for the BlackDiamond 10808 modules with the Rev. D ASIC:

**Table 3: BlackDiamond 10808 I/O Modules with Part Numbers**

| I/O Module | 8000 Level Part No. | 9000 Level Part No. | Description | ExtremeXOS Required |
|---|---|---|---|---|
| G60T | 804403-00, after Rev. 16 | 904015-00 | BlackDiamond 10808 60-port 10/100/1000BASE-T RJ-45 Module | 11.2.1.3 |
| | 804408-00, after Rev. 03 | 904015-10 | BlackDiamond 10808 60-port 10/100/1000BASE-T RJ-45 Module | 11.2.1.3 |
| G60X | 804402-00, after Rev. 16 | 904009-00/11 | BlackDiamond 10808 60-port 1000BASE-X SFP (mini-GBIC) Module | 11.2.1.3 |
| | 804404-00, after Rev. 03 | 904009-10 | BlackDiamond 10808 60-port 1000BASE-X SFP (mini-GBIC) Module | 11.2.1.3 |
| G20X | 804407-00, after Rev. 03 | 904020-10 | BlackDiamond 10808 20-port 1000BASE-X SFP (mini-GBIC) Module | 11.2.1.3 |
| | 804470-00, after Rev. 08 | 904020-00/11 | BlackDiamond 10808 20-port 1000BASE-X SFP (mini-GBIC) Module | 11.2.1.3 |
| 10G2X | 804410-00, after Rev. 03 | 904032-10 | BlackDiamond 10808 2-port 10GBASE-X XENPAK Module | 11.2.1.3 |
| | 804471-00, after Rev. 11 | 904032-00/11 | BlackDiamond 10808 2-port 10GBASE-X XENPAK Module | 11.2.1.3 |
| 10G2H | 804406-00, after Rev. 09 | 904027-00/11 | BlackDiamond 10808 Hybrid Module (2-port 10GBASE-X XENPAK, 20-port 1000BASE-X SFP, 20-port 10/100/1000BASE-T RJ-45) | 11.2.1.3 |
| | 804411-00, after Rev. 03 | 904027-10 | BlackDiamond 10808 Hybrid Module (2-port 10GBASE-X XENPAK, 20-port 1000BASE-X SFP, 20-port 10/100/1000BASE-T RJ-45) | 11.2.1.3 |
| 10G6X | 804405-00, after Rev. 18 | 904016-00/11 | BlackDiamond 10808 6-port 10GBASE-X XENPAK Module | 11.2.1.3 |
| | 804409-00, after Rev. 03 | 904016-10 | BlackDiamond 10808 6-port 10GBASE-X XENPAK Module | 11.2.1.3 |

# BlackDiamond 12800 Series Switches Component Support

BlackDiamond 12802, BlackDiamond 12804, BlackDiamond 12802 R-Series, and BlackDiamond 12804 R-Series components supported with ExtremeXOS 12.4.1, and the minimum BootROM version required by the chassis to support each component, include:

**Table 4: BlackDiamond 12800 Series Switches Component Support**

| BlackDiamond 12802/12804 Components | ExtremeXOS Filenames | ExtremeXOS Required | BootROM Version |
|---|---|---|---|
| MSM-5R (BlackDiamond 12804) | bd12k-12.4.1.xos | 11.4.1.4 | 1.0.0.2 |
| MSM-5 (BlackDiamond 12804) | bd12k-12.4.1.xos | 11.4.1.4 | 1.0.0.2 |

**Table 4: BlackDiamond 12800 Series Switches Component Support (Continued)**

| BlackDiamond 12802/12804 Components | ExtremeXOS Filenames | ExtremeXOS Required | BootROM Version |
|---|---|---|---|
| MSM-5 (BlackDiamond 12802) | bd12k-12.4.1.xos | 12.0.1.11 | 1.0.0.2 |
| MSM-6R | bd12k-12.4.1.xos | 12.0.2.25 | 1.0.1.8 |
| MSM-5R (BlackDiamond 12802) | bd12K-12.4.1.xos | 12.0.1.11 | 1.0.0.2 |
| XM-2X | N/A | 12.2.2 | N/A |
| XM-2XR | N/A | 11.4.1.4 | N/A |
| XM-2HR | N/A | 12.1.1.4 | N/A |
| GM-20XTR | N/A | 11.4.1.4 | N/A |
| GM-20XT | N/A | 11.4.1.4 | N/A |
| GM-20T | N/A | 11.4.1.4 | N/A |
| PSU Controller | N/A | 11.4.1.4 | 2.13 |
| 700/1200 W AC PSU (Model # 60020/PS 2336) | N/A | 11.4.1.4 | N/A |
| 1200 W DC PSU (Model # 60021/PS 2350) | N/A | 11.4.1.4 | N/A |

# BlackDiamond 20800 Series Switch Component Support

BlackDiamond 20800 series switch components supported with ExtremeXOS 12.4.1, and the minimum BootROM version required by the chassis to support each component, include:

**Table 5: BlackDiamond 20800 Series Switch Component Support**

| BlackDiamond 20800 Components | ExtremeXOS Filenames | ExtremeXOS Required | Firmware Version |
|---|---|---|---|
| GM-40X | N/A | 12.4.1 | |
| uC | | | 2.6 |
| FPGA:A | | | 0.1.6 |
| FPGA: P | | | 0.0.6 |
| FPGA: T1 | | | 0.0.11 |
| FPGA: W1 & W2 | | | 0.0.d |
| BootROM | | | 0.0.3.5 |
| XM-8X | N/A | 12.4.1 | |
| uC | | | 2.6 |
| FPGA:A | | | 0.1.6 |
| FPGA: P | | | 0.0.6 |
| FPGA: D1 and D2 (manual upgrade) | | | 0.0.b |
| FPGA: T1 & T2 | | | 0.0.11 |
| FPGA: WH | | | 0.0.9 |
| BootROM | | | 0.0.3.5 |
| XFM-1 (shown as Fabric-1 through Fabric-5) (BlackDiamond 20808) | N/A | 12.4.1 | |
| uC | | | 2.6 |
| XFM-2 (shown as Fabric-1 through Fabric-5) (BlackDiamond 20804) | N/A | 12.4.1 | |
| uC | | | 2.5 |

**Table 5: BlackDiamond 20800 Series Switch Component Support (Continued)**

| BlackDiamond 20800 Components | ExtremeXOS Filenames | ExtremeXOS Required | Firmware Version |
|---|---|---|---|
| MM Basic | bd20k-12.4.1.xos | 12.4.1 | |
| uC | | | 2.6 |
| FPGA: S | | | 0.3.E |
| BootROM | | | 0.2.1 |
| PSUCTRL | | | 2.7 |
| Fan Tray (BlackDiamond 20808) | N/A | 12.4.1 | |
| uC (shown as "Revision") | | | 2.6 |
| Fan Tray (BlackDiamond 20804) | N/A | 12.4.1 | |
| uC (shown as "Revision") | | | 2.6 |

**NOTE**

*Use the* `show version detail` *command to see the firmware version. Use the* `show fans` *command to see the fan tray version and to ensure that all fans are operational before running the* `install firmware` *command. Use the* `show slots` *command to see which slots are operational.*

## Summit X150 and X350 Component Support

Summit X150 and X350 series components supported with ExtremeXOS 12.4.1, and the minimum BootROM version required by the switch to support each component, include:

**Table 6: Summit X150 and X350 Component Support**

| Summit X150 and X350 Components | ExtremeXOS Filenames | Minimum ExtremeXOS Required | Minimum BootROM Version |
|---|---|---|---|
| Summit X150-24t | summitX-12.4.1.xos | 12.0.2.25 | 1.0.3.1 |
| Summit X150-48t | summitX-12.4.1.xos | 12.0.2.25 | 1.0.3.1 |
| Summit X150-24p | summitX-12.4.1.xos | 12.0.2.25 | 1.0.3.1 |
| Summit X350-24t | summitX-12.4.1.xos | 12.0.3.16 | 1.0.3.1 |
| Summit X350-48t | summitX-12.4.1.xos | 12.0.3.16 | 1.0.3.1 |
| XGM2-2sf (Summit X350 only) | summitX-12.4.1.xos | 12.2.1 | N/A |
| XGM2-2bt (Summit X350 only) | summitX-12.4.1.xos | 12.2.1 | N/A |

## Summit X250e Component Support

Summit X250e components supported with ExtremeXOS 12.4.1, and the minimum BootROM version required by the switch to support each component, include:

**Table 7: Summit X250e Component Support**

| Summit X250 Components | ExtremeXOS Filenames | Minimum ExtremeXOS Required | Minimum BootROM Version |
|---|---|---|---|
| Summit X250e-24p | summitX-12.4.1.xos | 12.0.1.11 | 1.0.3.0 |

| Summit X250 Components | ExtremeXOS Filenames | Minimum ExtremeXOS Required | Minimum BootROM Version |
|---|---|---|---|
| Summit X250e-48p | summitX-12.4.1.xos | 12.0.1.11 | 1.0.3.0 |
| Summit X250e-24t | summitX-12.4.1.xos | 12.0.1.11 | 1.0.3.0 |
| Summit X250e-48t | summitX-12.4.1.xos | 12.0.1.11 | 1.0.3.0 |
| Summit X250e-24x | summitX-12.4.1.xos | 12.0.2.25 | 1.0.3.1 |
| Summit X250e-24tDC | summitX-12.4.1.xos | 12.0.3.16 | 1.0.3.1 |
| Summit X250e-24xDC | summitX-12.4.1.xos | 12.0.3.16 | 1.0.3.1 |
| Summit X250e-48tDC | summitX-12.4.1.xos | 12.0.3.16 | 1.0.3.1 |

## Summit X450 Component Support

Summit X450 components supported with ExtremeXOS 12.4.1, and the minimum BootROM version required by the switch to support each component, include:

**Table 8: Summit X450 Component Support**

| Summit X450 Components | ExtremeXOS Filenames | Minimum ExtremeXOS Required | Minimum BootROM Version |
|---|---|---|---|
| **Summit X450a Series** | | | |
| Summit X450a-48t | summitX-12.4.1.xos | 11.5.1.4 | 1.0.2.2 |
| Summit X450a-48tDC | summitX-12.4.1.xos | 11.6.1.9 | 1.0.2.2 |
| Summit X450a-24t | summitX-12.4.1.xos | 11.5.1.4 | 1.0.2.2 |
| Summit X450a-24tDC | summitX-12.4.1.xos | 11.5.1.4 | 1.0.2.2 |
| Summit X450a-24xDC | summitX-12.4.1.xos | 11.6.1.9 | 1.0.2.2 |
| Summit X450a-24x | summitX-12.4.1.xos | 11.6.1.9 | 1.0.2.2 |
| **Summit X450e Series** | | | |
| Summit X450e-24p | summitX-12.4.1.xos | 11.5.1.4 | 1.0.2.2 |
| Summit X450e-48p | summitX-12.4.1.xos | 11.6.1.9 | 1.0.2.2 |
| **Summit X450 Series** | | | |
| Summit X450-24x | summitX-12.4.1.xos | 11.2.2.4 | 1.0.0.9 |
| Summit X450-24t | summitX-12.4.1.xos | 11.2.2.4 | 1.0.0.9 |
| **Option Cards** | | | |
| XGM-2xn | summitX-12.4.1.xos | N/A | N/A |
| XGM2-2xn (Summit X450a and X450e series only) | summitX-12.4.1.xos | 11.5.1.4 | |
| XGM2-2xf (Summit X450a and X450e series only) | summitX-12.4.1.xos | 11.5.1.4 | |
| XGM2-2sf (Summit X450a and X450e series only) | summitX-12.4.1.xos | 12.2.1 | |
| XGM2-2bt (Summit X450a and X450e series only) | summitX-12.4.1.xos | 12.2.1 | |

# Summit X480 Component Support

Summit X480 components supported with ExtremeXOS 12.4.1, and the minimum BootROM version required by the chassis to support each component, include:

**Table 9: Summit X480 Component Support**

| Summit X480 Components | ExtremeXOS Filenames | Minimum ExtremeXOS Required | Minimum BootROM Version |
|---|---|---|---|
| Summit X480-24x | summitX-12.4.1.xos | 12.4.1 | 2.0.0.9 |
| Summit X480-48x | summitX-12.4.1.xos | 12.4.1 | 2.0.0.9 |
| Summit X480-48t | summitX-12.4.1.xos | 12.4.1 | 2.0.0.9 |
| VIM2-SummitStack | summitX-12.4.1.xos | 12.4.1 | N/A |
| VIM2-SummitStack128 | summitX-12.4.1.xos | 12.4.1 | N/A |
| VIM2-10G4X | summitX-12.4.1.xos | 12.4.1 | N/A |

# Summit X650 Component Support

Summit X650 components supported with ExtremeXOS 12.4.1, and the minimum BootROM version required by the chassis to support each component, include:

**Table 10: Summit X650 Component Support**

| Summit X650 Components | ExtremeXOS Filenames | Minimum ExtremeXOS Required | Minimum BootROM Version |
|---|---|---|---|
| Summit X650-24x | summitX-12.4.1.xos | 12.2.1 | 1.0.5.5 |
| Summit X650-24t | summitX-12.4.1.xos | 12.2.2 | 1.0.5.5 |
| VIM1-SummitStack | summitX-12.4.1.xos | 12.2.1 | N/A |
| VIM1-10G8X | summitX-12.4.1.xos | 12.2.2 | N/A |
| VIM1-SummitStack256 | summitX-12.4.1.xos | 12.4.1 | N/A |
| VIM1-SummitStack512 | summitX-12.4.1.xos | 12.3.3 | N/A |

**NOTE**

*Upgrading the BootROM on Summit family switches is not automatic when you upgrade the software.You must be running the minimum required BootROM version. Use the* `download bootrom` *command to download a BootROM image.*

# SFP (Mini-GBIC) Support

SFPs supported on the BlackDiamond 8810 and BlackDiamond 8806 switches with ExtremeXOS 12.4.1, and the minimum ExtremeXOS version required, include:

**Table 11: BlackDiamond 8800 Series of Switches SFP Support**

| SFP | ExtremeXOS Required |
|---|---|
| 1000BASE-T SFP | 11.1.1.9 |
| SX SFP | 11.1.1.9 |
| LX SFP | 11.1.1.9 |
| ZX SFP | 11.1.1.9 |
| 100FX/1000LX SFP | 11.3.1.3 |
| 100FX SFP | 11.4.3.4 or 11.5.2.10 (not supported in 11.5.1.4) |
| 1000BX SFP | 11.4.1.4 |
| LX100 SFP | 12.0.1.11 |
| 10/100/1000BASE-T Copper SFP | 12.0.2.25 |

**Table 12: BlackDiamond 8800 Series of Switches SFP+ Support**

| SFP | ExtremeXOS Required |
|---|---|
| ER SFP+ | 12.3.3 |
| SR SFP+ | 12.3.1 |
| LR SFP+ | 12.3.1 |
| SFP+ twin coax cable | 12.3.1 |

SFPs supported on the BlackDiamond 10808 switch with ExtremeXOS 12.4.1, and the minimum ExtremeXOS version required, include

**Table 13: BlackDiamond 10808 Switch SFP Support**

| SFP | ExtremeXOS Required |
|---|---|
| LX100 SFP | 12.0.1.11 |
| SX SFP | 10.1.0 |
| LX SFP | 10.1.0 |
| ZX SFP | 10.1.0 |
| 1000BASE-T SFP | 11.1.1.9 |
| 1000BX SFP | 11.6.1.9 |

SFPs supported on the BlackDiamond 12804 switch with ExtremeXOS 12.4.1, and the minimum ExtremeXOS version required, include:

**Table 14: BlackDiamond 12804 Switch SFP Support**

| SFP | ExtremeXOS Required |
|---|---|
| SX SFP | 11.4.1.4 |
| LX SFP | 11.4.1.4 |
| ZX SFP | 11.4.1.4 |
| 1000BASE-T SFP | 11.4.1.4 |
| 1000BX SFP | 11.6.1.9 |
| LX100 SFP | 12.0.1.11 |
| 100FX/1000LX SFP | 11.6.1.9 |

SFPs supported on the BlackDiamond 12802 switch with ExtremeXOS 12.4.1, and the minimum ExtremeXOS version required, include:

**Table 15: BlackDiamond 12802 Switch SFP Support**

| SFP | ExtremeXOS Required |
|---|---|
| SX SFP | 12.0.1.11 |
| LX SFP | 12.0.1.11 |
| ZX SFP | 12.0.1.11 |
| 1000BASE-T SFP | 12.0.1.11 |
| 1000BX SFP | 12.0.1.11 |
| LX100 SFP | 12.0.1.11 |
| 100FX/1000LX SFP | 12.0.1.11 |

SFPs supported on the BlackDiamond 20800 switch with ExtremeXOS 12.4.1, and the minimum ExtremeXOS version required, include:

**Table 16: BlackDiamond 20800 Switch SFP Support**

| SFP | ExtremeXOS Required |
|---|---|
| SX SFP | 12.2 |
| LX SFP | 12.2 |
| ZX SFP | 12.2 |
| LX100 | 12.2 |
| BXU | 12.2 |
| BXD | 12.2 |

SFPs supported on the Summit X150 series switches with ExtremeXOS 12.4.1, and the minimum ExtremeXOS version required, include:

**Table 17: Summit X150 Series Switches SFP Support**

| SFP | ExtremeXOS Required |
|---|---|
| 100BASE-FX (P/N 10067) | 12.0.2.25 |
| 100BASE-BX SFP | 12.0.2.25 |
| 100BASE LX10 SFP | 12.0.2.25 |
| SX SFP | 12.0.2.25 |
| LX SFP | 12.0.2.25 |
| ZX SFP | 12.0.2.25 |
| LX100 SFP | 12.0.2.25 |
| 1000BX SFP | 12.0.2.25 |

SFPs supported on the Summit X250e switch with ExtremeXOS 12.4.1, and the minimum ExtremeXOS version required, include:

**Table 18: Summit X250e SFP Support**

| SFP | ExtremeXOS Required |
|---|---|
| SX SFP, ports 25 and 26 | 12.0.2.25 |
| LX SFP, ports 25 and 26 | 12.0.2.25 |
| ZX SFP, ports 25 and 26 | 12.0.2.25 |
| LX100 SFP, ports 25 and 26 | 12.0.2.25 |
| 1000BX SFP, ports 25 and 26 | 12.0.2.25 |
| 100BASE FX SFP (P/N 10067), ports 1 through 26 | 12.0.2.25 |
| 100BASE BX SFP, ports 1 through 26 | 12.0.2.25 |
| 100BASE LX10 SFP, ports 1 through 26 | 12.0.2.25 |

SFPs supported on the Summit X350 series switches with ExtremeXOS 12.4.1, and the minimum ExtremeXOS version required, include:

**NOTE**

*The XGM2-2sf ports are 10Gb SFP+ ports and do not support 1Gb optics (PD4-739782255).*

**Table 19: Summit X350 Series Switches SFP/SFP+ (XGM2-2sf Option Card Required) Support**

| SFP | ExtremeXOS Required |
|---|---|
| SX SFP | 12.0.3.16 |
| LX SFP | 12.0.3.16 |
| ZX SFP | 12.0.3.16 |
| LX100 SFP | 12.0.3.16 |
| 1000BX SFP | 12.0.3.16 |
| ER SFP+ | 12.3.3 |
| SR SFP+ | 12.2.1 |
| LR SFP+ | 12.2.1 |
| SFP+ twin coax cables | 12.2.1 |

SFPs supported on the Summit X450 switch with ExtremeXOS 12.4.1, and the minimum ExtremeXOS version required, include:

**Table 20: Summit X450 Switch SFP Support**

| SFP | ExtremeXOS Required |
|---|---|
| 10/100/1000BASE-T Copper SFP<br>**Note**: Not supported on combo ports. | 12.0.2.25 |
| SX SFP | 11.2.2.4 |
| LX SFP | 11.2.2.4 |
| ZX SFP | 11.2.2.4 |
| 1000BASE-T SFP | 11.2.2.4 |

**Table 20: Summit X450 Switch SFP Support (Continued)**

| SFP | ExtremeXOS Required |
|---|---|
| 100FX SFP (P/N 10063)<br>**Note**: Not supported on combo ports. | 11.4.3.4 or 11.5.2.10 (not supported in 11.5.1.4) |
| 100FX/1000LX SFP<br>**Note**: Not supported on combo ports. | 11.3.1.3 |
| LX100 SFP | 12.0.1.11 |
| 1000BX SFP | 11.6.1.9 |

SFPs supported on the Summit X450a switch with ExtremeXOS 12.4.1, and the minimum ExtremeXOS version required, include:

**NOTE**

*The XGM2-2sf ports are 10Gb SFP+ ports and do not support 1Gb optics (PD4-739782255).*

**Table 21: Summit X450a Switch SFP/SFP+ (XGM2-2sf Option Card Required) Support**

| SFP | ExtremeXOS Required |
|---|---|
| 10/100/1000BASE-T Copper SFP<br>**Note**: Not supported on combo ports. | 12.0.2.25 |
| SX SFP | 11.2.2.4 |
| LX SFP | 11.2.2.4 |
| ZX SFP | 11.2.2.4 |
| ER SFP+ | 12.3.3 |
| SR SFP+ | 12.2.1 |
| LR SFP+ | 12.2.1 |
| SFP+ twin coax cables | 12.2.1 |
| 100FX SFP (P/N 10063)<br>**Note**: Not supported on combo ports. | 11.6.1.9 |
| 100FX/1000LX SFP<br>• Summit X450a-24x, ports 1 through 20<br>**Note**: Not supported on combo ports. | 11.6.1.9 |
| LX100 SFP | 12.0.1.11 |
| 1000BX SFP | 11.6.1.9 |

SFPs supported on the Summit X450e switch with ExtremeXOS 12.4.1, and the minimum ExtremeXOS version required, include:

**NOTE**

*The XGM2-2sf ports are 10Gb SFP+ ports and do not support 1Gb optics (PD4-739782255).*

**Table 22: Summit X450e Switch SFP/SFP+ (XGM2-2sf Option Card Required) Support**

| SFP | ExtremeXOS Required |
|---|---|
| SX SFP | 11.6.1.9 |
| LX SFP | 11.6.1.9 |
| ZX SFP | 11.6.1.9 |
| LX100 SFP | 12.0.1.11 |
| 1000BX SFP | 11.6.1.9 |
| ER SFP+ | 12.3.3 |
| SR SFP+ | 12.2.1 |
| LR SFP+ | 12.2.1 |
| SFP+ twin coax cables | 12.2.1 |

SFPs supported on the Summit X480 switch with ExtremeXOS 12.4.1, and the minimum ExtremeXOS version required, include:

**Table 23: Summit X480 SFP Support**

| SFP | ExtremeXOS Required |
|---|---|
| SX mini-GBIC | 12.4.1 |
| LX mini-GBIC | 12.4.1 |
| ZX mini-GBIC | 12.4.1 |
| 1000BASE-BX mini-GBIC BX-D | 12.4.1 |
| 1000BASE-BX mini-GBIC BX-U | 12.4.1 |
| 100BASE-BX mini-GBIC BX-D | 12.4.1 |
| 100BASE-BX mini-GBIC BX-U | 12.4.1 |
| 100BASE LX10 mini-GBIC | 12.4.1 |
| 100BASE FX mini-GBIC module | 12.4.1 |
| LX100 mini-GBIC module | 12.4.1 |
| 100 FX/1000LX mini-GBIC, not supported on combo ports | 12.4.1 |
| 100FX mini-GBIC module, not supported on combo ports | 12.4.1 |
| 10/100/1000Base-T mini-GBIC, not supported on combo ports | 12.4.1 |

SFPs supported on the Summit X650 series switches with ExtremeXOS 12.4.1, and the minimum ExtremeXOS version required, include:

**Table 24: Summit X650 Series Switches SFP/SFP+ Support**

| SFP | ExtremeXOS Required |
|---|---|
| SR SFP+, ports 1 through 24, and ports 25 through 32 (for the VIM1-10G8X) | 12.2.2 |

**Table 24: Summit X650 Series Switches SFP/SFP+ Support**

| SFP | ExtremeXOS Required |
|---|---|
| LR SFP+, ports 1-24 and 25-32 for VIM1-10G8X | 12.2.2 |
| SFP+ twin coax cable - 1-24 and 25-32 for VIM1-10G8X | 12.2.2 |
| 10/100/1000BASE-T SFP+ Copper—1000 speed support only<br>**Note:** Not supported on port 23 and 24 | 12.3.3 |
| ER SFP+ | 12.3.3 |
| 1000BX SFP, not supported on ports 23, 24 | 12.2.1 |
| 1000SX SFP, not supported on ports 23, 24 | 12.2.1 |
| 1000LX SFP, not supported on ports 23, 24 | 12.2.1 |
| 1000 BASE-T SFP, not supported on ports 23, 24 | 12.3.1 |
| LX100 SFP, not supported on ports 23, 24 | 12.2.1 |
| ZX SFP, not supported on ports 23, 24 | 12.2.1 |

# XENPAK Module Support

XENPAK modules supported on the BlackDiamond 8800 series of switches with ExtremeXOS 12.4.1, and the minimum ExtremeXOS version required, include:

**Table 25: BlackDiamond 8800 Series of Switches XENPAK Support**

| XENPAK Module | ExtremeXOS Required |
|---|---|
| LR | 11.1.1.9 |
| ER | 11.1.1.9 |
| SR | 11.1.1.9 |
| LX4 | 11.3.1.3 |
| ZR | 11.3.1.3 |
| CX4 | 12.0.1.11 |

XENPAK modules supported on the BlackDiamond 10808 switch with ExtremeXOS 12.4.1, and the minimum ExtremeXOS version required, include:

**Table 26: BlackDiamond 10808 Switch XENPAK Support**

| XENPAK Module | ExtremeXOS Required |
|---|---|
| LR | 11.1.1.9 |
| ER | 11.1.1.9 |
| SR | 11.1.1.9 |
| LX4 | 11.3.1.3 |
| ZR | 11.3.1.3 |
| LW | 11.4.1.4 |

XENPAK modules supported on the BlackDiamond 12804 switch with ExtremeXOS 12.4.1, and the minimum ExtremeXOS version required, include:

**Table 27: BlackDiamond 12804 Switch XENPAK Support**

| XENPAK Module | ExtremeXOS Required |
|---|---|
| LR | 11.4.1.4 |
| ER | 11.4.1.4 |
| SR | 11.4.1.4 |
| LX4 | 11.4.1.4 |
| ZR | 11.4.1.4 |
| LW | 11.4.1.4 |

XENPAK modules supported on the BlackDiamond 12802 switch with ExtremeXOS 12.4.1, and the minimum ExtremeXOS version required, include

**Table 28: BlackDiamond 12802 Switch XENPAK Support**

| XENPAK Module | ExtremeXOS Required |
|---|---|
| LR | 12.0.1.11 |
| ER | 12.0.1.11 |
| SR | 12.0.1.11 |
| LX4 | 12.0.1.11 |
| ZR | 12.0.1.11 |
| LW | 12.0.1.11 |

XENPAK modules supported on the Summit X450 switch with ExtremeXOS 12.4.1, and the minimum ExtremeXOS version required, include:

**Table 29: Summit X450 Switch XENPAK Support**

| XENPAK Module | ExtremeXOS Required |
|---|---|
| SR | 11.3.1.3 |
| LR | 11.3.1.3 |
| ER | 11.3.1.3 |
| LX4 | 11.3.1.3 |
| ZR | 11.3.1.3 |

XENPAK modules supported on the Summit X450a switch with ExtremeXOS 12.4.1, and the minimum ExtremeXOS version required, include:

**Table 30: Summit X450a Switch XENPAK Support**

| XENPAK Module | ExtremeXOS Required |
|---|---|
| SR | 11.6.1.9 |
| LR | 11.6.1.9 |
| ER | 11.6.1.9 |
| LX4 | 11.6.1.9 |

**Table 30: Summit X450a Switch XENPAK Support**

| XENPAK Module | ExtremeXOS Required |
|---|---|
| ZR | 11.6.1.9 |
| LW | 11.6.1.9 |
| CX4 | 12.0.1.11 |

XENPAK modules supported on the Summit X450e switch with ExtremeXOS 12.4.1, and the minimum ExtremeXOS version required, include:

**Table 31: Summit X450e Switch XENPAK Support**

| XENPAK Module | ExtremeXOS Required |
|---|---|
| SR | 11.5.1.4 |
| LR | 11.5.1.4 |
| ER | 11.5.1.4 |
| LX4 | 11.5.1.4 |
| ZR | 11.5.1.4 |
| CX4 | 12.0.1.11 |

XENPAK modules supported on the Summit X350 switch with ExtremeXOS 12.4.1, and the minimum ExtremeXOS version required, include:

**Table 32: Summit X350 Switch XENPAK Support**

| XENPAK Module | ExtremeXOS Required |
|---|---|
| SR | 12.0.3.16 |
| LR | 12.0.3.16 |
| ER | 12.0.3.16 |
| LX4 | 12.0.3.16 |
| ZR | 12.0.3.16 |

XENPAKs not supplied by Extreme Networks will show up as "Unsupported Optic Module" in the `show port x:y` information detail and `show port x:y configuration` command output.

# XFP Module Support

XFP modules supported on the BlackDiamond 8800 series of switches with ExtremeXOS 12.4.1, the minimum ExtremeXOS version required include:

**Table 33: BlackDiamond 8800 Series of Switches XFP Support**

| XFP Module | ExtremeXOS Required |
|---|---|
| SR | 11.6.1.9 |
| LR | 11.6.1.9 |
| ER | 12.0.2.25 |
| DWDM | 12.1.2.17 |
| ZR | 12.1.2.17 |

XFP modules supported on the BlackDiamond 20800 switch with ExtremeXOS 12.4.1, the minimum ExtremeXOS version required include:

**Table 34: BlackDiamond 20800 Switch XFP Support**

| XFP Module | ExtremeXOS Required |
|---|---|
| SR | 12.2 |
| LR | 12.2 |
| ER | 12.2 |
| ZR | 12.2 |

XFP modules supported on the Summit X480 series switch with ExtremeXOS 12.4.1, the minimum ExtremeXOS version required, and the manufacturers supported include:

**Table 35: Summit X480 Series Switch XFP Support**

| XFP Module | ExtremeXOS Required |
|---|---|
| SR | 12.4.1 |
| LR | 12.4.1 |
| ER | 12.4.1 |
| ZR | 12.4.1 |
| DWDM | 12.4.1 |

XFP modules supported on the Summit X450a and X450e series switch with ExtremeXOS 12.4.1, the minimum ExtremeXOS version required, and the manufacturers supported include:

**Table 36: Summit X450a and X450e Series Switch XFP Support**

| XFP Module | ExtremeXOS Required |
|---|---|
| SR | 11.5.1.4 |
| LR | 11.5.1.4 |
| ER | 12.0.2.25 |
| DWDM | 12.1.2.17 |
| ZR | 12.1.2.17 |

XFP modules supported on the Summit X350 switch with ExtremeXOS 12.4.1, the minimum ExtremeXOS version required, and the manufacturers supported include:

**Table 37: Summit X350 Switch XFP Support**

| XFP Module | ExtremeXOS Required |
|---|---|
| SR | 12.0.3.16 |
| LR | 12.0.3.16 |
| ER | 12.0.3.16 |
| DWDM | 12.1.2.17 |
| ZR | 12.1.2.17 |

# Upgrading to ExtremeXOS

See "Software Upgrade and Boot Options" in the *ExtremeXOS 12.4 Concepts Guide* for instructions on upgrading ExtremeXOS software.

**NOTE**

*For the BlackDiamond 8800 series of switches, a hitless upgrade to ExtremeXOS 12.4.1 from an earlier release is not supported and should not be attempted. Use the normal software upgrade process for these switches.*

**NOTE**

*Hitless upgrade from ExtremeXOS 12.0 and earlier to ExtremeXOS 12.1 and later is not supported on the BlackDiamond 12800 switch.*

# ExtremeXOS Command Line Support

The following is true for all Summit X150 and X350 series switches:

- Summit X150 and X350 series switches do not support L3 functionality; this platform does not support CLI commands for L3 functionality.
- Summit X150 and X350 series switches do not support stacking; all CLI commands for stacking are not supported on this platform.
- Summit X150 and X350 series switches do not support IP forwarding; however, CLI commands that configure IP addresses function in order to access the management functionality of the switch are supported.
- Upgrade or trial licensing is not available on the Summit X150 and X350 series switches.

# Tested Third-Party Products

This section lists the third-party products tested for ExtremeXOS 12.4.1.

## Tested RADIUS Servers

The following RADIUS servers are fully tested:

- Microsoft—Internet Authentication Server
- Funk Software—Steel-Belted RADIUS Enterprise Edition 4.5
- Meetinghouse
- FreeRADIUS

## Tested Third-Party Clients

The following third-party clients are fully tested:

- Funk Odyssey 2.2
- MeetingHouse Data AEGIS 2.0.5
- Odyssey 3.03.0.1194

## PoE Capable VoIP Phones

The following PoE capable VoIP phones are fully tested:

- Avaya 4620
- Avaya 4620SW IP telephone
- Avaya 9620
- Avaya 4602
- Avaya 9630
- Avaya 4621SW
- Avaya 4610
- Avaya 1616
- Avaya one-X
- Cisco 7970
- Cisco 7910
- Cisco 7960
- ShoreTel ShorePhone IP 212k
- ShoreTel ShorePhone IP 560
- ShoreTel ShorePhone IP 560g
- ShoreTel ShorePhone IP 8000
- ShoreTel ShorePhone IP BB 24
- Siemens OptiPoint 410 standard–2
- Siemens OpenStage 20
- Siemens OpenStage 40
- Siemens OpenStage 60
- Siemens OpenStage 80

# Extreme Switch Security Assessment

## DoS Attack Assessment

Tools used to assess DoS attack vulnerability:

- Network Mapper (NMAP)

## ICMP Attack Assessment

Tools used to assess ICMP attack vulnerability:

- SSPing
- Twinge
- Nuke
- WinFreeze

## Port Scan Assessment

Tools used to assess port scan assessment:

- Nessus

# 2 Limits

This chapter summarizes the supported limits in ExtremeXOS 12.4.1.

## Supported Limits

Table 38 summarizes tested metrics for a variety of features, as measured in a per-system basis unless otherwise noted. These limits may change but represent the current status. The contents of this table supersede any values mentioned in the *ExtremeXOS Concepts Guide*.

**NOTE**

*The term "BlackDiamond 8000 e-series" refers to all BlackDiamond 8500 e-series and 8800 e-series modules.*

**NOTE**

*The term "BlackDiamond 8000 series" refers to all BlackDiamond 8500, 8800, and 8900 series modules.*

**NOTE**

*The scaling and performance information shown in Table 38 is provided for the purpose of assisting with network design. It is recommended that network architects and administrators design and manage networks with an appropriate level of network scaling "head room." The scaling and performance figures provided have been verified using specific network topologies using limited switch configurations. There is no guarantee that the scaling and performance figures shown are applicable to all network topologies and switch configurations and are provided as a realistic estimation only. If you experience scaling and performance characteristics that you feel are sufficiently below what has been documented, contact Extreme Networks technical support for additional assistance.*

**NOTE**

*The route limits shown in Table 38 for IPv4 and IPv6 routing protocols are software limits only. The actual hardware limits may be lower than the software limits, based on platform. The hardware limits for specific platforms are specified as "IPv4/IPv6 routes (LPM entries in hardware)" in the following table.*

**NOTE**

*On certain BlackDiamond 8000 and Summit products, it is not advised to have greater than 25,000 total IP routes from all routing protocols. This includes a BlackDiamond 8000 series switch with an 8500-MSM24, MSM-G8X or MSM-48, and Summit X250e, X450, X450a, X450e, or X650 switches, either in a SummitStack or standalone. Adverse effects can occur with routing tables larger than this, especially when a single network event or CLI command affects a significant number of routes. For example, just after such a network event, the added system load will cause a "save configuration" command to time out.*

### Table 38: Supported Limits

| Metric | Product | Limit |
|---|---|---|
| **Access lists (masks)**—maximum number of ACL masks per port.[a] | BlackDiamond 8800 original series | 16 |
| | Summit X450 | 16 |
| **Access lists (policies)**—suggested maximum number of lines in a single policy file. | All platforms | 300,000 |
| **Access lists (policies)**—maximum number of rules in a single policy file.[b] | BlackDiamond 8000 series | |
| | Original series<br>per GigE ports<br>per 10 GigE ports | <br>128<br>1,016 |
| | a-series, group of 24 ports | 2,048 |
| | c-series, group of 24 ports | 4,096 ingress, 512 egress |
| | e-series, group of 24 ports | 1,024 ingress |
| | BlackDiamond 8900 c-series | |
| | 8900-10G24X-c modules, group of 12 ports | 2,048 ingress, 512 egress |
| | 8900-G96T-c modules, group of 48 ports | 8,192 ingress, 1,024 egress |
| | 8900 xl-series | 61,440 (up to) |
| | BlackDiamond 10808 | 30,000 |
| | BlackDiamond 12800 series | Need limit |
| | BlackDiamond 20800 series | Need limit |
| | Summit X150, X250e, X350, X450e group of 24 ports | 1,024 |
| | Summit X450 | |
| | per GigE ports<br>per 10 GigE ports | 128<br>1,016 |
| | Summit X450a, group of 24 ports | 2,048 |
| | Summit X480 | 61,440 (up to)[c] |
| | Summit X650, group of 12 ports | 2,048 ingress, 512 egress |

**Table 38: Supported Limits (Continued)**

| Metric | Product | Limit |
|---|---|---|
| **Access lists (slices)**—number of ACL slices. | BlackDiamond 8000 series | |
| | a- and c-series, group of 48 ports | 16 |
| | e-series, group of 24 ports | 8 |
| | BlackDiamond 8900 series | |
| | 8900-10G24X-c modules, group of 12 ports | 12 ingress, 4 egress |
| | 8900-G96T-c modules, group of 48 ports | 16 ingress, 4 egress |
| | 8900 xl-series | 17[c] |
| | Summit X150, X250e, X350, X450e, group of 48 ports | 8 |
| | Summit X450a, group of 24 ports | 16 |
| | Summit X480 | 17[c] |
| | Summit X650, group of 12 ports | 12 ingress, 4 egress |
| **ACL static ingress L2 entries**—maximum number of static ACL L2 entries. | BlackDiamond 20800 series | 10,000 |
| **ACL static ingress L3 rules**—maximum number of L3 ACL rules. | BlackDiamond 20800 series | 20,000 |
| **ACL static egress L2 entries**—maximum number of static ACL L2 entries. | BlackDiamond 20800 series | 20,000 |
| **ACL static egress L3 rules**—maximum number of L3 ACL rules. | BlackDiamond 20800 series | 20,000 |
| **ACL dynamic L2 entries**—maximum number of ACL L2 entries | BlackDiamond 20800 series | 2,000 |
| **ACL dynamic L3 rules**—maximum number of L3 ACL rules | BlackDiamond 20800 series | 2,000 |
| **AAA (local)**—maximum number of admin and local user accounts. | All platforms | 16 |
| **BGP (aggregates)**—maximum number of BGP aggregates. | All platforms with Core license or higher | 256 |
| **BGP (networks)**—maximum number of BGP networks. | All platforms (except BlackDiamond 20800 series) with Core license or higher | 1,024 |
| | BlackDiamond 20800 series | 2,048 |

**Table 38: Supported Limits (Continued)**

| Metric | Product | Limit |
|---|---|---|
| **BGP (peers)**—maximum number of BGP peers. | BlackDiamond 8000 series | 256* |
| | BlackDiamond xl-series | 512 |
| | BlackDiamond 10808 | |
| | MSM-1XL<br>MSM-1 | 512<br>256 |
| | BlackDiamond 12800 series | |
| | MSM-5, MSM-5R<br>MSM-6R | 256*<br>512 |
| | BlackDiamond 20800 series | 512 |
| | Summit X450, X450a, X650 | 128* |
| | Summit X480 | 512 |
| | * With default keepalive and hold timers. | |
| **BGP (peer groups)**—maximum number of BGP peer groups. | All platforms (except BlackDiamond 8900 series, BlackDiamond 20800 series, and Summit X480) with Core license or higher | 64 |
| | BlackDiamond 8900 series | 128 |
| | BlackDiamond 20808 series | 128 |
| | Summit X480 | 128 |
| **BGP (policy entries)**—maximum number of BGP policy entries per route policy. | All platforms with Core license or higher | 256 |
| **BGP (policy statements)**—maximum number of BGP policy statements per route policy. | All platforms with Core license or higher | 1,024 |
| **BGP (unicast address-family routes)**—maximum number of unicast address-family routes (LPM entries is limited to support TCAM entries on a BlackDiamond 10808). | BlackDiamond 8000 series | 25,000 |
| | BlackDiamond 8900 xl-series | 524,256 (up to)[c] |
| | BlackDiamond 10808 | |
| | MSM-1XL<br>MSM-1 | 1,000,000<br>400,000 |
| | BlackDiamond 12800 series | |
| | MSM-5, MSM-5R<br>MSM-6R | 400,000<br>1,000,000 |
| | BlackDiamond 20800 series | 512,000 |
| | Summit X450, X450a, X650 | 25,000 |
| | Summit X480 | 524,256 (up to)[c] |

**Table 38: Supported Limits (Continued)**

| Metric | Product | Limit |
|---|---|---|
| **BGP (non-unique routes)**—maximum number of non-unique BGP routes (LPM entries is limited to support TCAM entries on a BlackDiamond 10808). | BlackDiamond 8000 series | 25,000 |
| | BlackDiamond 8900 xl-series | 1,000,000 |
| | BlackDiamond 10808 | |
| | MSM-1XL<br>MSM-1 | 2,000,000<br>900,000 |
| | BlackDiamond 12800 series | |
| | MSM-5, MSM-5R<br>MSM-6R | 900,000<br>2,000,000 |
| | BlackDiamond 20800 series | 2,000,000 |
| | Summit X450, X450a, X650 | 25,000 |
| | Summit X480 | 1,000,000 |
| **BGP multicast address-family routes —** maximum number of multicast address-family routes. | BlackDiamond 8000 series | 25,000 |
| | BlackDiamond 8900 xl-series | 524,256 (up to)[c] |
| | BlackDiamond 10808 | |
| | MSM-1XL<br>MSM-1 | 1,000,000<br>450,000 |
| | BlackDiamond 12800 series | |
| | MSM-5, MSM-5R<br>MSM-6R | 450,000<br>1,000,000 |
| | BlackDiamond 20800 series | 512,000 |
| | Summit X450, X450a, X650 | 25,000 |
| | Summit X480 | 524,256 (up to)[c] |
| **BOOTP/DHCP relay**—maximum number of BOOTP or DHCP servers per virtual router. | All platforms | 4 |
| **CLEAR-Flow**—total number of rules supported. The ACL rules plus CLEAR-Flow rules must be less than the total number of supported ACLs.<br>**Note:** CLEAR-Flow is not supported on "e" series switches and is only supported in a non-stack configuration in the Summit family of switches. | BlackDiamond 8800 c-series | 4,096 |
| | BlackDiamond 8900 series | 4,096 |
| | Summit X450a, X650 | 2,048 |
| | Summit X480 | 4,096 |
| **Connectivity Fault Management (CFM)**—maximum number or CFM domains. | All platforms | 8 |
| **CFM**—maximum number of CFM associations. | All platforms | 4,094 |
| **CFM**—maximum number of CFM up end points. | BlackDiamond 8000 series | 32 |
| | BlackDiamond 10808 | 1,000 |
| | BlackDiamond 12800 series | 1,000 |
| | BlackDiamond 20800 series | 1,000 |
| | Summit series | 32 |

**Table 38: Supported Limits (Continued)**

| Metric | Product | Limit |
|---|---|---|
| **CFM**—maximum number of CFM down end points. | BlackDiamond 8000 series | 32 |
| | BlackDiamond 10808 | 1,000 |
| | BlackDiamond 12800 series | 1,000 |
| | BlackDiamond 20800 series | 1,000 |
| | Summit series | 32 |
| **CFM**—maximum number of CFM remote end points per up/down end point. | All platforms | 64 |
| **CFM**—maximum number of dot1ag ports. | All platforms | 128 |
| **CFM**—maximum number of CFM segments. | All platforms | 1,000 |
| **Dynamic ACLs**—maximum number of ACLs processed per second.<br>**Note**: Limits are load dependent. | BlackDiamond 8800 with c-series MSM and I/O modules | 8 |
| | BlackDiamond 8900 series | 8 |
| | BlackDiamond 12800 series | 12 |
| | Summit X450a, X480, X650 | |
| | with 50 DACLs<br>with 500 DACLs | 10<br>5 |
| **EAPS domains**—maximum number of EAPS domains.<br>**Note**: An EAPS ring that is being spatially reused cannot have more than four configured EAPS domains. | BlackDiamond 8000 series | 64 |
| | BlackDiamond 10808 | 128 |
| | BlackDiamond 12800 series | 128 |
| | BlackDIamond 20800 series | 128 |
| | Summit series | 32 |
| **EAPSv1 protected VLANs**—maximum number of protected VLANs. | BlackDiamond 8000 series | 2,000 |
| | BlackDiamond 10808 | 4,000 |
| | BlackDiamond 12800 series | 4,000 |
| | BlackDiamond 20800 series | 4,000 |
| | Summit series | 1,000 |
| **EAPSv2 protected VLANs**—maximum number of protected VLANs. | BlackDiamond 8000 series | 2,000 |
| | BlackDiamond 10808 | 4,000 |
| | BlackDiamond 12800 series | 4,000 |
| | BlackDIamond 20800 series | 4,000 |
| | Summit series | 500 |
| **ELSM (vlan-ports)**—maximum number of VLAN ports. | BlackDiamond 8000 series | 5,000 |
| | BlackDiamond 10808 | 5,000 |
| | BlackDiamond 12800 series | 5,000 |
| | BlackDIamond 20800 series | 5,000 |
| | Summit series | 5,000 |
| **ESRP groups**—maximum number of ESRP groups. | All platforms | 7 |

**Table 38: Supported Limits (Continued)**

| Metric | Product | Limit |
|---|---|---|
| **ESRP domains**—maximum number of ESRP domains. | BlackDiamond 8000 series | 64 |
| | BlackDiamond 8900 series | 128 |
| | BlackDiamond 10808 | 128 |
| | BlackDiamond 12800 series | 64 |
| | BlackDiamond 20800 series | 128 |
| | Summit series | 64 |
| **ESRP VLANs**—maximum number of ESRP VLANs. | BlackDiamond 8000 series | 1,000 |
| | BlackDiamond 8900 series | 2,048 |
| | BlackDiamond 10808 | 3,000 |
| | BlackDiamond 12800 series | 3,000 |
| | BlackDiamond 20800 series | 3,000 |
| | Summit series | 1,000 |
| **ESRP (maximum ping tracks)**—maximum number of IP route tracks per VLAN. | All platforms | 8 |
| **ESRP (IP route tracks)**—maximum IP route tracks per VLAN. | All platforms | 8 |
| **ESRP (VLAN tracks)**—maximum number of VLAN tracks per VLAN. | All platforms | 1 |
| **Forwarding rate**—maximum L2/L3 software forwarding rate. | BlackDiamond 8000 series | 10,000 pps |
| | BlackDiamond 12800 series | 16,000 pps |
| | Summit series | 10,000 pps |
| **FDB (blackhole entries)—**maximum number of unicast blackhole FDB entries. | BlackDiamond 8800 original, a-series | 16,000 |
| | BlackDiamond 8800 c-series | 32,000 |
| | BlackDiamond 8000 e-series | 8,000 |
| | BlackDiamond 8900 c-series | 32,000 |
| | BlackDiamond 8900 xl-series | 524,288 (up to)[c] |
| | BlackDiamond 20800 series | 100,000 |
| | Summit X150, X250e, X350, X450e | 8,000 |
| | Summit X450, X450a | 16,000 |
| | Summit X480 | 524,288 (up to)[c] |
| | Summit X650 | 32,000 |
| **FDB (blackhole entries)—**maximum number of multicast blackhole FDB entries. | BlackDiamond 8800 original series | 256 |
| | BlackDiamond 8000 series (except BlackDiamond 8800 original series) | 1,024 |
| | Summit X450 | 256 |
| | Summit series (except Summit X450 original) | 1,024 |
| **FDB (MAC learning rate)**—maximum number of packets per second. | BlackDiamond 20800 series | 200,000 |
| **FDB (maximum L2/L3 entries)**—maximum number of MAC addresses/IP host routes. | BlackDiamond 10808 | 224,000 |
| | BlackDiamond 12800 series | 49,000 |
| | BlackDiamond 12800 R-series | 224,000 |

**Table 38: Supported Limits (Continued)**

| Metric | Product | Limit |
|---|---|---|
| **FDB (maximum L2 entries)**—maximum number of MAC addresses. | BlackDiamond 8800 original, a-series | 16,384 |
| | BlackDiamond 8000 c-series | 32,768 |
| | BlackDiamond 8000 e-series | 8,192 |
| | BlackDiamond 8000 (system), except 8900 xl-series | 128,000 |
| | BlackDiamond 8900 xl-series | 524,488 (up to)[c] |
| | BlackDiamond 20800 series | 400,000 |
| | Basic I/O modules<br>Advanced I/O modules | 512,000<br>1,049,000 |
| | Summit X150, X350, X250e, X450e | 8,192 |
| | Summit X450, X450a | 16,384 |
| | Summit X480 | 524,488 (up to)[c] |
| | Summit X650 | 32,768 |
| | SummitStack, except X480 | 128,000 |
| **Hierarchical QoS**—maximum number of ingress-only traffic queues per system.<br>(For 20XTR, first 10 ports ranges from 1 to 10 are UNIT-I, second 10 ports ranges from 11 to 20 are UNIT-II, for 10 Gig slot each port is one UNIT.) | BlackDiamond 12800 R-series | 20,000 |
| **Hierarchical QoS**—maximum number of ingress traffic queues with egress shaping allowed per switch. | BlackDiamond 12800 R-series | 20,000 |
| **Hierarchical QoS**—maximum number of egress-only traffic queues allowed per switch. | BlackDiamond 12800 R-series | 20,000 |
| **Hierarchical QoS**—maximum number of traffic queues attach per port. | BlackDiamond 12800 R-series | 4,076 |
| | BlackDiamond 20800 series<br>(This is based on traffic queue mode [strict priority/ bandwidth]. This number will decrease the more egress ports are configured.) | 1,277/952 |
| **IGMP sender**—maximum number of IGMP senders per switch (IP multicast compression disabled). | BlackDiamond 8800 original, a-series | 1,024 |
| | BlackDiamond 8800 c-series | 2,048[d] |
| | BlackDiamond 8000 e-series | 500[e] |
| | BlackDiamond 8900 series | |
| | 8900-10G24X-c modules<br>8900-G96T-c modules<br>8900 xl-series | 2,048[d]<br>4,096[d]<br>4,096[d] |
| | BlackDiamond 10808 | 15,000 |
| | BlackDiamond 12800 series | 15,000 |
| | BlackDiamond 20800 series | 3,700 |
| | Summit X150, X250e, X350, X450e | 500[e] |
| | Summit X450, X450a | 1,024 |
| | Summit X480 | 4,096 |
| | Summit X650 | 2,048 |

**Table 38: Supported Limits (Continued)**

| Metric | Product | Limit |
|---|---|---|
| **IGMP sender**—maximum number of IGMP senders per switch (IP multicast compression enabled). | BlackDiamond 8800 original, a-series | 2,000[e] |
| | BlackDiamond 8800 c-series | 6,000[e] |
| | BlackDiamond 8000 e-series | 500[e] |
| | BlackDiamond 8900 series | 6,000[e] |
| | Summit X150, X250e, X350, X450e | 500[e] |
| | Summit X450, X450a | 2,000[e] |
| | Summit X480, X650 | 6,000[e] |
| **IGMP snooping per VLAN filters—** maximum number of VLANs supported in per-VLAN IGMP snooping mode. | BlackDiamond 8800 original | 60 |
| | BlackDiamond 8800 a-series | 1,000 |
| | BlackDiamond 8800 c-series | 2,000 |
| | BlackDiamond 8000 e-series | 448 |
| | BlackDiamond 8900 xl-series | 4,000 |
| | Summit X150, X250e, X350, X450e | 448 |
| | Summit X450 | 60 |
| | Summit X450a, X650 | 1,000 |
| | Summit X480 | 4,000 |
| **IGMPv1/v2 SSM-map entries**—maximum number of IGMPv1/v2 SSM mapping entries. | All platforms | 500 |
| **IGMPv1/v2 SSM-MAP entries—**maximum number of sources per group in IGMPv1/v2 SSM mapping entries. | All platforms | 50 |
| **IGMPv2 subscriber**—maximum number of IGMPv2 subscribers per port. | BlackDiamond 8800 original | 1,000 |
| | BlackDiamond 8800 c-series | 2,000 |
| | BlackDiamond 8900 c-series | 2,000 |
| | BlackDiamond 10808 | 5,000 |
| | BlackDiamond 12800 series | 5,000 |
| | BlackDIamond 20800 series | 5,000 |
| | Summit series except Summit X480 and X650 | 1,000 |
| | Summit X480, X650 | 2,000 |
| **IGMPv2 subscriber**—maximum number of IGMPv2 subscribers per switch. | BlackDiamond 8800 original | 10,000 |
| | BlackDiamond 8800 c-series | 20,000 |
| | BlackDiamond 8900 c-series | 20,000 |
| | BlackDiamond 10808 | 30,000 |
| | BlackDiamond 12800 series | 30,000 |
| | BlackDiamond 20800 series | 30,000 |
| | Summit series except Summit X480 and X650 | 10,000 |
| | Summit X480, X650 | 20,000 |
| **IGMPv3 maximum source per group**—maximum number of source addresses per group. | All platforms | 250 |

**Table 38: Supported Limits (Continued)**

| Metric | Product | Limit |
|---|---|---|
| **IGMPv3 subscriber**—maximum number of IGMPv3 subscribers per port. | BlackDiamond 8800 original, a-, e-series | 1,000 |
| | BlackDiamond 8800 c-series | 2,000 |
| | BlackDiamond 8900 series | 5,000 |
| | BlackDiamond 10808 | 5,000 |
| | BlackDiamond 12800 series | 5,000 |
| | BlackDiamond 20800 series | 5,000 |
| | Summit series | 1,000 |
| **IGMPv3 subscriber**—maximum number of IGMPv3 subscribers per switch. | BlackDiamond 8800 original, a-, e-series | 10,000 |
| | BlackDiamond 8800 c-series | 20,000 |
| | BlackDiamond 8900 series | 30,000 |
| | BlackDiamond 10808 | 30,000 |
| | BlackDiamond 12800 series | 30,000 |
| | BlackDiamond 20800 series | 30,000 |
| | Summit series | 10,000 |
| **IP ARP entries in software**—maximum number of IP ARP entries in software. | All platforms (except BlackDiamond 20800 series) | 20,480 |
| | BlackDiamond 20800 series | 32,000 |
| **IPv4 ARP entries in hardware with minimum LPM routes**—maximum recommended number of IPv4 ARP entries in hardware, with minimum LPM routes present. For BlackDiamond 8800 and Summit series switches, assumes number of IP route reserved entries is 100 or less. | BlackDiamond 8800 original | 2,000[e] |
| | BlackDiamond 8800 a-, c-series | 8,000 |
| | BlackDiamond 8000 e-series | 1,000[e] |
| | BlackDiamond 8900 xl-series | 16,000 |
| | BlackDiamond 10808 | 224,000 |
| | BlackDiamond 12800 series | 49,000 |
| | BlackDiamond 12800 R-series | 224,000 |
| | BlackDiamond 20800 series | 32,000 |
| | Summit X250e, X450e | 1,000[e] |
| | Summit X450 | 2,000[e] |
| | Summit X450a, X650 | 8,000 |
| | Summit X480 | 16,000 |
| **IPv4 ARP entries in hardware with maximum LPM routes**—maximum recommended number of IPv4 ARP entries in hardware, with maximum LPM routes present. For BlackDiamond 8800 and Summit series, assumes number of IP route reserved entries is "maximum." | BlackDiamond 8800 original, a-series | 2,000[e] |
| | BlackDiamond 8800 c-series | 6,000[e] |
| | BlackDiamond 8000 e-series | 500[e] |
| | BlackDiamond 8900 xl-series | 12,000[e] |
| | BlackDiamond 10808 | 224,000 |
| | BlackDiamond 12800 series | 49,000 |
| | BlackDiamond 12800 R-series | 224,000 |
| | BlackDiamond 20800 series | 32,000 |
| | Summit X250e, X450e | 500[e] |
| | Summit X450, X450a | 2,000[e] |
| | Summit X480 | 12,000[e] |
| | Summit X650 | 6,000[e] |

**Table 38: Supported Limits (Continued)**

| Metric | Product | Limit |
|---|---|---|
| **IPv4 remote hosts in hardware with zero LPM routes**—maximum recommended number of IPv4 remote hosts (hosts reachable through a gateway) in hardware when LPM routing is not used. For BlackDiamond 8800 and Summit series, assumes number of IP route reserved entries is 0, and number of IPv4 ARP entries present is 100 or less. | BlackDiamond 8800 original | N/A |
| | BlackDiamond 8800 a-series | 14,000[e] |
| | BlackDiamond 8800 c-series | 18,000[e] |
| | BlackDiamond 8000 e-series | 1,000[e] |
| | BlackDIamond 8900 xl-series | 40,000[c] |
| | BlackDiamond 10808 | N/A |
| | BlackDiamond 12800 series | N/A |
| | BlackDiamond 12800 R-series | N/A |
| | BlackDiamond 20800 series | N/A |
| | Summit X250e, X450e | 1,000[e] |
| | Summit X450 | N/A |
| | Summit X450a | 14,000[e] |
| | Summit X480 | 40,000[c] |
| | Summit X650 | 18,000[e] |
| **IPv4 routes**—maximum number of IPv4 routes in software (combination of unicast and multicast routes). | BlackDiamond 8900 xl-series with 8900-MSM-128 or MSM-48c | 524,256 (up to)[c] |
| | All other BlackDiamond 8000 series hardware | 25,000 |
| | BlackDiamond 10808 | 1,000,000 |
| | BlackDiamond 12800 series | 1,000,000 |
| | BlackDiamond 20800 series | 1,000,000 |
| | Summit X250e, X450, X450a, X450e, X650 | |
| | SummitStack or standalone | 25,000 |
| | Summit X480 | |
| | SummitStack or standalone | 524,256 (up to)[c] |
| **IPv4 routes (LPM entries in hardware)**—number of IPv4 routes in hardware. | BlackDiamond 8800 original | 8,000 |
| | BlackDiamond 8800 a-, c-series | 12,000 |
| | BlackDiamond 8000 e-series | 480 |
| | BlackDiamond 8900 xl-series | 524,256 (up to)[c] |
| | BlackDiamond 10808 | 256,000 |
| | MSM-1<br>MSM-1XL | 98,000<br>229,000 |
| | BlackDiamond 12800 series | |
| | MSM-5<br>MSM-5R, MSM-6R | 49,000<br>229,000 |
| | BlackDiamond 20800 series | 512,000 |
| | Summit X250e, X450e | 480 |
| | Summit X450 | 8,000 |
| | Summit X450a, X650 | 12,000 |
| | Summit X480 | 524,256 (up to)[c] |

**Table 38: Supported Limits (Continued)**

| Metric | Product | Limit |
|---|---|---|
| **IPv6 host entries in hardware**—maximum number of IPv6 neighbor entries in hardware. | BlackDiamond 8800 a-series | 1,000[e] |
| | BlackDiamond 8800 c-series | 3,000[e] |
| | BlackDiamond 8000 e-series | 250[e] |
| | BlackDiamond 8900 series | |
| | 8900-10G24X-c modules<br>8900-G96T-c modules<br>8900 xl-series | 2,000[e]<br>4,000[e]<br>4,000[e] |
| | BlackDiamond 10808 | 112,000 |
| | BlackDiamond 12800 series | 24,500 |
| | BlackDiamond 12800 R-series | 112,000 |
| | Summit X250e, X450e | 250[e] |
| | Summit X450a | 1,000[e] |
| | Summit X480 | 4,000[e] |
| | Summit X650 | 2,000[e] |
| **IPv6 routes (LPM entries in hardware)**—maximum number of IPv6 routes in hardware. | BlackDiamond 8800 a-, c-series | 6,000 |
| | BlackDiamond 8000 e-series | 240 |
| | BlackDiamond 8900 xl-series | 8,000 |
| | BlackDiamond 10808 | 114,500 |
| | BlackDiamond 12800 series | 114,500 |
| | Summit X250e, X450e | 240 |
| | Summit X450a, X650 | 6,000 |
| | Summit X480 | 8,000 |
| **IPv6 routes with a mask greater than 64 bits in hardware**—maximum number of such IPv6 LPM routes in hardware. | BlackDiamond 8000 a-, c-, e-, xl-series | 256 |
| | BlackDiamond 10808 | 114,500 |
| | BlackDiamond 12800 series | 114,500 |
| | Summit X250e, X450e, X450a, X650, X480 | 256 |
| **IP router interfaces**—maximum number of VLANs performing IP routing–excludes sub VLANs (IPv4 and IPv6 interfaces). | All BlackDiamond 8000 series and Summit family switches with Edge license or higher | 512 |
| | All other BlackDiamond platforms | 4,096 |
| **IP multicast static routes—**maximum number of permanent multicast IP routes. | All platforms | 1,024 |
| **IP unicast static routes**—maximum number of permanent IP unicast routes. | All platforms | 1,024 |
| **IP route sharing (maximum gateways)**—configurable maximum number of configurable gateways used by equal cost multipath OSPF, BGP, or static routes. | BlackDiamond 8000 series | 2, 4, or 8 |
| | Summit series | 2, 4, or 8 |

**Table 38: Supported Limits (Continued)**

| Metric | Product | Limit |
|---|---|---|
| **IP route sharing (total destinations)**—maximum number of unique destinations used by multipath OSPF, OSPFv3, BGP, IS-IS, or static routes. OSPFv3 only applies to BlackDiamond 10808 and BlackDiamond 12800 series, which support ECMP for IPv6. | BlackDiamond 8800 original | |
| | default maximum gateways of 4<br>if maximum gateways is 2<br>if maximum gateways is 8 | 512<br>1,024<br>256 |
| | BlackDiamond 8800 a-series, c-series | |
| | with up to 8 gateways per destination | 12,256 |
| | BlackDiamond 8000 e-series | |
| | with up to 8 gateways per destination | 480 |
| | BlackDiamond 8900 xl-series | |
| | with up to 8 gateways per destination | 524,256 (up to)[c] |
| | BlackDiamond 10808 | |
| | with up to 8 gateways per destination | 7,136 |
| | BlackDiamond 12800 series | |
| | with up to 8 gateways per destination | 7,136 |
| | BlackDiamond 20800 series | |
| | with up to 8 gateways per destination | 512,000 |
| | Summit X250e, X450e | |
| | with up to 8 gateways per destination | 480 |
| | Summit X450 | |
| | default maximum gateways of 4<br>if maximum gateways is 2<br>if maximum gateways is 8 | 512<br>1,024<br>256 |
| | Summit X450a, X650 | |
| | with up to 8 gateways per destination | 12.256 |
| | Summit X480 | |
| | with up to 8 gateways per destination | 524,256 (up to)[c] |

**Table 38: Supported Limits (Continued)**

| Metric | Product | Limit |
|---|---|---|
| **IP route sharing (total combinations of gateway sets)**—maximum number of combinations of sets of adjacent gateways used by multipath OSPF, BGP, IS-IS, or static routes. | BlackDiamond 8800 a-series | |
| | default maximum gateways of 4<br>if maximum gateways is 2<br>if maximum gateways is 8 | 510<br>1,022<br>254 |
| | BlackDiamond 8000 e-series | |
| | default maximum gateways of 4<br>if maximum gateways is 2<br>if maximum gateways is 8 | 30<br>62<br>14 |
| | BlackDiamond 8800 c-series | |
| | default maximum gateways of 4<br>if maximum gateways is 2<br>if maximum gateways is 8 | 510<br>1,022<br>254 |
| | BlackDiamond 8900 xl-series | |
| | default maximum gateways of 4<br>if maximum gateways is 2<br>if maximum gateways is 8 | 510<br>1,022<br>254 |
| | BlackDiamond 20800 series | |
| | with up to 8 gateways per set | 60 |
| | Summit X480, X650 | |
| | default maximum gateways of 4<br>if maximum gateways is 2<br>if maximum gateways is 8 | 510<br>1,022<br>254 |
| **IP multinetting (secondary IP addresses)**—maximum number of secondary IP addresses per VLAN. | All platforms | 64 |
| **IS-IS adjacencies**—maximum number of supported IS-IS adjacencies. | BlackDiamond 8000 series | 128 |
| | BlackDiamond 8900 xl-series | 255 |
| | BlackDiamond 10808 | 255 |
| | BlackDiamond 12800 series | 255 |
| | BlackDiamond 20800 series | 255 |
| | Summit X450, X450a, X480, X650 | 128 |
| **IS-IS ECMP**—maximum number of equal cost multipath for IS-IS. | BlackDiamond 8000 series | 2, 4, or 8 |
| | BlackDiamond 8900 xl-series | 8 |
| | BlackDiamond 10808 | 8 |
| | BlackDiamond 12800 series | 8 |
| | BlackDiamond 20800 series | 8 |
| | Summit X450, X480 | 8 |
| | All other Summit series | 2, 4, or 8 |
| **IS-IS interfaces**—maximum number of interfaces that can support IS-IS. | All platforms | 255 |
| **IS-IS routers in an area**—recommended maximum number of IS-IS routers in an area. | Summit X480 | 128 |
| | All other platforms | 256 |

**Table 38: Supported Limits (Continued)**

| Metric | Product | Limit |
|---|---|---|
| **IS-IS route origination**—recommended maximum number of routes that can be originated by an IS-IS node. | BlackDiamond 8000 series | 20,000 |
| | BlackDiamond 8900 xl-series | 30,000 |
| | BlackDiamond 10808 | 30,000 |
| | BlackDiamond 12800 series | 30,000 |
| | BlackDiamond 20800 series | 30,000 |
| | Summit X450, X450a | 5,000 |
| | SUmmit X480 | 30,000 |
| | Summit X650 | 20,000 |
| **IS-IS IPv4 L1 routes in an L1 router**—recommended maximum number of IS-IS Level 1 routes in a Level 1 IS-IS router. | BlackDiamond 8000 series | 25,000 |
| | BlackDiamond 8900 xl-series | 120,000 |
| | BlackDiamond 10808 | |
| | MSM-1<br>MSM-1XL | 120,000<br>180,000 |
| | BlackDiamond 12800 series | |
| | MSM-5<br>MSM-5R<br>MSM-6R | 100,000<br>120,000<br>180,000 |
| | BlackDiamond 20800 series | 120,000 |
| | Summit X450, X450a | 5,000 |
| | Summit X480 | 50,000 |
| | Summit X650 | 25,000 |
| **IS-IS IPv4 L2 routes**—recommended maximum number of IS-IS Level 2 routes. | BlackDiamond 8000 series | 25,000 |
| | BlackDiamond 8900 xl-series | 120,000 |
| | BlackDiamond 10808 | |
| | MSM-1<br>MSM-1XL | 120,000<br>180,000 |
| | BlackDiamond 12800 series | |
| | MSM-5<br>MSM-5R<br>MSM-6R | 100,000<br>120,000<br>180,000 |
| | BlackDiamond 20800 series | 120,000 |
| | Summit X450, X450a | 5,000 |
| | Summit X480 | 50,000 |
| | Summit X650 | 25,000 |

**Table 38: Supported Limits (Continued)**

| Metric | Product | Limit |
|---|---|---|
| **IS-IS IPv4 L1 routes in an L1/L2 router**—recommended maximum number of IS-IS Level 1 routes in an L1/L2 IS-IS router. | BlackDiamond 8000 series | 20,000 |
| | BlackDiamond 8900 xl-series | 20,000 |
| | BlackDiamond 10808 | |
| | MSM-1<br>MSM-1XL | 20,000<br>25,000 |
| | BlackDiamond 12800 series | |
| | MSM-5, MSM-5R<br>MSM-6R | 20,000<br>25,000 |
| | BlackDiamond 20800 series | 20,000 |
| | Summit X450, X450a | 3,000 |
| | Summit X480, X650 | 20,000 |
| **IS-IS IPv6 L1 routes in an L1 router**—recommended maximum number of IS-IS Level 1 routes in a Level 1 IS-IS router. | BlackDiamond 8000 series | 10,000 |
| | BlackDiamond 8900 xl-series | 40,000 |
| | BlackDiamond 10808 | |
| | MSM-1<br>MSM-1XL | 30,000<br>65,000 |
| | BlackDiamond 12800 series | |
| | MSM-5<br>MSM-5R<br>MSM-6R | 30,000<br>40,000<br>65,000 |
| | BlackDiamond 20800 series | 40,000 |
| | Summit X450, X450a | 5,000 |
| | Summit X480 | 25,000 |
| | Summit X650 | 10,000 |
| **IS-IS IPv6 L2 routes**—recommended maximum number of IS-IS Level 2 routes. | BlackDiamond 8000 series | 10,000 |
| | BlackDiamond 8900 xl-series | 40,000 |
| | BlackDiamond 10808 | |
| | MSM-1<br>MSM-1XL | 30,000<br>65,000 |
| | BlackDiamond 12800 series | |
| | MSM-5<br>MSM-5R<br>MSM-6R | 30,000<br>40,000<br>65,000 |
| | BlackDiamond 20800 series | 40,000 |
| | Summit X450, X450a | 5,000 |
| | Summit X480 | 25,000 |
| | Summit X650 | 10,000 |

**Table 38: Supported Limits (Continued)**

| Metric | Product | Limit |
|---|---|---|
| **IS-IS IPv6 L1 routes in an L1/L2 router**—recommended maximum number of IS-IS Level 1 routes in a L1/l2 router. | BlackDiamond 8000 series | 10,000 |
| | BlackDiamond 8900 xl-series | 15,000 |
| | BlackDiamond 10808 | |
| | MSM-1<br>MSM-1XL | 15,000<br>25,000 |
| | BlackDiamond 12800 series | |
| | MSM-5, MSM-5R<br>MSM-6R | 15,000<br>25,000 |
| | BlackDiamond 20800 series | 15,000 |
| | Summit X450, X450a | 3,000 |
| | Summit X480 | 15,000 |
| | Summit X650 | 10,000 |
| **IS-IS IPv4/IPv6 L1 routes in an L1 router**—recommended maximum number of IS-IS Level 1 routes in a Level 1 IS-IS router. The numbers documented are based on 50% IPv4 routes and 50% IPv6 routes. | BlackDiamond 8000 series | 20,000 |
| | BlackDiamond 8900 xl-series | 60,000 |
| | BlackDiamond 10808 | |
| | MSM-1<br>MSM-1XL | 60,000<br>130,000 |
| | BlackDiamond 12800 series | |
| | MSM-5<br>MSM-5R<br>MSM-6R | 30,000<br>60,000<br>130,000 |
| | BlackDiamond 20800 series | 60,000 |
| | Summit X450, X450a | 5,000 |
| | Summit X480 | 40,000 |
| | Summit X650 | 20,000 |
| **IS-IS IPv4/IPv6 L2 routes in an L2 router**—recommended maximum number of IS-IS Level 2 routes in a Level 2 IS-IS router. The numbers documented are based on 50% IPv4 routes and 50% IPv6 routes. | BlackDiamond 8000 series | 20,000 |
| | BlackDiamond 8900 xl-series | 60,000 |
| | BlackDiamond 10808 | |
| | MSM-1<br>MSM-1XL | 60,000<br>130,000 |
| | BlackDiamond 12800 series | |
| | MSM-5<br>MSM-5R<br>MSM-6R | 30,000<br>60,000<br>130,000 |
| | BlackDiamond 20800 series | 60,000 |
| | Summit X450, X450a | 5,000 |
| | Summit X480 | 40,000 |
| | Summit X650 | 20,000 |

**Table 38: Supported Limits (Continued)**

| Metric | Product | Limit |
|---|---|---|
| **IS-IS IPv4/IPv6 L1 routes in an L1/L2 router**—recommended maximum number of IS-IS Level 1 routes in a Level 1/Level2 IS-IS router. The numbers documented are based on 50% IPv4 routes and 50% IPv6 routes. | BlackDiamond 8000 series | 20,000 |
| | BlackDiamond 8900 xl-series | 20,000 |
| | BlackDiamond 10808 | 20,000 |
| | BlackDiamond 12800 series | 20,000 |
| | BlackDiamond 20800 series | 20,000 |
| | Summit X450, X450a | 3,000 |
| | Summit X480, X650 | 20,000 |
| **Jumbo frames**—maximum size supported for jumbo frames, including the CRC. | All platforms | 9,216 |
| **Load-sharing groups**—maximum number of load share groups.<br>**Note:** The actual number of load-share groups that can be configured is limited by the number of physical ports present in the switch or SummitStack. | BlackDiamond 8000 series | |
| | with 10G4X | 32 |
| | without 10G4X | 128 |
| | BlackDiamond 10808 | 128 |
| | BlackDiamond 12800 series | 128 |
| | BlackDiamond 20800 series | 128 |
| | Summit X150, X250e, X350, X450a, X450e, X480, X650 | 128 |
| | Summit X450 | 32 |
| | SummitStack | |
| | with Summit X450-24t | 32 |
| | with Summit X450-24x | 32 |
| | without Summit X450-24t | 128 |
| | without Summit X450-24x | 128 |
| **Load sharing**—maximum number of ports per load share group. | BlackDiamond 8000 series | 8 |
| | BlackDiamond 10808 | 16 |
| | BlackDiamond 12800 series | 16 |
| | BlackDiamond 20800 series | 16 |
| | Summit series | 8 |
| **Logged messages**—maximum number of messages logged locally on the system. | All platforms | 20,000 |
| **MAC-based security**—maximum number of MAC-based security policies. | All platforms | 1,024 |
| **MAC-in-MAC**—maximum number of MAC FDB entries (MAC addresses on the local side) and MAC binding entries (MAC addresses on remote side). | BlackDiamond 10808 | 100,000 |
| | BlackDiamond 12800 series | 100,000 |
| **MAC-in-MAC**—maximum number of regular VLANs (VLAN, vMAN, BVLAN). | BlackDiamond 10808 | 4,000 |
| | BlackDiamond 12800 series | 4,000 |
| **MAC-in-MAC**—maximum number of SVLANs. | BlackDiamond 10808 (1G DRAM) | 2,000 |
| | BlackDiamond 12800 series (512 DRAM) | 2,000 |
| **Mirroring (filters)**—maximum number of mirroring filters. | All platforms | 16 |
| **Mirroring (monitor port)**—maximum number of monitor ports. | All platforms | 1 |

**Table 38: Supported Limits (Continued)**

| Metric | Product | Limit |
|---|---|---|
| **Mirroring, one-to-many (filters)**—maximum number of one-to-many mirroring filters. | All platforms | 16 |
| **Mirroring, one-to-many (monitor port)**—maximum number of one-to-many monitor ports. | All platforms | 16 |
| **MPLS LDP enabled interfaces**—maximum number of MPLS LDP configured interfaces per switch. | BlackDiamond 10808<br>BlackDiamond 12800 R-series<br>BlackDiamond 20800 series<br>Summit X480 | 32<br>32<br>50<br>32 |
| **MPLS LDP peers**—maximum number of MPLS LDP peers per switch. | BlackDiamond 10808<br>BlackDiamond 12800 R-series<br>BlackDiamond 20800 series<br>Summit X480 | 32<br>32<br>64<br>32 |
| **MPLS LDP adjacencies**—maximum number of MPLS LDP adjacencies per switch. | BlackDiamond 10808<br>BlackDiamond 12800 series<br>BlackDiamond 20800 series<br>Summit X480 | 64<br>64<br>64<br>50 |
| **MPLS LDP ingress LSPs**—maximum number of MPLS LSPs that can originate from a switch.<br>* **Note:** The maximum number of ingress LSPs is reduced by one for each transit LSP, that is, If 16,000 transit LSPs are in use, the maximum number of ingress LSPs is 16,000. | BlackDiamond 10808<br>BlackDiamond 12800 R-series<br>BlackDiamond 20800 series<br>Summit X480 | 40,000<br>30,000<br>32,000*<br>4,000 |
| **MPLS LDP transit LSPs**—maximum number of MPLS transit LSPs per switch. | BlackDiamond 10808<br>BlackDiamond 12800 R-series<br>BlackDiamond 20800 series<br>Summit X480 | 40,000<br>30,000<br>16,000<br>4,000 |
| **MPLS LDP egress LSPs**—maximum number of MPLS egress LSPs that can terminate on a switch. | BlackDiamond 10808<br>BlackDiamond 12800 R-series<br>BlackDiamond 20800 series<br>Summit X480 | 40,000<br>30,000<br>32,000<br>8,000 |
| **MPLS static LSPs—**maximum number of static LSPs. | BlackDiamond 10808<br>BlackDiamond 12800 R-series<br>BlackDiamond 20800 series<br>Summit X480 | 1,000<br>1,000<br>100<br>10 |
| **MSDP active peers**—maximum number of active MSDP peers. | BlackDiamond 8000 series<br>BlackDiamond 8900 series<br>BlackDiamond 10808<br>BlackDiamond 12800 series<br>BlackDiamond 20800 series<br>Summit X450, X480, X650 | 32<br>64<br>32<br>32<br>64<br>16 |

**Table 38: Supported Limits (Continued)**

| Metric | Product | Limit |
|---|---|---|
| **MSDP SA cache entries**—maximum number of entries in SA cache. | BlackDiamond 8000 series | 16,000 |
| | BlackDiamond 8900 series | 16,000 |
| | BlackDiamond 10808 | 16,000 |
| | BlackDiamond 12800 series | 16,000 |
| | BlackDiamond 20800 series | 15,000 |
| | Summit X450, X480, X650 | 8,000 |
| **MSDP maximum mesh groups**—maximum number of MSDP mesh groups. | BlackDiamond 8000 series | 8 |
| | BlackDiamond 8900 series | 16 |
| | BlackDiamond 10808 | 8 |
| | BlackDiamond 12800 series | 8 |
| | BlackDiamond 20800 series | 16 |
| | Summit X450, X480, X650 | 4 |
| **Multicast VLAN registration (MVR)**—maximum number of MVR senders per switch (IP multicast compression disabled). | BlackDiamond 8800 original, a-series | 1,024 |
| | BlackDiamond 8800 c-series | 2,048[d] |
| | BlackDiamond 8000 e-series | 500[e] |
| | BlackDiamond 8900 series | |
| | 8900-10G24X-c modules<br>8900-G96T-c modules<br>8900 xl-series | 2,048[d]<br>4,096[d]<br>4,096[d] |
| | BlackDiamond 10808 | 15,000 |
| | BlackDiamond 12800 series | 15,000 |
| | BlackDiamond 20800 series | 3,700 |
| | Summit X150, X250, X350, X450e | 500[e] |
| | Summit X450, X450a | 1,024 |
| | Summit X480 | 4,096 |
| | Summit X650 | 2,048 |
| **Multicast VLAN registration (MVR)**—maximum number of MVR senders per switch (IP multicast compression enabled). | BlackDiamond 8800 original, a-series | 2,000[e] |
| | BlackDiamond 8800 c-series | 6,000[e] |
| | BlackDiamond 8000 e-series | 500[e] |
| | BlackDiamond 8900 series | 6,000[e] |
| | Summit X150, X250e, X350, X450e | 500[e] |
| | Summit X450, X450a | 2,000[e] |
| | Summit X480, X650 | 6,000[e] |
| **Network Login**—maximum number of clients being authenticated on MAC-based VLAN enabled ports. | BlackDiamond 8000 series (clients per module/per system) | 1,024 |
| | BlackDiamond 12804 (per system) | 4,000 |
| | Summit series | 1,024 |
| **Network Login**—maximum number of dynamic VLANs. | All platforms (except the BlackDiamond 20800 series) | 2,000 |

**Table 38: Supported Limits (Continued)**

| Metric | Product | Limit |
|---|---|---|
| **OSPF adjacencies—**maximum number of supported OSPF adjacencies. | BlackDiamond 8000 series | 128 |
| | BlackDiamond 8900 xl-series | 255 |
| | BlackDiamond 10808 | 255 |
| | BlackDiamond 12800 series | 255 |
| | BlackDiamond 20800 series | 255 |
| | Summit X250e, X450, X650 | 128 |
| | Summit X480 | 255 |
| **OSPF areas**—as an ABR, how many OSPF areas are supported within the same switch. | All platforms | 8 |
| **OSPF ECMP**—maximum number of equal cost multipath OSPF. | BlackDiamond 8000 series | 2, 4, or 8 |
| | BlackDiamond 8900 xl-series | 8 |
| | BlackDiamond 10808 | 8 |
| | BlackDiamond 12800 series | 8 |
| | BlackDiamond 20800 series | 8 |
| | Summit X250e, X450, X650 (all configurable) | 2, 4, or 8 |
| | Summit X450a, X480 | 8 |
| **OSPF external routes**—recommended maximum number of external routes contained in an OSPF LSDB without too many other types of OSPF routes. | BlackDiamond 8000 series | 20,000 |
| | BlackDiamond 8900 xl-series | 130,000 |
| | BlackDiamond 10808 | 130,000 |
| | BlackDiamond 12800 series | 130,000 |
| | BlackDiamond 20800 series | 130,000 |
| | Summit X250e, X450, X450a, X650 | 5,000 |
| | Summit X480 | 130,000 |
| **OSPF inter- or intra-area routes**—recommended maximum number of inter- or intra-area routes contained in an OSPF LSDB without too many other types of OSPF routes, with one ABR in OSPF domain. | BlackDiamond 8000 series | 7,000 |
| | BlackDiamond 8900 xl-series | 7,000 |
| | BlackDiamond 10808 | 7,000 |
| | BlackDiamond 12800 series | 7,000 |
| | BlackDiamond 20800 series | 7,000 |
| | Summit X250e, X450, X450a, X650 | 2,000 |
| | Summit X480 | 7,000 |
| **OSPF routers in a single area**—recommended maximum number of routers in a single OSPF area. | BlackDiamond 8000 series | 100 |
| | BlackDiamond 8900 xl-series | 200 |
| | BlackDiamond 10808 | 200 |
| | BlackDiamond 12800 series | 100 |
| | BlackDiamond 20800 series | 200 |
| | Summit X250e, X450, X450a, X650 | 50 |
| | Summit X480 | 200 |
| **OSPF subnets on a single router**—recommended maximum number of OSPF routed subnets on a switch. | All platforms with Core license or higher | 400 |

**Table 38: Supported Limits (Continued)**

| Metric | Product | Limit |
|---|---|---|
| **OSPF virtual links**—maximum number of supported OSPF virtual links. | All platforms with Core license or higher | 32 |
| **OSPFv2 links**—maximum number of links in the router LSA. | All platforms | 419 |
| **OSPFv3 areas**—as an ABR, the maximum number of supported OSPFv3 areas. | All platforms with Core license or higher | 16 |
| **OSPFv3 interfaces**—maximum number of OSPFv3 interfaces. | BlackDiamond 8000 series<br>BlackDiamond 8900 xl-series<br>BlackDiamond 10808<br>BlackDiamond 12800 series<br>BlackDiamond 20800 series<br>Summit X450, X450a, X650<br>Summit X480 | 256<br>384<br>384<br>256<br>384<br>128<br>384 |
| **OSPFv3 active interfaces**—maximum number of OSPFv3 active interfaces. | All platforms with Advanced Edge license | 4 |
| **OSPFv3 neighbors**—maximum number of OSPFv3 neighbors. | BlackDiamond 8000 series<br>BlackDiamond 8900 xl-series<br>BlackDiamond 10808<br>BlackDiamond 12800 series<br>BlackDiamond 20800 series<br>Summit X450, X450a, X650<br>Summit X480 | 64<br>128<br>128<br>128<br>128<br>64<br>128 |
| **OSPFv3 virtual links**—maximum number of OSPFv3 virtual links supported. | All platforms with Core license or higher | 16 |
| **OSPFv3 external routes**—recommended maximum number of external routes. | BlackDiamond 8000 series<br>BlackDiamond 8900 xl-series<br>BlackDiamond 10808<br>BlackDiamond 12800 series<br>BlackDiamond 20800 series<br>Summit X450, X450a, X650<br>Summit X480 | 10,000<br>60,000<br>60,000<br>50,000<br>60,000<br>10,000<br>60,000 |
| **OSPFv3 inter- or intra-area routes**—recommended maximum number of inter- or intra-area routes. | BlackDiamond 8000 series<br>BlackDiamond 8900 xl-series<br>BlackDiamond 10808<br>BlackDiamond 12800 series<br>BlackDiamond 20800 series<br>Summit X450, X450a, X650<br>Summit X480 | 6,000<br>6,000<br>6,000<br>6,000<br>6,000<br>3,000<br>6,000 |

**Table 38: Supported Limits (Continued)**

| Metric | Product | Limit |
|---|---|---|
| **PIM snooping**—maximum number of (S,G) entries programmed in the hardware (IP multicast compression disabled). | BlackDiamond 8800 original | 1,024 |
| | BlackDiamond 8800 c-series | 2,048[d] |
| | BlackDiamond 8000 e-series | 500[d] |
| | BlackDiamond 8900 series | |
| | 8900-10G24X-c modules<br>8900-G96T-c modules<br>8900 xl-series | 2,048[d]<br>4,096[d]<br>4,096[d] |
| | BlackDiamond 10808 | 15,000 |
| | BlackDiamond 12800 series | 15,000 |
| | BlackDiamond 20800 series | 3,700 |
| | Summit X150, X250e, X350, X450e | 500[e] |
| | Summit X450, X450a | 1,024 |
| | Summit X480 | 4,096 |
| | Summit X650 | 2,048 |
| **PIM snooping**—maximum number of (S,G) entries programmed in the hardware (IP multicast compression enabled). | BlackDiamond 8800 original, a-series | 2,000[e] |
| | BlackDiamond 8800 c-series | 6,000[e] |
| | BlackDiamond 8000 e-series | 500[e] |
| | BlackDiamond 8900 series | 6,000[e] |
| | Summit X150, X250e, X350, X450e | 500[e] |
| | Summit X450, X450a | 2,000[e] |
| | Summit X480, X650 | 6,000[e] |
| **PIM—maximum routes**—maximum number of (S,G) entries installed in the hardware (IP multicast compression disabled). | BlackDiamond 8800 original | 1,024 |
| | BlackDiamond 8800 c-series | 2,048[d] |
| | BlackDiamond 8000 e-series | 500[e] |
| | BlackDiamond 8900 series | |
| | 8900-10G24X-c modules<br>8900-G96T-c modules<br>8900 xl-series | 2,048[d]<br>4,096[d]<br>4.096[d] |
| | BlackDiamond 10808 | 12,000 |
| | BlackDiamond 12800 series | 12,000 |
| | BlackDiamond 20800 series | 3,700 |
| | Summit X150, X250e, X350, X450e | 500[e] |
| | Summit X450, X450a | 1,024 |
| | Summit X480 | 4,096 |
| | Summit X650 | 2,048 |

**Table 38: Supported Limits (Continued)**

| Metric | Product | Limit |
|---|---|---|
| **PIM—maximum routes**—maximum number of (S,G) entries installed in the hardware (IP multicast compression enabled). | BlackDiamond 8800 original, a-series | 2,000[e] |
| | BlackDiamond 8800 c-series | 6,000[e] |
| | BlackDiamond 8000 e-series | 500[e] |
| | BlackDiamond 8900 series | 6,000[e] |
| | Summit X150, X250e, X350, X450e | 500[e] |
| | Summit X450, X450a | 1,024 |
| | Summit X480 | 6,000[e] |
| | Summit X650 | 2,048 |
| **PIM-SSM (maximum SSM routes)**—maximum number of (S,G) entries installed in the hardware with PIM SSM configuration (IP multicast compression disabled). | BlackDiamond 8800 original | 1,024 |
| | BlackDiamond 8800 c-series | 2,048[d] |
| | BlackDiamond 8000 e-series | 500[e] |
| | BlackDiamond 8900 series | |
| | 8900-10G24X-c modules<br>8900-G96T-c modules<br>8900 xl-series | 2,048[d]<br>4,096[d]<br>15,000 |
| | BlackDiamond 10808 | 15,000 |
| | BlackDiamond 12800 series | 4,096[d] |
| | BlackDiamond 20800 series | 3,700 |
| | Summit X150, X250e, X350, X450e | 500[e] |
| | Summit X450, X450a | 1,024 |
| | Summit X480 | 4,096 |
| | Summit X650 | 2,048 |
| **PIM-SSM (maximum SSM routes)**—maximum number of (S,G) entries installed in the hardware with PIM SSM configuration (IP multicast compression enabled). | BlackDiamond 8800 original, a-series | 2,000[e] |
| | BlackDiamond 8800 c-series | 6,000[e] |
| | BlackDiamond 8000 e-series | 500[e] |
| | BlackDiamond 8900 series, xl-series | 6,000[e] |
| | Summit X150, X250e, X350, X450e | 500[e] |
| | Summit X450, X450a | 2,000[e] |
| | Summit X480, X650 | 6,000[e] |
| **PIM (maximum interfaces)**—maximum number of PIM active interfaces. | All platforms | 256 |
| **PIM (maximum interfaces)**—maximum number of PIM snooping enabled interfaces. | All platforms | 256 |
| **Policy-based routing (PBR) redundancy**—maximum number of flow-redirect and nexthops per each flow-direct. | All platforms | 32 |

**Table 38: Supported Limits (Continued)**

| Metric | Product | Limit |
|---|---|---|
| **Private VLANs—**maximum number of subscribers. Assumes a minimum of one port per network and subscriber VLAN. | BlackDiamond 8800 a-, c-, e-, xl-series | |
| | with eight modules of 48 ports<br>8900-G96T-c modules | 383<br>767 |
| | BlackDiamond 10808 | 1,400 |
| | BlackDiamond 12800 series | 1,400 |
| | Summit X450a, X450e, 24 ports | |
| | with two-port option cards<br>without option cards | 25<br>23 |
| | Summit X450a, X450e, 48 ports | |
| | with two-port option cards<br>without option cards | 49<br>47 |
| | Summit X480 | 47 |
| | Summit X650 | 23 |
| **Private VLANs**—maximum number of private VLANs with an IP address on the network VLAN. | All platforms | 512 |
| **Private VLANs**—maximum number of private VLANs in an L2-only environment. | BlackDiamond 8800 a-, c-, e-series | 384 |
| | BlackDiamond 8900 series | 2,046 |
| | BlackDiamond 10808 | 2,046 |
| | BlackDiamond 12800 series | 2,046 |
| | Summit X250e, X450a, X450e | 384 |
| | Summit X480, X650 | 2,046 |
| **Provider Backbone Bridging (PBB) Service and Customer VLANs**—maximum number of service and customer VLANs | BlackDiamond 20800 series | 4,000 |
| **PBB Backbone VLANs**—maximum number of backbone VLANs. | BlackDiamond 20800 series | 2,000 |
| **PBB ISIDs**—maximum number of ISIDs. Range is 256 to 330,221, | BlackDiamond 20800 series | 4,000 |
| **PBB Backbone Edge Bridges (BEBs) in a PBB Network**—maximum number of BEBs in a PBB network. | BlackDiamond 20800 series | 256 |
| **PBB MAC Binding Entries**—maximum number of MAC-binding entries. | BlackDiamond 20800 series | 400,000 |
| **PBB-Traffic Engineering (PBB-TE)—**maximum number of static MAC binding entries. | BlackDiamond 10808 | |
| | MSM-1<br>MSM-1XL | 98,000<br>100,000 |
| | BlackDiamond 12800 series | |
| | MSM-5<br>MSM-5R<br>MSM-6R | 49,000<br>100,000<br>100,000 |
| **Route policies**—suggested maximum number of lines in a route policy file. | All platforms | 10,000 |

**Table 38: Supported Limits (Continued)**

| Metric | Product | Limit |
|---|---|---|
| **RIP-learned routes**—maximum number of RIP routes supported without aggregation. | BlackDiamond 8000 series | 10,000 |
| | BlackDiamond 8900 xl-series | 10,000 |
| | BlackDiamond 10808 | 10,000 |
| | BlackDiamond 20800 series | 10,000 |
| | Summit X250e, X450, X450a | 3,000 |
| | Summit X480, X650 | 10,000 |
| **RIP interfaces on a single router**—recommended maximum number of RIP routed interfaces on a switch. | BlackDiamond 8000 series | 256 |
| | BlackDiamond 8900 xl-series | 384 |
| | BlackDiamond 10808 | 384 |
| | BlackDiamond 20800 series | 384 |
| | Summit X250e, X450, X450a | 128 |
| | Summit X480 | 384 |
| | Summit X650 | 256 |
| **RIPng learned routes**—maximum number of RIPng routes. | BlackDiamond 8000 series | 3,000 |
| | BlackDiamond 8900 xl-series | 5,000 |
| | BlackDiamond 10808 | 5,000 |
| | BlackDiamond 12800 series | 5,000 |
| | BlackDiamond 20800 series | 5,000 |
| | Summit X250e, X450, X450a | 1,500 |
| | Summit X480 | 5,000 |
| | Summit X650 | 3,000 |
| **RSVP-TE interfaces**—maximum number of interfaces. | BlackDiamond 10808 | 32 |
| | BlackDiamond 12800 R-series | 32 |
| | BlackDiamond 20800 series | 64 |
| | Summit X480 | 32 |
| **RSVP-TE ingress LSPs**—maximum number of ingress LSPs. | BlackDiamond 10808 | 2,000 |
| | BlackDiamond 12800 R-series | 2,000 |
| | BlackDiamond 20800 series | 2,000 |
| | Summit X480 | 2,000 |
| **RSVP-TE egress LSPs**—maximum number of egress LSPs. | BlackDiamond 10808 | 4,000 |
| | BlackDiamond 12800 R-series | 4,000 |
| | BlackDiamond 20800 series | 4,000 |
| | Summit X480 | 2,000 |
| **RSVP-TE transit LSPs**—maximum number of transit LSPs. | BlackDiamond 10808 | 2,000 |
| | BlackDiamond 12800 R-series | 1,500 |
| | BlackDiamond 20800 series | 2,000 |
| | Summit X480 | 2,000 |
| **RSVP-TE paths**—maximum number of paths. | BlackDiamond 10808 | 1,000 |
| | BlackDiamond 12800 R-series | 1,000 |
| | BlackDiamond 20800 series | 1,000 |
| | Summit X480 | 1,000 |

**Table 38: Supported Limits (Continued)**

| Metric | Product | Limit |
|---|---|---|
| **RSVP-TE profiles—**maximum number of profiles. | BlackDiamond 10808 | 1,000 |
| | BlackDiamond 12800 R-series | 1,000 |
| | BlackDiamond 20800 series | 1,000 |
| | Summit X480 | 1,000 |
| **RSVP-TE EROs—**maximum number of EROs per path. | BlackDiamond 10808 | 64 |
| | BlackDiamond 12800 R-series | 64 |
| | BlackDiamond 20800 series | 64 |
| | Summit X480 | 64 |
| **Spanning Tree (maximum STPDs)**—maximum number of Spanning Tree Domains on port mode EMISTP. | All platforms | 64 |
| **Spanning Tree PVST**—maximum number of port mode PVST domains. | All platforms (except BlackDiamond 20800 series) | 128 |
| | BlackDiamond 20800 series | 256 |
| **Spanning Tree**—maximum number of multiple spanning tree instances (MSTI) domains. | All platforms | 64 |
| **Spanning Tree**—maximum number of VLANs per MSTI. | All platforms | 500 |
| **Spanning Tree**—maximum number of VLANs on all MSTP instances. | All platforms (except BlackDiamond 20800 series) | 1,000 |
| | BlackDiamond 20800 series | 1,024 |
| **Spanning Tree (802.1d domains)**—maximum number of 802.1d domains per port. | All platforms | 1 |
| **Spanning Tree (number of ports)**—maximum number of ports including all Spanning Tree domains. | All platforms | 2,048 |
| **Spanning Tree (maximum VLANs)**—maximum number of STP protected VLANs (dot1d and dot1w). | BlackDiamond 8900 series | 1,024 |
| | BlackDiamond 20800 series | 1,024 |
| | All other platforms | 560 |
| **SSH (number of sessions)**—maximum number of simultaneous SSH sessions. | All platforms | 8 |
| **Static MAC multicast FDB entries**—maximum number of permanent multicast MAC entries configured into the FDB. | BlackDiamond 8800 original series | 256 |
| | BlackDiamond 8000 a-, c-, e-, xl-series | 1,024 |
| | BlackDiamond 10808 | 1,024 |
| | BlackDiamond 12800 series | 1,024 |
| | Summit X150, X350, X250e, X450a, X450e, X480, X650 | 1,024 |
| | Summit X450 | 256 |
| **Syslog servers**—maximum number of simultaneous syslog servers that are supported. | All platforms | 4 |

**Table 38: Supported Limits (Continued)**

| Metric | Product | Limit |
|---|---|---|
| **TCAM entries**—amount of entries available in the lookup tables for Longest Prefix Match routing lookups, learned MAC address, and ACLs. | BlackDiamond 10808, MSM-1 | 128,000 |
| | BlackDiamond 10808, MSM-1XL | 256,000 |
| | BlackDiamond 12800 series | 49,000 |
| | BlackDiamond 12800 R-series | 229,000 |
| | BlackDiamond 20800 series | 128,000 |
| **Telnet (number of sessions)**—maximum number of simultaneous Telnet sessions. | All platforms | 8 |
| **Virtual routers**—number of user virtual routers that can be created on a switch. | BlackDiamond 8000 c-series | 8 |
| | BlackDiamond 8900 xl-series | 8 |
| | BlackDiamond 10808 | 8 |
| | BlackDiamond 12800 series | 8 |
| | BlackDiamond 20800 series | 8 |
| | Summit X480, X650 | 8 |
| **VLAN aggregation—**maximum number of port-VLAN combinations on any one super VLAN and all of its sub VLANs. | All platforms | 1,000 |
| **VLANs**—includes all VLANs. | All platforms | 4,094 |
| **VLANs**—maximum number of virtual ports. | BlackDiamond 12804 | 50,029 |
| | BlackDiamond 20800 series | 50,029 |
| **VLANs (Layer 2)**—maximum number of Layer 2 VLANs. | All platforms | 4,094 |
| **VLANs (Layer 3)**—maximum number of Layer 3 VLANs. | All platforms | 512 |
| **VLANs (maximum active port-based)**—number of simultaneously active port-based VLANs. | All platforms | 4,094 |
| **VLANs (maximum active protocol-sensitive filters)**—number of simultaneously active protocol filters in the switch. | All platforms | 15 |
| **VLAN translation—**maximum number of translation VLANs. Assumes a minimum of one port per translation and member VLAN. | BlackDiamond 8000 a-, c-, e-, xl-series | |
| | with eight modules of 48 ports<br>8900-G96T-c modules | 383<br>767 |
| | BlackDiamond 10808 | 1,400 |
| | BlackDiamond 12800 series | 1,400 |
| | Summit X450a and X450e, group of 24 ports | |
| | with two-port option cards<br>without option cards | 25<br>23 |
| | Summit X450a and X450e, group of 48 ports | |
| | with two-port option cards<br>without option cards | 49<br>47 |
| | Summit X480, group of 24 ports | 23 |
| | Summit X480, group of 48 ports | 46 |
| | Summit X650 | 23 |

**Table 38: Supported Limits (Continued)**

| Metric | Product | Limit |
|---|---|---|
| **VLAN translation**—maximum number of translation VLAN pairs with an IP address on the translation VLAN. | All platforms | 512 |
| **VLAN translation**—maximum number of translation VLAN pairs in an L2-only environment. | BlackDiamond 8800 a-, c-, e-series<br>BlackDiamond 8900 series<br>BlackDiamond 10808<br>BlackDiamond 12800 series<br>Summit X250e, X450a, X450e<br>Summit X480, X650 | 384<br>2,046<br>2,046<br>2,046<br>384<br>2,046 |
| **vMAN (maximum ACL rules for vMAN)**—maximum number of ACL rules for vMAN. | BlackDiamond 10808<br>BlackDiamond 12800 series | 4,000<br>4,000 |
| **vMAN (0x8100 ethertype vMANs)**—maximum number of vMANs configured on a port whose ethertype is 0x8100. | BlackDiamond 20800 series<br>per GigE ports<br>per 10 GigE ports | <br>20<br>200 |
| **VPLS: VCCV (pseudo wire Virtual Circuit Connectivity Verification) VPNs—**maximum number of VCCV enabled VPLS VPNs. | BlackDiamond 10808<br>BlackDiamond 12800 R-series<br>BlackDiamond 20800 series<br>Summit X480 | 16<br>16<br>16<br>16 |
| **VPLS: MAC addresses in an H-VPLS network—**maximum number of MAC address learned by a switch in an evenly distributed hierarchical VPLS<br>**Note:** Increasing the number of spokes per VPLS will decrease the maximum number of MAC addresses that can be learned. | BlackDiamond 10808<br>BlackDiamond 12800 R-series | 60,000<br>60,000 |
| **VPLS: MAC addresses in a fully meshed VPLS network—**maximum number of MAC addresses learned by a switch in an evenly distributed fully meshed VPLS network. | BlackDiamond 10808<br>BlackDiamond 12800 R-series | 100,000<br>80,000 |
| **VPLS: MAC addresses**—maximum number of MAC addresses learned by a switch. | BlackDiamond 20800 series<br>Summit X480 | 500,000<br>524,488 (up to)[c] |
| **VPLS VPNs**—maximum number of VPLS virtual private networks per switch. | BlackDiamond 10808<br>BlackDiamond 12800 R-series<br>BlackDiamond 20800 series<br>Summit X480 | 2,000<br>2,000<br>4,000<br>1,023 |
| **VPLS peers**—maximum number of VPLS peers per switch. | BlackDiamond 10808<br>BlackDiamond 12800 R-series<br>BlackDiamond 20800 series<br>Summit X480 | 32<br>32<br>64<br>32 |

**Table 38: Supported Limits (Continued)**

| Metric | Product | Limit |
|---|---|---|
| **VPLS pseudo wires**—maximum number of VPLS pseudo wires per switch. | BlackDiamond 10808<br>BlackDiamond 12800 R-series<br>BlackDiamond 20800 series<br>Summit X480 | 2,000<br>2,000<br>16,000<br>8,000 |
| **Virtual Private Wire Service (VPWS) VPNs**—maximum number of virtual private networks per switch. | BlackDiamond 10808<br>BlackDiamond 12800 series<br>BlackDiamond 20800 series<br>Summit X480 | 4,000<br>4,000<br>4,000<br>4,000 |
| **VRRP (maximum instances)**—maximum number of VRRP supported VLANs for a single switch. | All platforms with Advanced Edge license or higher | 128 |
| **VRRP (maximum VRID)**—maximum number of unique VRID numbers per switch. | All platforms with Advanced Edge license or higher | 7 |
| **VRRP (maximum VRIDs per VLAN)**—maximum number of VRIDs per VLAN. | All platforms with Advanced Edge license or higher | 7 |
| **VRRP (maximum ping tracks)**—maximum number of ping tracks per VLAN. | All platforms with Advanced Edge license or higher | 8 |
| **VRRP (maximum ping tracks)**—maximum number of ping tracks per VRRP Instance under 128 VRRP instances.<br>**Hello interval:** 100 milliseconds<br>Frequency: 3 seconds<br>Miss: 3<br>**Hello interval:** 1 second<br>Frequency: 3 seconds<br>Miss: 3 | All platforms with Advanced Edge license or higher | <br><br><br>2<br><br><br>4 |
| **VRRP (maximum iproute tracks)**—maximum number of IP route tracks per VLAN. | All platforms with Advanced Edge license or higher | 8 |
| **VRRP**—maximum number of VLAN tracks per VLAN. | All platforms with Advanced Edge license or higher | 8 |
| **XML requests**—maximum number of XML requests per second.<br>**Note**: Limits are dependent on load and type of XML request. These values are dynamic ACL data requests. | BlackDiamond 8800 c-series<br>with 100 DACLs<br>with 500 DACLs<br>BlackDiamond 8900 series<br>with 100 DACLs<br>with 500 DACLs<br>BlackDiamond 12800 series with MSM-6R<br>with 100 DACLs<br>with 500 DACLs<br>Summit X450a, X480, X650<br>with 100 DACLs<br>with 500 DACLs | <br>10<br>3<br><br>10<br>3<br><br>10<br>3<br><br>4<br>1 |

a. An ACL mask defines a unique match criteria and relative rule precedence. Masks are automatically generated based on the contents of an access-list policy. Only adjacent rules within the policy that have identical match criteria will utilize the same ACL mask. For this reason, it is advantageous to list all rules with the same match criteria together unless a relative precedence with other policy rules is required. Using VLAN-based or wildcard ACLs requires the ACL masks to be allocated on every port in the system.
b. The table shows the total available; see the note included in PD3-77983510.
c. Limit depends on setting configured for `configure forwarding external-tables`.
d. Applies only if all enabled BlackDiamond 8000 I/O modules are BlackDiamond 8000 c- or xl-series modules.
e. Effective capacity varies based on actual IP addresses and hash algorithm selected, but is higher for BlackDiamond 8000 c-series and xl-series modules and Summit X480 and X650 switches compared to BlackDiamond 8800 a-series and 8000 e-series modules and Summit X250e, X450e, and X450a switches.

# 3 Open Issues, Known Behaviors, and Resolved Issues

This chapter describes items needing further clarification and behaviors that might not be intuitive. It also includes the items that have been resolved. The numbers shown in column one of the following tables are for internal reference and can be ignored.

This chapter contains the following section:



## Open Issues

Following are the open issues for supported features in ExtremeXOS 12.4.1. They are organized into the following sections:

**Table 39: Platform-Specific and Feature PDs**

| PD Number | Description |
|---|---|
| **General** | |
| PD4-1095776451 | An Extreme switch is unable to make a connection if the managment IP is in VR Default.<br>**Workaround:** XML notifications only work on the Management VR. |
| PD4-813961562 | When a service VLAN is changed to include a dot1q tag on both sides in CFM VPLS, the RMEP entry is not learned on one side. |
| PD4-1185907951, PD4-1023079871 | Disabling learning on a VLAN results in LACP packets being dropped. |
| PD4-1194741135 | setDynamicAc.pl, which is used to create a dynamic ACL and bind it to a specific port, is not working.<br>**Workaround:** The following SOAP element corrects this issue.<br>`SOAP::Data->name("applicationName" => "Cli"));` |
| PD4-910088928 | The following error message is displayed when downgrading a switch from ExtremeXOS 12.3 or later to ExtremeXOS 12.2 or earlier.<br>`Error: child process exited abnormally.` |
| PD4-749060484 | Errors are seen when a configuration having identifiers (SNMPv3 user name/EAPS domain name) with special characters are loaded through a script. |
| PD4-757870353 | Running diagnostics on the master MSM generates errors such as subsection reported as failed, conduit errors, and HAL.IPv4FIB/HAL.IPv6FIB. These log messages do not appear to have any impact on the successful completion of diagnostics on the master MSM. |
| PD4-749280880 | Installing firmware fails and displays the following message:<br>`tftp: server says: Wrong TFTP State` |
| PD4-718946965 | Directed broadcast traffic is not being forwarded. |
| PD4-740255437 | Policy files are not refreshed when generating 30,000 rules. |
| PD4-749682632 | You cannot run the `configure port auto on` command on XGM2-2bt ports. |

**Table 39: Platform-Specific and Feature PDs (Continued)**

| PD Number | Description |
|---|---|
| PD4-722565502 | Hot insert of a PSU, or reseating an AC plug on a PSU, causes the following error messages on a BlackDiamond 20800 series switch and causes the `show power budget` command to read the wrong value for the PSU.<br>`* BD-20804.25 #`<br>`########### CRITICAL ERROR`<br>`devmgr: dmps.c:563: power_add(): REASON: total->volt[i] == p2->volt[i]`<br>`* BD-20804.26 # sh power bud`<br>`Watts`<br>`PS State at 48V`<br>`-----------------------------------------`<br>`1 Powered On 2340.00`<br>`2 Powered On 3480.00`<br>`3 Powered On 6960.00` |
| PD4-733230780 | MAC security does not work on a PVLAN. |
| PD4-646084932 | An FDB entry for a non-isolated VLAN is not show in the output of the `show fdb` command after disabling and enabling an I/O module. |
| PD4-742951283 | An I/O slot fails due to a Tx data memory overflow and generates the following error message:<br>`<Erro:HAL.Card.Error> MSM-A: skylerHC-1184: skyler12 on slot 1 (4 errors):TX Data Memory Overflow: reg 0x32 value 0x01000001 wanted (0x00000000) got (0x01000000)` |
| PD4-730221901 | Refreshing an ACL on an MM-B while running an MSM failover on MM-A causes MSM-A to lose the ACL configuration on MSM-A. |
| PD4-737811617 | Creating a blackhole FDB entry on a BlackDiamond 12800 series switch still forwards traffic from a BlackDiamond 20808 to a BlackDiamond 12800.<br>**Workaround:** Create blackhole entries for the same MAC on each of the subscriber VLANs. |
| PD4-561358261 | If you create a super VLAN and a sub-VLAN in different virtual routers you are able to bind the VLANs. Super VLANs and sub-VLANs should belong to the same virtual router. |
| PD4-489592307 | DUT is not sending an "icmp destination unreachable" message to the source when it receives a jumbo packet with a "dont fragment" bit message. This applies to BlackDiamond 10800 and BlackDiamond 20808 switches only. |
| PD4-470597781 | When a local VLAN with 32 subnet-mask IP addresses is down, the dynamic route with the same 32 subnet-mask IP addresses is not reachable. |
| PD4-460892051 | Installing different versions of an ExtremeXOS image and an SSH image displays the following error message:<br>`Failed to install image- cannot read spec file" in the log "upgrade failed installation:got error from installer DLL"` |
| PD4-464587012 | All unicast traffic routed by MPLS is stopped when penultimate hop popping (PHP) is enabled on all MPLS VLANs. VPLS traffic is not impacted. |
| PD3-202580681 | Enabling IP route compression may cause temporary slow path forwarding for some of the L3 traffic. |
| PD3-192821161 | For Summit X650, X450 a-series and e-series switches, and the BlackDiamond 8800 series of switches, the maximum number of supported IP interfaces is 512 (IPv4 and IPv6 combined). If there are more IP interfaces configured, the following log message is displayed:<br>`12/11/2007 06:06:14.73 <Info:HAL.VLAN.Info> Maximum # of IP interfaces (512) already configured. Could not add IP address 0x0A010101 mask 0xFFFFFF00` |

**Table 39: Platform-Specific and Feature PDs (Continued)**

| PD Number | Description |
|---|---|
| PD3-104885349 | When a shared link comes up, temporary traffic loss may occur until FDB entries are aged. Aging occurs by default every five minutes.<br>**Workaround:** To reduce traffic loss, reduce the default age time. |
| PD3-132775269 | Telnet sessions between two switches using two windows causes one session to hang if both sessions are edited but only one session is saved. |
| PD3-28378521 | Enabling load sharing on a port that is being mirrored causes the mirroring to stop. |
| **BlackDiamond 8800 Series Switch** | |
| PD3-190363671 | The following error message is displayed while hot swapping PSUs:<br>`Unable to read PSU-2 FRU data. Try reinserting PSU more quickly.`<br>**Workaround:** Remove and reinsert the PSU quickly. Insert the PSU in a single, continuous motion with a firm push. |
| **BlackDiamond 10808 Switch** | |
| PD3-28320363 | In IPv6, the encapsulate value is "next header," which is not currently a valid attribute. |
| PD3-124124316 | The following error messages are shown in the log when running 50,000 unicast routes with ECMP enabled:<br>`02/05/2007 15:38:37.89 <Warn:HAL.Sys.Warning> MSM-A: hal: Reached maximum otp index allocation`<br>`02/05/2007 15:38:37.56 <Warn:HAL.Sys.Warning> MSM-A: Previous message repeated 999 additional times in the last 1 second(s)` |
| PD3-68165111 | Various memory locations that are part of the forwarding and routing tables are parity protected on BlackDiamond 10808 switches. The functionality should be turned on so that faults are detectable. |
| PD4-318846862 | L3 multicast traffic in a VPLS vMAN is forwarded twice when the LSP is changed to port sharing and is then changed back. |
| PD3-54870537, PD3-45729158 | Under the following circumstances, EAPS control packets received on the wrong VLAN may be treated and processed.<br>1 Create a EAPS ring with three or more switches with a BlackDiamond 10808 as one of the transit switches, directly connect to the master with load sharing enabled.<br>2 Enable load sharing on the primary port of the master switch (the master port should be higher than the group port so that the configuration master and current master are different in load sharing).<br>3 Disable load sharing on the BlackDiamond 10808.<br>4 Show EAPS on the master switch; the domain state will be complete.<br>5 The control packets are transmitted on the current master and the BlackDiamond 10808 will receive the packets on the port that is not part of the EAPS VLAN. |
| PD3-202184409 | Adding/deleting a LAG s |
| PD3-133427241 | When an OSPF external filter is configured to deny routes, not all routes are being filtered. |
| PD3-204793983 | The egress rate-limit shown in the command output of the `show port utilization` command is not correct. |
| **BlackDiamond 12800 Series Switch** | |
| PD4-1195687987 | The BGP process crashes with signal 6 while trying to delete a VLAN from a user created VR in MPLS-VR.<br>**Workaround:** Disable BGP prior to deleting the VLAN and enable graceful restart on BGP. |

**Table 39: Platform-Specific and Feature PDs (Continued)**

| PD Number | Description |
|---|---|
| PD4-1198343901 | By default, Kerberos authentication uses UDP to transmit data. UDP provides no guarantee that a packet sent along the network will reach its destination intact. In addition, the UDP Kerberos protocol may cause the "KRB_ERR_RESPONSE_TOO_BIG: Response too big for UDP, retry with TCP" error (that is, the size of a ticket is too large to be reliably transmitted by UDP). In some cases, the client fall back from UDP to TCP Kerberos request may affect ExtremeXOS Kerberos snooping.<br><br>**Workaround:** This issue is not seen if Kerberos packets are sent either through UDP or with TCP Kerberos only. It is recommended that the client use either TCP or UDP for a Kerberos request on the client side (reference: http://support.microsoft.com/kb/244474). |
| PD4-285686375 | After upgrading to the latest ExtremeXOS 12.1.2.17 image, the following EEPROM error message appears in the log:<br><br>`MSM-A: MSM-B card eeprom checksum failed. 0xb97 != 0xb96` |
| PD3-125288233 | MSTP fails to converge when a vMAN Ethernet type is set to 0x8100 on a BlackDiamond 12800 series switch. |
| PD3-192175421 | The following error message is displayed when installing a policy file with more than 4,096 rules:<br><br>`Error: Unable to bind traffic queue tq4095 to port 1:1.` |
| PD3-187808062 | A BlackDiamond 12800 series switch does not show a warning message on the console for down revision MSM and I/O modules after initialization. |
| PD3-86738591 | Traffic queue statistics are incorrect when a BlackDiamond 12800 series switch is configured to work in H-QoS mode. Statistics counters are accurate when the switch is configured in the PRI mode. |
| PD3-118914021 | When an OSPF neighbor is configured between two LSRs and MPLS, and an LDP session is configured between them, the ABR router advertises a default route to the internal router. The default route is not mapped to a label in the internal router because the ABR does not advertise the label |
| **BlackDiamond 20800 Series Switch** | |
| PD4-1026932011 | Hot swapping an XFM module may cause an odometer reading error. ExtremeXOS will not be able to read the odometer reading.<br><br>FABRIC-2 information:<br>State: Operational<br>PartInfo: XFM-2 10076-80022 806019-00-05<br>Revision: 5.0<br>FailureCode: 0<br>Odometer:<br>Temperature: 40.0 deg C<br>Status: FABRIC Mode |
| PD4-722565502 | Hot insert of a PSU or reseating an AC plug on a PSU causes the following error messages on a BlackDiamond 20800 series switch, and causes the `show power budget` command to read the wrong value for the PSU.<br><br>`* BD-20804.25 #`<br>`########### CRITICAL ERROR`<br>`devmgr: dmps.c:563: power_add(): REASON: total->volt[i] == p2->volt[i]`<br>`* BD-20804.26 # sh power bud`<br>`Watts`<br>`PS State at 48V`<br>`---------------------------------------------`<br>`1 Powered On 2340.00`<br>`2 Powered On 3480.00`<br>`3 Powered On 6960.00` |

**Table 39: Platform-Specific and Feature PDs (Continued)**

| PD Number | Description |
|---|---|
| PD4-973196600 | The following error or warning messages are seen after installing firmware from CR 21 (ExtremeXOS 12.3.2.5) to CR 22 (ExtremeXOS 12.4.1):<br>`* (debug) BD-20808.8 # show log sev err < Erro:Kern.Error > MM-A: ide0: unexpected interrupt, status=0xd0, count=1`<br>`<Erro:Kern.Error> MM-B: ide0: unexpected interrupt, status=0xd0, count=1`<br>`<Erro:HAL.Card.Error> MM-A: PHD EEPROM READ ERROR..SLOT=8, ADDR=167`<br>`<Erro:HAL.Card.Error> MM-A: Previous message repeated 2 additional times in the last 60 second(s)`<br>`< Crit:HAL.Fabric.Critical> MM-A: pioneerBringDownFE200 Bringing Down FE200 on XBAR 2 as the command EXTRUC_FE_MCAST_WRITE_CMD Failed, Reason: UCPIPE_TIMEOUT`<br>`<Erro:HAL.Card.PowerStateError> MM-A: A request to power down slot 8 failed - returning a completion code of -1 .`<br>`<Erro:HAL.Card.Error> MM-A: PHD EEPROM READ ERROR..SLOT=5, ADDR=167`<br>`<Erro:HAL.Card.Error> MM-A: Previous message repeated 2 additional times in the last 59 second(s)`<br>`<Crit:DM.Critical> MM-B: Slot-5 FAILED (6) IO Slot5 Micro controller was reset. Attempt to recover`<br>`<Crit:DM.Critical> MM-A: Slot-4 FAILED (6) IO Slot4 Micro controller was reset. Attempt to recover`<br>`<Crit:cm.file.openErr> MM-B: Failed to open file "/config/primary.cfg": No such file or directory` |
| PD4-1095528349 | The `show access-list counters` command does not return the proper values and generates the following log message:<br>`<Warn:HAL.IPv4ACL.SendSlotCfgMsgFail> MM-B: An operation to send ACL configuration 7 to one or more slots failed with error HAL_CNDT_ERR.` |
| PD4-1158486259 | In a VPLS configuration with RSVP redunandant paths, disabling and enabling a primary path link results in traffic flowing asymmetrically between the primary and secondary paths. |
| PD4-1135195907 | With 4,000 VPLS instances, L2 unicast traffic recovers 8 to 10 minutes after disabling and enabling VPLS or MPLS traffic in a three node configuration. |
| PD4-465744039 | ACL counters are not hitting the Internet Group Management Protocol (IGMP) packets. |
| PD4-506754505 | When creating a dynamic egress ACL to deny all traffic, the traffic still hits the ARP reply counter but not denying the packets. |
| PD4-450852442 | When configuring an ACL and using the keyword `denyAll` in the `create access-list` command, the action is not stopping the ARP reply packets. |
| PD4-614541490 | VPLS traffic stops after configuring MAC limit-learning. |
| PD4-720906222 | Performing a save and reboot on a DUT with 5,000 dynamic ACLs causes one module to go into a failed state while the remaining modules stay in ACL sync even after one hour. |
| PD4-690958111 | After running the `unconfigure switch all` command, an I/O module may stick in the booting state, resulting in the switch continually rebooting. |
| PD4-631700490 | When PIM and PIM snooping are enabled on the same VLAN, and if that VLAN happens to be a PIM egress VLAN, traffic forwarding does not happen on the VLAN. |
| PD4-854675001, PD4-860561781 | A BlackDiamond 20808 switch with a single MM running ExtremeXOS 12.3.2 software fails to upgrade during a firmware upgrade process. It also fails during the firmware downgrade process. You may need to try and install the firmware multiple times. |
| PD4-552222911 | DUT is hanging with a busy message (dots) after configuring 7,250 ingress dynamic ACLs with conduit errors. |
| PD4-757707981 | Proxy ARP does not work in a PVLAN. |

**Table 39: Platform-Specific and Feature PDs (Continued)**

| PD Number | Description |
|---|---|
| PD4-526514731 | On a BlackDiamond 20800 series switch, the system experiences a random packet drop from the MM to the packet processor health check loopback interface. |
| PD4-730820249 | If a route prefix in a BlackDiamond 20800 series switch is more than 24, only 100,000 routes are stored in the hardware. For the route prefixes less than 24, then 512,000 routes are stored in the hardware. |
| PD4-734160880, PD4-697230006 | Extreme Networks does not support the same (S,G) stream entering a switch through multiple constituent VLANs of a private VLAN or VLAN aggregation. If a source moves from one constituent VLAN to another, run the `clear igmp snooping` command. |
| PD4-969859031 | After upgrading from CR21 to CR22 firmware on a BlackDiamond 20808 chassis, the log fills up with error and warning messages. |
| PD4-973196566 | When downgrading from CR22 in ExtremeXOS 12.4.1 to CR 21 in ExtremeXOS 12.3.2.5, multiple error and warning messages are displayed.<br>`* (debug) BD-20808.5 # sh log sev err`<br>`12/01/1933 21:56:17.48 <Erro:HAL.Card.Error>`<br>`MM-B:voyagerCardPowerEnable:1153:- Invalid System mode information returned from dm. dmGetSystemMode() = 33`<br>`12/01/1933 21:48:23.10 <Crit:HAL.Fabric.Critical> MM-A: Failed to initilize Fabric Elements in Slot:`<br>`12/01/1933 21:48:23.10 <Crit:HAL.Fabric.Critical> MM-A: fe200_init_fabriccard_1 FE-200 Power up Failed for Fabric Slot: 5` |
| PD4-708913560 | ExtremeXOS software does not monitor the temperature of I/O modules or the fan speed. If the temperature sensors on an I/O module exceeds 80 Celsius (C), set both fan trays to 100%. When all temperature sensors on the I/O modules drop below 60 C, set the fan speed to default (bottom fan tray at 40%, and the top fan tray at 60%). If a temperature sensor on an I/O module exceeds 90 C, disable the slot and flag it as failed. |
| PD4-1048824150 | Deleting meters reports an error after an access list is configured and unconfigured multiple times.<br>**Workaround:** Configure another meter. |
| PD4-1066604251 | In dual MM systems, whenever a meter deletion results in a timeout, the `show meter` command output still shows the meter, even though the error `meter could not be found` is displayed.<br>**Workaround:** Create and use another meter. |
| PD4-1064653511 | The error `.....***** Process hal pid: 474 died with signal:11` is displayed on an active MM when 1,000 policy files are configured on multiple egress ports.<br>**Workaround:** Configurations exceeding the scaling limit are not supported. |
| PD4-1064653532 | When configuring an access list with traffic queues, with a 10G port as one of the egress port, traffic is lost when the corresponding 10G I/O module is hot swapped.<br>**Workaround:** Disable and re-enable the I/O module. |
| PD4-1056439342 | I/O modules reboot when egress rate shaping is configured above 1,000 traffic queues with all egress ports.<br>**Workaround:** Configure egress rate shaping with the proper scaling limits. |
| PD4-861903959 | When the backup MM is not yet synced (because of `run msm-failover` or running diagnostics) and one performs an MM-failover, the command is accepted, however, both MMs will then reboot.<br>**Workaround:** Make sure that `run-time diagnostics` command checks that both MMs are in sync before running the diagnostics. |

**Table 39: Platform-Specific and Feature PDs (Continued)**

| PD Number | Description |
|---|---|
| PD4-847978862 | A monitor port does not come up after enabling a port after a DUT is rebooted with a disabled monitor port. The following error is displayed while rebooting:<br>`MM-A: voyagerCardPowerEnabl`<br>`e:1144:- Invalid System mode information returned from dm.`<br>`dmGetSystemMode`<br>`() = 33`<br>`08/15/2009 16:47:02.47 < Erro:HAL.Card.Error > MM-A:`<br>`voyagerCardPowerEnabl`<br>`e:1144:- Invalid System mode information returned from dm.`<br>`dmGetSystemMode`<br>`() = 33` |
| PD4-841530197 | The `install firmware` command displays a lot of errors in the log and the HAL CPU goes to 99% capacity.<br>`FE200 on XBAR 3 as the command EXTRUC_FE_WRITE_CMD Failed,`<br>`Reason: UCPIPE_ERROR`<br>`08/10/2009 02:58:43.26 MM-A: Error Register Write`<br>`ExtremeFE200Writ`<br>`eUc Offset: a10 Value ffffffff for Fabric Slot: 3`<br>`08/10/2009 02:56:32.29 MM-A: Slot-8 FAILED (3) Error Generic`<br>`Error(-1) from HAL on CardExec POWER_OFF(10) for slot 8`<br>`08/10/2009 02:56:32.29 MM-A` |
| PD4-803757411 | Configuring a meter on a BlackDiamond 20808 switch to limit broadcast or multicast traffic (rate-limit flood-traffic) is not possible without an HQoS license. |
| PD4-748388236 | Egress rate shaping does not work after running the `save` and `reboot` commands if an egress port is not specified. Configured egress rate-shaping does not work on a newly inserted I/O module if an egress port is not specified.<br>**Workaround:** Unconfigure the ACL and re-apply the same ACL. |
| PD4-715473099 | The multicast traffic receive rate for 10,000 multicast groups takes an excessive amount of processing time. |
| PD4-756263261 | The `show fabric` command in an ExtremeXOS environment shows the fabric information is XFM-2. |
| PD4-728354005 | On a BlackDiamond 20808 switch, running the `show tech-support` command when I/O modules or fabric slots are in the process of booting, or are otherwise not operational, may cause `sys-health-check` output to display fabric link faults, when there are actually none. This is a transient state. Once the modules are operational, only actual fabric link faults are displayed in the command output. |
| PD4-756213981 | BlackDiamond 20808 multicast rate-limit supports a minimum 10 Mbps. |
| PD4-603229266 | A slot reboots when load sharing is disabled and MVR is disabled and re-enabled. |

**Table 39: Platform-Specific and Feature PDs (Continued)**

| PD Number | Description |
|---|---|
| PD4-587169451 | Running the `install firmware` command may generate numerous error messages in the Event Management System (EMS) logs. These messages do not impact system performance.<br>`<Erro:HAL.Sys.BackupPFCFailed> MM-A: Backup Power Fan Controller (#2) has failed`<br>`<Erro:EPM.Upgrade.Fail> MM-A: Upgrade failed, script: install bootrom failed`<br>`<Erro:HAL.Sys.GetPFCMastershipFailed> MM-A: Failed to get Power Fan Controller Mastership for slot #17`<br>`<Erro:HAL.Sys.OtherPFCFailed> MM-B: Power Fan Controller in slot 17 has failed to communicate with EXOS`<br>`<Erro:HAL.Sys.SetBackupPFCToMaster> MM-B: An error happened and is now setting the backup Power Fan Controller #2 to be the master Power Fan Controller`<br>`<Erro:HAL.Sys.MasterPFCFailed> MM-B: Master Power and Fan Controller (#1) has failed`<br>`<Crit:HAL.Fabric.Critical> MM-A: pioennerBringDownFE200 Bringing Down FE200 on XBAR 1 as the command EXTRUC_FE_READ_CMD Failed, Reason: UCPIPE_ERROR`<br>`<Erro:HAL.Sys.Error> MM-A: Slot XBAR1: 23918 FE 0 read 0xb50` |
| **Summit Family Switches** | |
| PD3-127401831 | On a Summit X250e platform with 128 VRRP instances that are advertised for 100 milliseconds, the feature "don't preempt" is not working properly. |
| PD4-1102582531 | In a PVLAN, network login MAC-based authentication does not work in ExtremeXOS 12.4.0.19. |
| PD4-427423116 | When a dot1x client is authenticated at multiple VLANs, the output of the `show netlogin port` command shows the client is sometimes authenticated at the local server and other times at a RADIUS server.<br>**Note:** This occurs when dot1x and MAC authentication are enabled on the port. |
| PD4-1101069206 | When configuring 2,000 VPWS instances, only 1,023 VPWS instances are created. |
| PD3-71725881 | When configuring an optional name for the time zone/DST, the time zone name truncates at seven characters. The system default is six characters. |
| PD4-1142692318 | On Summit X480 switches, L3 multicast traffic sent from a service VLAN/vMAN to VPLS is not received at the VPLS peer.<br>**Workaround:** Two modes of operation are supported on ports that are configured as part of a VPLS service VLAN.<br>Using the first mode, the following configuration is set for all VLANs on the port (VPLS service VLANs and non-VPLS service VLANs):<br>1 IGMP snooping is configured as disabled. The default is enabled.<br>2 No IP address is configured.<br>Using the second mode, the following configuration is set:<br>1 Run the `configure igmp snooping filters per-VLAN` command. The default is per-port.<br>2 If an IP address is configured for a VPLS service VLAN, run the `configure ipmcforwarding to-cpu off port <port>` command. The default is auto. |
| PD4-448681226 | The `show l2stats` command does not count ARP packets to the CPU, even though the packet goes to the CPU. |
| PD4-489142320 | One Gigabit ports set to `auto on` flap twice during a switch reboot. |
| PD4-489359602 | Conflicting Link Fault Signal (LFS) alarms are shown when disabling local ports. |

**Table 39: Platform-Specific and Feature PDs (Continued)**

| PD Number | Description |
|---|---|
| PD4-1023729033 | A Summit family switch is not sending the SNMP traps “extremeFanFailed” and “extremeFanOK.” |
| PD4-274249122 | If a Summit switch populated with an XGM2-2bt module is rebooted, a false link up is seen on 10G links connected to the XGM2-2bt ports approximately 30 to 50 seconds before the switch has fully booted. |
| PD3-201233169 | A condition exists with some Mitel IP phones that are attached to an ExtremeXOS PoE enabled platform that requires that you disable and enable inline power in order for the phone to become active. |
| PD3-77711042 | The Priority column should not display in the output of the `show inline-power configuration` CLI command when running the command on a Summit X450-24p PoE switch. |
| PD3-43606168 | If sFlow does not have a collector configured using the `configure sflow collector` command, the `show log` command generates the following messages:<br>`08/23/2005 12:28:09.55 <Noti:sflow.debug.AddCntSmplFail> : Could not add the counter sample for port 0:1020, as receiver is not configured.`<br>`08/23/2005 12:07:49.55 <Noti:sflow.debug.AddCntSmplFail> : Previous message repeated 61 additional times in the last 1200 second(s).` |
| PD3-40266236, PD3-40233121 | Traffic on load share ports configured as redundant ports incorrectly moves to other ports in the load share group during link transition. |
| PD3-202013281 | Learning is disabled by default on remote mirroring VLANs. Running the `enable learning` command on those VLANs may cause a loss of remote mirrored traffic. |
| PD3-202013298 | The valid value range for tags on remote-mirroring VLANs is 1 to 4,094. Use these values for configuring the remote tag in the `enable mirroring` command. |
| **SummitStack** | |
| PD4-1159043191 | A data loop occurs in the second VLAN of two protected VLANs when the second VLAN is added using auto-bind. |
| PD4-928567091 | Running the `synchronize` command on a Summit X650 in a SummitStack causes the system to time out and the stack to not synchronize for an extended period of time This also results in the master node no longer being accessible. |
| PD4-787052219, PD4-416129282 | When a backup slot reboots and comes up, the switch experiences multiple stack link flaps. |
| PD3-181304741 | After inserting a XENPAK in a stack (XGM2-2xn, XGM-2xn) and performing an snmpwalk on the entityMib entPhysicalDescr variable, XGM- is always shown, not the complete module description. |
| PD3-136493921 | If a switch is added to a stack whose master switch has a license level that is greater than the level of the switch, the switch will fail. The complete condition can be seen using the `show slot detail` command. In this state, the switch does not have AAA services available. You will only be able to log into the switch using the failsafe account that was last assigned to it. You must log into the switch to upgrade the license. If the switch is not using the failsafe account configured on the stack, you can use the `synchronize stacking {node-address <node-address> \| slot <slot-number>}` command to copy the failsafe account information from the master switch to the failed switch NVRAM.<br>You can also use the `configure stacking license-level` command to configure a license level restriction on the entire stack and then reboot the stack. Once the stack is restarted, there is no longer a license mismatch, enabling you to log into the switch and upgrade the license. From the master switch, run the `unconfigure stacking license-level` command to get the stack to operate at the desired license and then reboot the stack. |

**Table 39: Platform-Specific and Feature PDs (Continued)**

| PD Number | Description |
|---|---|
| PD3-126650411 | A stackable system with two or more nodes may experience random VRRP master/backup flapping issues after an MSM failover when configured with the maximum 128 VRRP instances using the minimum advertisement interval of 100ms and maximum tracking entries. |
| PD3-209191768 | After running the `disable port all` command on a SummitStack, some port LEDs may sometimes light green even though ports are not up. |
| PD3-204744742 | IPv6 neighbor-discovery in a management VLAN in a SummitStack resolves to the node address of the stack master, instead of the stack MAC address. |
| **ACL** | |
| PD4-722565430 | IPv6 ACL address masks are not working correctly after rebooting a switch. |
| PD4-750014887 | If a failover occurs during a “refresh policy” the HAL process dies on a new master MSM.<br>**Workaround:** Avoid performing a policy refresh if switching from one MSM to another. |
| **BGP** | |
| PD3-209442785 | Static multicast routes are not exported using MBGP. However, a static unicast route can be exported using MBGP. |
| **CLEAR-Flow** | |
| PD4-278443631 | CLEAR-Flow commands display on platforms that do not support this capability, including the Summit X150, X250, X350, and X450e series switches, as well as BlackDiamond 8800 non-c-series switches. |
| **CLI** | |
| PD3-57182431 | For the incoming traffic with alignment errors, the "RX Align" counter in the output of the `show ports <port number> rxerrors` command is not incremented. Instead the "RX CRC" counter is incremented. |
| **EAPS** | |
| PD4-749215481 | Disabling the EAPS master primary port when there are no other ports configured on a protected VLAN will cause a disruption of L2/L3 multicast traffic.<br>**Workaround:** Enable loopback on all EAPS protected VLANs. |
| PD4-471892924 | Restarting the EAPS process on a controller generates the following error messages on a console, but does not impact switch performance.<br>`BD-8806.80 # restart process eaps`<br>`Step 1: terminating process eaps gracefully ...`<br>`Step 2: starting process eaps ...`<br>`Restarted process eaps successfully`<br>`BD-8806.81 # ERROR:VmgrProtocolIfRegister protoId:0 numIf:1`<br>`ERROR:VmgrProtocolIfRegister protoId:0 numIf:3`<br>`ERROR:VmgrProtocolIfRegister protoId:0 numIf:1` |
| **IP Routing Protocols** | |
| PD3-132508261 | When issuing the `enable jumbo-frame port all` command on a BlackDiamond 8800, the MTU size for the VLAN is not configured. Sending 5,000 byte traffic works correctly. However, if you disable jumbo-frames on the egress port the error message `Packet too big` is displayed. |
| **Mirroring** | |
| PD3-79867211 | If you create a load sharing group (trunk), then enable mirroring to a port, the software allows you to add the mirroring port to the load sharing group. |
| **MPLS** | |

**Table 39: Platform-Specific and Feature PDs (Continued)**

| PD Number | Description |
|---|---|
| PD4-476351932 | Performing a `restart process mpls` or `restart process ospf` on a spoke node in an HVPLS setup causes the Label Distribution Protocol (LDP) peer to go down with the core node.<br>**Workaround:** Disable and enable MPLS. |
| PD4-475414370 | The following warning message is seen numerous times after changing VLAN Virtual Private LAN Services (VPLS) mappings:<br>`<Warn:MPLS.LDP.InternalProb>` |
| PD4-475414505 | In more complex topologies, detour Label Switched Path (LSP) connections are not set up. |
| PD4-475414558 | Changing a Label Switch Router (LSR) ID causes all Label Distribution Protocol (LDP) peers to go into a NonExistent state. |
| PD4-452308541 | The secondary pseudo wire on an ESRP master switch does not take the secondary core node pseudo wire after the primary core is rebooted. |
| PD3-157687121 | ExtremeXOS software uses Control Channel Type 2 to indicate router alert label mode. In MPLS Router Alert Label mode, VCCV packets are encapsulated in a label stack. However, the existing VCCV packets are sent like a stack without any PW label. |
| PD3-184989177 | When an `LDP advertise static` setting is set to `all`, all static routes are treated as egress routes and egress LSPs are created. That is, a label is generated and advertised for the static route. If the router at the end of the static route advertises a label matching that static route, the LSP that was previously an egress LSP becomes a transit LSP. An ingress LSP should also be created whenever a label is received, however, the ingress LSP is never created.<br>**Workaround:** Do not use the `LDP advertise static all` configuration in situations where an ingress LSP for a static route is required. |
| PD3-139423053 | Running the `show mpls rsvp-te lsp summary` command on a system configured with 2,000 ingress LSPs takes an excessive amount of time to process. |
| PD3-121985381 | You cannot configure an IP MTU that is greater than the configured jumbo frame size. However, when the jumbo frame size is configured using a smaller value than the IP MTU, the configuration is accepted and the traffic is forwarded using the larger packet sizes. |
| PD3-92653036 | The `show mpls label`, `show mpls rsvp-te label`, and `show mpls rsvp-te lsp` command output currently does not display egress LSPs using advertised implicit NULL labels. |
| PD3-111544904 | When a router receives an explicit NULL label, it is incorrectly treated as an implicit NULL label, so rather than sending label 0, no label is sent. |
| PD3-93218551 | If either an egress or a transit LSP traverses the system, and an MPLS labelled packet containing a router alert label is received, that packet is not forwarded. |
| PD3-93069318 | Only VLANs configured as protocol any should be added to MPLS. |
| PD3-104731701 | When a traceroute is performed by setting the MPLS TTL to the IP TTL, ExtremeXOS does not correctly send back an ICMP response. The result is "*" characters in the traceroute for the routers that timed out. If a route is available, ExtremeXOS should attempt to send back an ICMP response. |
| PD3-93630853 | LDP should not advertise a label mapping for a direct VLAN that does not have IP forwarding enabled. |
| PD3-203917264 | When an explicit route object (ERO) is changed for an LSP session that is up, the LSP that is already up is not torn down. LSP stays up based on the older values. The retry count continues to increment as LSP tries to come up with new values by querying routes every 30 seconds. This is done while the earlier LSP session is still active using the previously configured values. See the retry count in the command output for the `show mpls rsvp-te lsp <lsp_name> detail` command. |
| **Multicast** | |

**Table 39: Platform-Specific and Feature PDs (Continued)**

| PD Number | Description |
|---|---|
| PD4-581950231 | Multicast traffic is not received even though the rendezvous point (RP) tree and source information is shown in the PIM cache table |
| PD4-521915271 | The Internet Group Management Protocol (IGMP) group reports may occasionally change from Version 2 to Version 3. |
| PD4-339945634 | When a load-sharing group is a member of a mirrored VLAN, packets ingressing on the member of the load-sharing group in the mirrored VLAN should be mirrored. On the Summit family switches and BlackDiamond 8800 modules, packets ingressing on member ports other than the master port of the load-sharing group in the VLAN are not mirrored.<br>**Workaround:** Packets ingressing non-master ports in the load sharing group on the mirrored VLAN can be mirrored by adding virtual port mirroring filters for each of the non-master member ports. |
| PD3-128093864 | MSDP Source-Active responses received from non-RPF peers are not processed. |
| PD3-189399801 | The command output for the `show pim rp-set` command does not always show all the Rendezvous Points for a multicast group.<br>**Workaround:** Do not configure the group address in the rp-list with a non-zero host portion. |
| PD3-78144711 | The `show ipstats` command does not increment IGMPv3 statistics. |
| PD3-79383551 | IGMPv3 Report Record type "5" does not work as expected when sent after a type "2" or a type "4" message. |
| PD3-2841008 | With PIM, when small-sized multicast streams are ingressed at line rate, there is an initial packet drop of 50% to 70%. This is seen on BlackDiamond 8800 and Summit X450 switches. |
| **Network Login** | |
| PD4-468366251 | A network login client is not authenticated if the username is 32 characters. Only 31 character user names are supported, even if the user can create a 32-character username. |
| PD4-763062511 | Hitless upgrade is not supported for network login in ExtremeXOS 12.3.1. |
| PD4-752731351 | You should not be able to enable network login if a VLAN is a VLAN-aggregation subVLAN. The system should generate a syntax error. |
| **Network Services** | |
| PD3-93829391 | Configurations using a VR-Mgmt interface as a RADIUS client IP may not load at boot-up. However, using an interface in VR-Default will load correctly. |
| PD3-67431351 | Configuring an ingress traffic queue and an egress traffic queue association to multiple ports in sequential order generates the following error:<br>`Egress queue already associated to this ingress queue Configuration failed on backup MSM, command execution aborted!` |
| PD3-67727590 | Creating two sets of vMAN ACLs with 4000 entries each and performing a vMAN ID translation on each ACL may generate the following error:<br>`.....03/15/2006 17:57:28.84 <Info:pm.config.openingFile> MSM-B: Loading policy RLL20k from file /config/RLL20k.pol`<br>`...03/15/2006 17:57:32.46 <Info:pm.config.loaded> MSM-B: Loaded Policy: RLL20k number of entries 4002`<br>`.........Error in alloc txmi txmi 0x9f2 txmdi 0xffffffff`<br>`Error in alloc txmi txmi 0x9f4 txmdi 0xffffffff`<br>`Error in alloc txmi txmi 0x1102 txmdi 0xffffffff`<br>`Error in alloc txmi txmi 0x9f6 txmdi 0xffffffff`<br>`Error in alloc txmi txmi 0x9f8 txmdi 0xffffffff` |
| **QoS** | |
| PD3-16578296 | The member ports of a trunk will retain the QoS profile configuration of the trunk (based on the master port) after load sharing is disabled, or if a port is removed from the trunk. |

**Table 39: Platform-Specific and Feature PDs (Continued)**

| PD Number | Description |
|---|---|
| **RMON** | |
| PD3-12950492 | Issuing the `clear counter` command might cause a high number to be displayed in variables such as etherHistoryOctets, etherHistoryPkts, and etherHistoryTable. |
| **ScreenPlay** | |
| PD3-111344472 | ScreenPlay allows you to configure DHCP but you cannot enable DHCP. |
| **Security** | |
| PD3-205012219 | The source-ip-lockdown dynamic deny acl counter is not working properly and increments valid traffic from a trusted client. |
| PD3-186939931 | Ingress mirroring is not working for DHCP snooping when snooping is enabled on BlackDiamond 12800 series switches. DHCP snooping works correctly when DHCP snooping is disabled. |
| PD3-75120608 | The `unconfigure radius` and `unconfigure tacacs` commands do not reset the timeout value to the system default of 3 seconds. |
| **SNMP** | |
| PD4-705730556 | AES/3des users created using ExtremeXOS 12.3.1 software cannot be used for SNMP operations in ExtremeXOS 12.1 or earlier releases. This may cause the SNMP master to crash. |
| PD3-39411271 | icmpInMsgs counter will display the incoming ICMP packets for VR-Default only. |
| **Spanning Tree Protocol** | |
| PD4-1161434651 | MSTP edge ports are not correctly learning MAC addresses. |
| PD3-189927343 | A temporary loop occurs when a root bridge is taken down by disabling all ports or powering down the switch. |
| **WAN PHY** | |
| PD3-101226461 | When `show wan-phy` commands are run on non WAN PHY ports, the ports display the headers. It should only display the error `wan command is not supported on non-wanphy port 25`. |

# Known Behaviors

The following are limitations in ExtremeXOS system architecture that will not be resolved.

**Table 40: Platform-Specific and Feature PDs**

| PD Number | Description |
|---|---|
| **General** | |
| PD4-1072411171 | Performing an SNMP get on vplsConfigVpnId may return the same value when configuring a larger pseudo-wire ID value. |
| PD4-482808326 | When a configuration is saved as a default.xsf configuration, errors are seen when the configuration comes up after running the `unconfigure switch` command. |
| PD4-486972363 | Bandwidth for the detour LSPs are calculated from the PLR node to the egress node, and not from the PLR node to the MP. Therefore, detour LSP is signaled only when there is enough bandwidth that is equal to or greater than the requested bandwidth for the detour LSP from the PLR node to the egress node. |

**Table 40: Platform-Specific and Feature PDs (Continued)**

| PD Number | Description |
|---|---|
| PD4-901778542 | The command `mrinfo <neighbor ipaddress> from <source ipaddress>` is not displaying the entire interface when the source IP address is changed. |
| PD4-1084698943, PD4-977234454 | Configuring UPM profiles to include the `show port info detail` command results in the `show profile history` command output showing the status as failed. |
| **BlackDiamond 8800 Series Switch** | |
| PD4-449743037 | Group entries are not timing out on Multicast VLAN Registration (MVR) and non-MVR VLANs even though snooping is disabled on the non-MVR VLAN. |
| **BlackDiamond 12800 Switch** | |
| PD4-750488331 | When a BlackDiamond 12800 series switch with 4,000 BVLANs and 2,000 SVLANs configured and IGMP snooping disabled, the switch crashes when enabling sharing with LACP on BVLAN ports. This configuration may also cause an MSM to go into a failed state. |
| PD3-205380274 | sFlow is not working on ports that are included in BVLANs, SVLANs, and occasionally vMANs. sFlow can be enabled and configured for ports in BVLANs, SVLANs, and vMANs, but nothing is sent to the sFlow collector. |
| **BlackDiamond 20800 Series Switch** | |
| PD4-1168490821 | While perfroming an install firmware using ExtremeXOS 12.4.1 from CR 17 (ExtremeXOS 12.2.2.11-patch1-3 firmware), the fan tray upgrade fails. Reinstall the firmware to upgrade the fan tray to CR 23 with ExtremeXOS 12.4.1.The fan tray fails with the following error message:<br>`tftp: server error: (0) Wrong TFTP State`<br>`TFTP FAILED: TRAY 1, Fantray Secondary image`<br>`Fantray firmware installation failed for Tray-1`<br>`Error: Failed to install image -` |
| PD4-667561942 | The command output for the `show fdb hardware` command does not include the blackhole MAC address. |
| PD4-757563008 | After hot swapping an MM-A, the output for the `show power budget` command shows the wrong power information. |
| PD4-717942168 | FDB entries are not learned for L2 broadcast traffic after an MM failover. |
| PD4-861903871 | After loading image ExtremeXOS 12.3.2.5 on a BlackDIamond 20808 switch, the show log command output shows the following error:<br>`<Erro:HAL.Sys.Error> MM-B: Unable to get odometer for power supply 5`<br>The same log error is displayed when a failover occurs on MM-A. |
| PD4-851358292 | During a firmware upgrade, the "watchdog expiration warnings" and "kernel thread stuck" messages may appear on an MM console. |
| PD4-843054490 | Fans are going in to a failed/empty state and I/O modules are powered off after upgrading firmware on a BlackDiamond 20808 using the force option. |
| PD4-845017407 | The following error is seen when running the install firmware command on a GM-40XB module in a BlackDiamond 20808 switch:<br>`<Erro:HAL.Card.PowerStateError> MM-A: A request to power down slot 8 failed - returning a completion code of -1.` |
| **Summit Family Switches** | |
| PD3-77711011 | The word “slot” should not be included in the output of the `show inline-power stats` command. |
| PD3-131375426 | Configuring autopolarity does not work on the combo ports on the Summit family switches. |

**Table 40: Platform-Specific and Feature PDs (Continued)**

| PD Number | Description |
|---|---|
| PD3-166858162 | On a Summit X250e-24x switch, if one of the combo ports is redundant to a front panel port, after rebooting, the second combo port does not come up if the primary port for the SRP is active. |
| PD4-375560851 | When configuring or unconfiguring a mirroring loopback port, the user may notice several unexpected port state transitions on a Summit X650 switch. |
| **ACL** | |
| PD3-77983510 | Summit X450a and Summit X450e series switches and BlackDiamond 8800 a-series and e-series modules provide more powerful ACL capabilities. Because of this, the amount and complexity of ACL rules will naturally impact the time needed to process and apply the ACL rules to the switch. This will also impact switch bootup time. Access Control List limitations fall into two areas: physical and virtual.<br>Physical Limits—Summit X450a and Summit X450e series switches:<br>The per-VLAN, wildcard (port any), and single-port access list installation limitations are 1,024 rules for the Summit X450e and 2048 rules for the Summit X450a.<br>Physical Limits—BlackDiamond 8800 a-series and e-series modules:<br>The per-VLAN, wildcard (port any), and single-port access list installation limitations are 1,024 rules for the e-series modules, and 2048 rules for the a-series modules.<br>Extreme Networks recommends that you configure ACLs as per-VLAN, wildcard, or single-port. If either of the following is true, you will have to configure ACLs with multi-port lists:<br>Your application requires that ports do not have a homogeneous ACL policy.<br>When BlackDiamond 8800 original series modules are operational in the same chassis, it may be necessary to configure ACLs to specific port-lists instead of as wildcard or per-VLAN. This is because the original series modules have smaller physical limits.<br>Virtual Limits—Summit X450a and Summit X450e series switches:<br>When configuring a multi-port ACL, use the following guideline. The total ACL count (as calculated by ACL rules times ports applied to) should not exceed 48,000 total ACL rules.<br>For example, applying a 1,000 rule policy file to a 48 port multi-port list is supported (1,000 rules * 48 ports in the list <= 48,000).<br>Virtual Limits—BlackDiamond 8800 a-series and e-series modules:<br>When configuring a multi-port ACL, use the following guideline. For any a-series or e-series blade in the system, its total ACL count (as calculated by ACL rules times ports applied to) should not exceed 48,000 total ACL rules.<br>For example, applying a 1,000 rule policy file to a 48 port multi-port list on an a-series module on slot 1 and an e-series module in slot 2 is fine. Neither module exceeds the 48,000 total ACL rules.<br>Excessive boot times and CPU resource starvation can be seen with larger total rule counts. If your application requires additional capacity, contact Extreme Networks. |
| **ESRP** | |
| PD4-464792522 | A load-shared port in a host attach configuration is deleted without warning or error when sharing is disabled on the port. |
| **MPLS** | |
| PD4-822663105 | Uploading or downloading a configuration results in an MPLS configuration being lost as MPLS is not deleted from the VR-Default. |

**Table 40: Platform-Specific and Feature PDs (Continued)**

| PD Number | Description |
|---|---|
| PD3-208178928 | Adding a static route with an MPLS LSP may cause one of the following problems:<br>• If a static route is added with an MPLS LSP whose transport setting is "IP traffic deny," the route is displayed with an invalid nexthop in the `show iproute mpls` command output.<br>• When a static route is added with an MPLS LSP that is not present in `show iproute mpls` command output. For example, if there are 17 RSVP-TE LSPs to the same destination, only 16 LSPs are eligible for carrying traffic because of a maximum ECMP path limit of 16. Adding static routes with 17 LSPs results in the same observation. |
| **Spanning Tree Protocol** | |
| PD4-492384091 | When scaled to the maximum number of Rapid Spanning Tree Protocol (RSTP) domains with EMISTP port mode, an IGMP packet loops for a short period of time when a link flap occurs. |

# Resolved Issues in ExtremeXOS 12.4.1

The following issues were resolved in ExtremeXOS 12.4.1. The numbers shown in column one of the following table are for internal reference and can be ignored. ExtremeXOS 12.4 includes all fixes up to and including ExtremeXOS 11.1.4.4, ExtremeXOS 11.2.3.3, ExtremeXOS 11.3.4.5, ExtremeXOS 11.4.4.7, ExtremeXOS 11.5.2.10, ExtremeXOS 11.6.5.3, ExtremeXOS 12.0.5, ExtremeXOS 12.1.3, ExtremeXOS 12.2.2-patch1-8, and ExtremeXOS 12.3.3-patch1-4. For information on those fixes, see the release notes for the specific release.

**Table 41: Platform-Specific and Feature PDs**

| PD Number | Description |
|---|---|
| **General** | |
| PD4-1168199957, PD4-1156762929 | A triggered IGMP query with the wrong 802.1Q tag is sent on a vMAN enabled port. |
| PD4-1131636749, PD4-1099203316 | Egress vMAN ACLs are not getting matched, even though the traffic matching the ACL match condition is egressing the switch port. |
| PD4-1151118264, PD4-931823732 | A loop occurs after disabling learning on a protected VLAN on an EAPS master. |
| PD4-1147158779, PD3-175211031 | The ExtremeXOS CLI does not prevent EAPS health check PDUs from looping using the `permit all` keywords when installing ACLs. |
| PD4-448603051 | The `unconfigure pim vlan` command clears (unconfigures) an SSM configuration on a VLAN but the VLAN continues to operate in the SSM VLAN, even after running the `disable pim` and `enable pim` commands. |
| PD4-1125058997, PD4-1111322167 | When running the `disable subvlan-proxy-arp vlan` command on a subVLAN, clients are not able to resolve the ARP request for the superVLANs interface IP address. |
| PD4-1110457330, PD4-938840511 | CPU utilization threshold cannot be cleared through SNMP.<br>**Workaround:** Run the `disable cpu-monitoring` command. |
| PD4-1084310235, PD4-901582203 | A typographical error exists in the following error message and will be corrected in the next version of ExtremeXOS software:<br>`<Warn:AAA.RADIUS.serverSwitch> MSM-A: Swith to server...` |

**Table 41: Platform-Specific and Feature PDs (Continued)**

| PD Number | Description |
|---|---|
| PD4-1084310201, PD4-901961135 | When an SNTP client is configured, the following log message is displayed every 4,096 seconds:<br>`Setting hwclock time to system time, and broadcasting time`<br>`Setting hwclock time to system time, and broadcasting time`<br>`Setting hwclock time to system time, and broadcasting time` |
| PD4-978931834, PD4-975759347 | When stacking redundancy and telnet access-profiles are configured, the following error is displayed:<br>`Connection refused`<br>`Connection closed by foreign host.` |
| PD4-1028577711, PD4-995543551 | When configuring an ip-mtu as 9,216, the value is reduced to 9,194 after upgrading to ExtremeXOS 12.1 or later. |
| PD3-6317414 | Secondary DNS and SNTP servers are not contacted if the primary server cannot be reached. |
| PD4-1070888667, PD4-819677511 | The `show configuration vlan` command may also show the QoS profile configuration for load shared member ports. |
| PD4-1070888747, PD4-1028753771 | The process "exsshd" crashes with a signal 11 error when closing a session window without using the proper logout. |
| PD4-467944506 | With IPv6-in-IPv4 tunnels, routes are not learned through RIPng after the port in the tunnel source VLAN is changed from tagged to untagged or vice versa. |
| PD4-734160746 | In a private VLAN spanning two switches, when one of the switches has loopback-port configured and the network VLAN port between the switches is a load-shared port, if the loopback port is deleted and later re-added, the first packet received in the member port can be dropped. Subsequent packets are forwarded correctly. |
| PD4-491938681 | A user cannot change the password for a local administrator account when logged in using a RADIUS administrator account. |
| PD4-852858182, PD4-694359201 | Process cliMaster dies with signal 6 in some cases. |
| PD4-944744061, PD4-935076380 | When a switch receives UDP packets with source port 3503, memory depletion occurs and the switch may reboot. |
| PD4-539460518, PD4-539277416 | Failsafe account authentication fails when trying to access a switch using SSH by way of a management port. |
| PD4-818402813, PD4-772840867 | An Extreme Networks switch ignores the string "priv_lvl" in a TACACS authorization reply packet. |
| PD4-876867319, PD4-862521622 | Receiving bootstrap packets with a "Fragment Tag" field set to zero causes memory depletion in the PIM process when processing subsequent bootstrap packets. |
| PD4-804570069, PD4-717931715 | After upgrading a PoE capable ExtremeXOS switch from software version ExtremeXOS 11.6 to 12.1, the `show configuration poe` command is not available. |
| PD4-806088611, PD4-605137688 | The drop counter for FDB entries is not updated and no log message is generated to indicate a hash collision or table full error. |
| PD4-816906321, PD4-500100211 | The "vi" process may crash when performing a cut/copy/paste of text that is larger than 10,492 bytes. |
| PD4-817311874, PD4-507170653 | Policy files containing 850 entries with flood-groups causes an Extreme Process Manager (EPM) watchdog reboot. |
| PD4-825283681, PD4-699307521 | When running the `show ports stack-ports rxerrors` command, the "RX Over" count continuously increments, even without user traffic. |
| PD4-828265339, PD4-537092174 | Enabling diffserv examination on Summit family or BlackDiamond 88000 series switches causes dot1p replacement of 802.1q tagged packets. |
| PD4-843338040, PD4-796910653 | The switch stops forwarding traffic after disabling remote mirroring.<br>**Workaround:** Delete the ports from the data VLAN and add it back to the VLAN. |

**Table 41: Platform-Specific and Feature PDs (Continued)**

| PD Number | Description |
|---|---|
| PD4-882862442, PD4-767856469 | After running the `save` command and rebooting a switch with a VLAN translation configuration, duplicate packets are sent to member VLANs from the translation VLAN. |
| PD4-899492655, PD4-505794657 | Repeatedly running multiple commands from a telnet session causes memory depletion in the exsh process. |
| PD4-929585868, PD4-507170288 | Traffic received on an STP/EAPS blocked port is being sent to the CPU if the source MAC address of the incoming packet matches the MAC address of the DUT system. |
| PD4-803700570, PD4-795451285 | After disabling flooding for broadcast traffic, the broadcast traffic originated from the switch is not flooded out. |
| PD4-774654053 | A 10GE module fails silently followed by a silent MSM failover. |
| PD4-780725598, PD4-779916611 | When a static entry is added to a configured domain, the entry is also added to another domain. |
| PD4-817416641, PD4-541064246 | When configuring rate-limiting on a switch, the max-burst-size value is not reset after reconfiguring the switch. |
| PD4-817416749, PD4-504813986 | In a DNS server, if the RADIUS server IP address is specified as CNAME, that is, Alias, a switch is not able to resolve the IP address correctly. |
| PD4-932027220, PD4-698458401 | Every 300 seconds, kill entries installed by PIM are not removed from hardware, therefore, traffic for those entries does not hit the CPU. |
| PD4-855250053, PD4-843000831 | The counter for the `show traffic queue statistics` command is displayed as "multiple" when ingress ports are on different I/O modules but all ports have the same egress ports. |
| PD4-953613971, PD4-944885511 | Receiving LACP PDUs that are larger than 500 causes the LACP process to die with a signal 11 error. |
| PD4-962772378, PD4-924242747 | The FDB process may die with signal 11 when the `show fdb statistics` command is executed. |
| PD4-974227479, PD4-767595507 | The log filter is not shown in the output of the `show upm profile <profile-name>` command. |
| PD4-843337987, PD4-748079627 | The debug log `<Info:thttpd.info> 13 line feeds removed` is not necessary and is shown when configuring a switch with HTTPS. |
| PD4-985272501, PD4-943063565 | The cliMaster fails with a signal 6 error when running the `show configuration pim` command while PIM is configured with a static CRP. |
| PD4-980404139, PD4-899333484 | The thttpd process CPU utilization increases and HTTP/HTTPS is not accessible if sock/ stress attack is performed on an HTTPS port. This issue persists indefinitely even after a sock/stress attack is removed. |
| PD4-985606480, PD4-791833227 | If an IPv6 tunnel is configured, adding a static route causes the Route Table Manager to crash with a signal 11 error. |
| PD4-826754349, PD4-581257425 | An error occurs when loading an ExtremeXOS 12.1 or earlier software configuration file if the banner configuration contains a new line character. |
| PD4-806088040, PD4-684400473 | A switch does not generate high CPU utilization log messages after executing the clear cpu-utilization command, even if process CPU utilization goes above the threshold value. |
| PD4-993453673, PD4-983772991 | The ifMauDefaultType MIB is populated with the wrong value when a switch is running ExtremeXOS 12.3.3 software. |
| PD4-1023187137, PD4-968719352 | When running the `terminate process exsshd` forceful command while an SSH session is in progress, the SSH session does not shut down even if it is no longer seen in the output of the `show session` command. When restarting the SSH session using the `start process exsshd` command, the switch appears to hang while waiting for the ongoing SSH session to be terminated. |
| PD4-1005347431, PD4-990080561 | In CLI non-persistent mode, modifying a port in a VLAN from an untagged port to a tagged port deletes the port from that VLAN. |
| **BlackDiamond 8800 Series Switch** | |

**Table 41: Platform-Specific and Feature PDs (Continued)**

| PD Number | Description |
|---|---|
| PD4-910971021 | `Port Summary Monitor` timestamps display on a console as part of the `show port <port _list>` command output. |
| PD4-983675112, PD4-983613057 | The conversion of RX and TX power from uW (as read from the optic) to dBm incorrectly uses the natural log function rather than the log base 10 function. The status of RX and TX power is correct, but the values shown are not correct. |
| PD3-131866114 | BlackDiamond 8800 series and Summit series switches do not support LPM hardware forwarding using IPv6 routes with a mask length greater than 64 bits. As a result, IPv6 packets may be forwarded in hardware to a different next hop by using a route with a mask length less or equal to 64. This occurs even though a route with a mask length greater than 64 with the correct next hop is known in software, but not in hardware. The following log message is logged when the first route with a mask length greater than 64 is added:<br>`<Noti:HAL.IPv6FIB.Notice> MSM-A: vrId 2 dest 3218:: / 77 nexthop : IPv6 routes w/ mask len > 64 not supported in HW. Packets may be forwarded using less-specific routes.` |
| PD4-758181807 | Non-combo ports with a 10/100/1000BASE-T SFP inserted in a switch with a link up, flap if any other two ports are disabled.<br>**Workaround:** Disable ports one at a time. |
| PD4-761201951 | In ExtremeXOS 12.3, if there is only a single MSM in an MSM-B slot, the 8900-G96T-c and 8900-10G24X-c I/O modules may reset a couple of times before becoming operational. This issue may occur when:<br>• The chassis reboots<br>• These I/O modules are disabled and enabled<br>• The I/O modules are inserted into the chassis |
| PD4-723665584 | Packets egressing an egress-mirrored port on a 8900-10G24X-c module may not be mirrored to the monitor port when the packet is locally originated, or when the packet ingresses from a module in another slot other than the slot on which the monitor port resides. |
| PD4-824643191, PD4-688252511 | Some hosts are no longer reachable after removing an active MSM-B in a cross module link aggregation setup.<br>**Workaround:** Disable and re-enable the load-shared port. |
| PD4-860761322, PD4-767590011 | A devmgr process crash may occur when the `show version` command is executed. |
| PD4-828265439, PD4-701906049 | Running the `configure sys-recovery-level` command resets a switch to the factory default after disabling and enabling a G48Xa I/O module. |
| PD4-936088746, PD4-791316018 | When using SCP to download an image, the image fails to install on the backup MSM and the following error is displayed:<br>`Installing to MSM-BError: Failed to install image - tar: / scratch/bd8800-12.1.3.14.xos: No such file or directory.` |
| PD4-862132071, PD4-238870391 | When STP notifies EAPS that it has flushed an FDB table, EAPS no longer performs an additional FDB flush of the local switch. The additional flush was not necessary and had a side effect of inadvertently unauthenticating netlogin clients on the local switch. |
| PD4-855783094, PD4-769156523, PD4-1026560731 | The message `MSM-A: Error while saving "psePort":` is displayed when a `save` command is executed after reconfiguring a slot as a G48te2 (PoE) to G48te2 module. |
| PD4-973716614, PD4-975082490 | EDP information is not displayed when a port is not a member of a VLAN or is tagged.<br>**Workaround:** Add port 1:1 (untagged) to the VLAN default. |
| **BlackDiamond 10808 Series Switch** | |

**Table 41: Platform-Specific and Feature PDs (Continued)**

| PD Number | Description |
|---|---|
| PD4-828655386, PD4-630233676 | After performing a hitless upgrade, the `show version` command output still shows the old master filename, not the new image. However, the `show switch` command output shows the correct image. |
| **BlackDiamond 12800 Series Switch** | |
| PD3-125511903 | A system failure occurs with a signal 10 error when performing a run msm-failover immediately after the backup MSM is in-sync |
| PD4-616376481, PD4-901339862 | The following error message is displayed during NetloginMac_V2 regression after rebooting a switch with the `save` option set to `yes`:<br>`<Erro:HAL.Card.Error> MSM-A: Unable to remove broadcast MAC entry for VLAN/VMAN while changing tag from 1 to 3999` |
| PD4-1079033931, PD4-751999119 | When configuring HQoS, traffic goes to the correct traffic queue but is not limited by the meter threshold rate. |
| PD4-735984501 | DUT crashes while configuring static routes via 6in4 tunnels. |
| PD4-856182552, PD4-698686480 | Even after a vMAN ethertype is changed using the CLI, packets are egressing out the service vMAN using an older vMAN ethertype. |
| PD4-882862525, PD4-723664780 | After performing a hitless upgrade from ExtremeXOS 12.0 or later to ExtremeXOS 12.1 or later, packets are sent to the CPU for L3 switching, even though hardware entries exist for the destination IP. |
| PD4-828265583, PD4-569838439 | Packets that need to be L2 switched are not egressing if the packets hit the IPv4 ACL containing a `redirect` action.<br>This fix requires a regular upgrade on a BlackDiamond 12804 switch. It will not work if you attempt a hitless upgrade on the BlackDiamond 12804 switch. |
| PD4-882862632, PD4-852419857 | Creating and deleting HQoS queues on a BlackDiamond 12808 results in the following error:<br>`Error: Timeout awaiting Traffic Queue operation.` |
| PD4-973716520, PD4-964896284 | When PIM Sparse mode is configured on a BlackDiamond 8800 series switch with c-series I/O modules, a memory leak is detected. |
| PD4-979176325, PD4-832095668 | The ACL match condition `ports ingress <port-no>` causes incoming packets to be forwarded to all ports in a VLAN as per the VLAN tag for incoming packets, even though the ingress port is not part of that VLAN. |
| **BlackDiamond 20800 Series Switch** | |
| PD4-913402141, PD4-1034364517 | Process XMLD crashes if multiple "OpenSession" XML requests are sent continuously. |
| PD4-728449478 | The ucRx: micro controller returns the following error message while running diagnostics:<br>`reset hello error Unrecognized command: hello feConfig = fffe2848` |
| PD4-551040931 | Multicast traffic is dropped after disabling load-share port links using MVR. |
| PD4-927699591 | Running an ExtremeXOS 12.3 image in the Delay Measurement Message (DMM) originator, and a later version of ExtremeXOS on a BlackDiamond 20808 on the other end, Y.1731 does not work. The Delay Measurement Reply (DMR) is received by the originator, but rejected due to an incorrect check in the application. |
| PD4-978540087, PD4-978263097 | During a malfunction of an adjacent node, excessive DHCP traffic is flooded to the switch causing watchdog failures and outages. |
| PD4-749215601 | Running the `install firmware` command generates the following error message:<br>`reading from file /dev/mtd0 failed: Cannot allocate memory .FAILED: SLOT 18, MM PMON UPGRADE NOT REQUIRED: SLOT 18, MM Spanky Primary Error:can't read "pfc": no such variable` |

**Table 41: Platform-Specific and Feature PDs (Continued)**

| PD Number | Description |
|---|---|
| PD4-1077149606 | A DUT displays errors when a policy file is configured with traffic queues on a VLAN or vMAN. |
| PD4-1056438821 | If a meter is attached to an egress traffic queue after an ingress traffic queue and an egress traffic queue association, the meter does not take effect.<br>**Workaround:** Configure the aggregate meter for the egress traffic queue first and then associate it with an ingress traffic queue. |
| PD4-1058161045 | Rate shaping is not occurring as per configured limits on an ACL meter.<br>**Workaround:**<br>• Configure the committed rate for the meters associated with CoS levels in bandwidth mode.<br>• The peak rate for an aggregate meter should be greater than the sum of the committed rates of CoS level meters. |
| PD4-1096903835, PD4-1096903835 | Using two BlackDiamond 20800 series switches acting as a VRRP master and a VRRP backup in an EAPS ring topology, the system crashes with the following error:<br>`epc : c07a2668 kioSendFdb+0x184/0x0 [exvlan]` |
| PD4-1083445001 | Packets received on an "ESRP host attach" port are dropped on a BlackDiamond 20804 switch when the switch is in ESRP slave mode. BlackDiamond 20804 switch drops EAPS PDUs when IP ARP replies are ingressing the switch. |
| PD4-800314011 | The `clear fdb` command removes an FDB entry in hardware but the entry remains in software. Running the `clear fdb` command a second time clears the FDB entries in both the hardware and software. |
| PD4-820920473, PD4-789754441 | A BlackDiamond 20808 process crash occurs when running the `debug hal show device packet-processor printXCounters` command with an invalid parameter ID. |
| PD4-748173770 | Executing runtime diagnostics using the `run diagnostics normal/extended` command on a GM-40XB or GM-40XA module can result in the I/O module locking up after diagnostics are complete and ExtremeXOS tries to bring the I/O module back online. It is recommended that you do not execute runtime diagnostics on these I/O modules in a live network. |
| PD4-853995054 | The process upgrade_fw crashes with signal 11 when downgrading a BlackDiamond 20808 switch. |
| PD4-865667843 | PFC uC fails to turn off the power supply once it detects a failed power supply. The bad power supply takes 2.5 minutes to boot up. The PFC uC reads the I/O PIN associated with the PSU alarm PIN and fails the PSU, but it does not power down the bad PSU. |
| PD4-918412390, PD4-890754421 | L3 traffic is not distributed among LAG ports if a static FDB is configured on the LAG port of a BlackDiamond 20808 switch. |
| PD4-751294438 | A PVLAN subscriber VLAN side device cannot reach a network VLAN side device. |
| PD4-807083163 | Running an MM failover multiple times on a BlackDiamond 20808 switch may result in IPv4 packets being forwarded in software. |
| PD4-815641157, PD4-779588691 | An FDB process crash occurs after enabling an LACP LAG. |
| PD4-826609208, PD4-805055301 | When a single port is configured for WAN PHY, the `show configuration vlan` or `show configuration` commands display all ports having a WAN PHY configuration. |
| PD4-870848448, PD4-852419538 | The link on a 10GE port remains active when the Tx fiber is removed from a BlackDiamond 20808 switch while the Rx fiber remains connected. |

**Table 41: Platform-Specific and Feature PDs (Continued)**

| PD Number | Description |
|---|---|
| PD4-756309458 | When configuring remote mirroring using a BlackDiamond 20808 switch as the intermediate or destination switch, the remote mirroring port does not receive IP multicast traffic if the monitor port of the source switch is tagged. The traffic is dropped in the transit VLAN.<br>**Workaround:** Configure the monitor port of the switch as an untagged port so that IP multicast traffic will pass through the transit VLAN. |
| PD4-872419991 | After running the `run diagnostics extended` command on slot1 of a BlackDiamond 20808 switch, slowpath traffic is no longer forwarded to the CPU on slot 1. |
| PD4-798727801 | A PSU is used in slot 4 and 5 in a BlackDiamond 20808 chassis, but ExtremeXOS software or the MM identifies the PSU in slot 4 only as “power failed." The PSU in slot 5 is operational based on an LED inspection, but ExtremeXOS does not recognize the PSU. |
| PD4-1023187021, PD4-963878819 | When a BlackDiamond 20808 series switch runs an MM failover, or a failover is occurring due to a process failure, too many SNMP traps are generated. |
| PD4-1017565804, PD4-964664834 | The following logs are displayed in the master MM when the backup MM is becoming active and the master MM tries to checkpoint the PVLAN data:<br>`<Erro:DM.Error> MM-B: hal: cannot create msg DM_MSG_CHKPT_DATA c10b 235c 0x10bbcd00`<br>`<Crit:DM.Critical> MM-B: hal Cannot create msg DM_MSG_CHKPT_DATA of size 9052 (too big)` |
| **Summit Family Switches** | |
| PD4-811997761, PD4-821706998 | In some scenarios, the following is seen on a fully loaded SummitStack with non-Extreme optics:<br>`pibConduitRcvMsg: no magic number (0x0) slot number 6, tcp port 5003 [socket buffer length 8,Message version 0, opcode 0, length 0]`<br>This is followed by a HAL process crash. A consistent flapping, receive loss of signal condition, can fill up the conduit queues. |
| PD4-493683561, PD4-449901506 | Disabling multicast flooding on a port may result in ARP requests being blocked. |
| PD4-1168199981, PD4-935277568 | The error `SFP I2C read/write failure` is seen after disabling a port, and saving and rebooting a 10/100/1000BASE-T SFP module. |
| PD4-843338091, PD4-772840781 | On a Summit X450a series switch, it takes ARP approximately 8 to 190 seconds to resolve after an ESRP failover when the switch is experiencing heavy traffic. |
| PD4-1062792957, PD4-997419038 | When dot1x and MAC-based authentication are both enabled on a port and a user is first authenticated using MAC-based authentication, while dot1x authentication is also running, the response from the RADIUS server is dropped. |
| PD4-983612803, PD4-970731498 | XGM2-2bt modules keep reloading the same firmware to one of the ports when the switch reboots. |
| PD4-624062541 | Jumbo frames are not mirrored to monitor ports on Summit X650-24t switches when one-to-many mirroring is configured. |
| PD4-841960995 | Running diagnostics on a Summit X450a-48t fails with the following error:<br>`Loopback Phy Fiber : Make Connection Failure on unit-[0] port-[24] Last` |
| PD4-918730862 | Traffic on ports greater than or equal to 28 are not flooded out to stacking ports. |
| PD4-911150985, PD4-911212165 | Changing L3 adjacency between trunked and non-trunked ports causes traffic to be forwarded incorrectly. |
| PD4-899256065, PD4-899256073 | On a Summit X650 switch, sending two 9,000-byte 800 Mbps streams to a single 10G port fails to trigger flow-control. |

**Table 41: Platform-Specific and Feature PDs (Continued)**

| PD Number | Description |
|---|---|
| PD4-863357932, PD4-788067297 | Multicast traffic is not forwarded after rebooting a standby switch in a stack. |
| PD4-847610713, PD4-805737496 | A Summit X450 switch only supports 511 LPM routes. |
| **SummitStack** | |
| PD4-1147158707, PD4-1036384285 | SRP port utilization is temporarily shown as high on a slave switch after power cycling. |
| PD4-937401531 | Enabling mirroring on a 512 G stack running the latest 12.3.3.5 image in default standard mode, mirroring works properly. However, if you reset the stack to enhanced mode, and then back to standard mode, mirroring does not work correctly. |
| PD4-790755381 | Two of the four stack ports in a Summit stack are shown as blocked even though none of the ports are in the stack. |
| PD4-822468466, PD4-803423872 | An overheated SummitStack fails, but the ports remain active and traffic continues to be forwarded. |
| PD4-804569955, PD4-707855726 | The `configure inline-power budget` command is not supported on Summit family and SummitStack switches. |
| PD4-817417079, PD4-623659132 | After a SummitStack failover, the new master node is not reachable using an alternate IP address or gateway. |
| PD4-977977546, PD4-950113401 | Clients connected to a non-master slot in a SummitStack cannot communicate with an ExtremeXOS switch when a port is part of a PVLAN subscriber VLAN, as well as a regular VLAN. |
| **ACL** | |
| PD3-126824622 | If an IPv6 address is included in a configuration, use ICMPv6 for the protocol. ICMP (IPv4) should not be allowed. |
| PD4-806088533, PD4-738207292 | Access-profile configurations for SNMP and SSH modules are not available in the show configuration command output. |
| PD4-806088577, PD4-641467077 | The telnetd process crashes with signal 11 when the same policy file is used in a telnet access-profile and an ACL. |
| PD4-826754811, PD4-667212313 | If the `refresh policy` command is invoked by adding more entries to the policy file, then after unconfiguring that specific ACL, an ExtremeXOS switch starts logging messages such as:<br>`Denied packet on ingress interface vlanIf=1000223 slot=1 port=1, too many ACL's & packet rate is too high" and start to drop all the packets received in slow path.` |
| PD4-828768941, PD4-556797775 | The `show access-list meter ports x` command returns all meters on the switch, not just the one associated with port x. |
| PD4-964769277, PD4-963068135 | An ExtremeXOS switch reboots with memory depletion for a 128 memory block while loading a flow-redirect configuration. |
| PD4-962772436, PD4-852494655 | With CLEAR-Flow enabled, CLEAR-Flow ACL threads may be killed by EPM. |
| PD4-983613148, PD4-670315790 | When configuring egress ACLs on a load-shared port the following incorrect error message is displayed:<br>`Duplicate ACL config, Note: Egress ACL need be applied on the Master port only` |
| **BGP** | |
| PD4-1142713461, PD4-1108149831 | The Route Manager crashes when a VLAN through which a network is configured goes down when using the `configure bgp add network` command. |

**Table 41: Platform-Specific and Feature PDs (Continued)**

| PD Number | Description |
|---|---|
| PD4-486115891 | A Border Gateway Protocol (BGP) speaker is not advertising the inactive multicast routes when they become active. |
| **DHCP** | |
| PD4-1101780701, PD4-727955846 | DHCP OFFER and DHCP ACK packets are duplicated in a VLAN aggregation setup if a DHCP request is received on a subVLAN. |
| PD4-804570175, PD4-717000351 | An error message should be displayed when adding a subVLAN to a superVLAN if DHCP client or BOOTP client is enabled on the subVLAN. |
| **EAPS** | |
| PD4-826755051, PD4-682475164 | IPv6 neighbor discovery packets sent to the CPU are affecting EAPSv2 PDUs, resulting in the following message:<br>`EAPS Shared Port: Segment timer expired.` |
| PD4-874500533, PD4-861919266 | Expected traffic convergence time for EAPS has increased after upgrading from ExtremeXOS 11.6 to ExtremeXOS 12.0, resulting in more traffic loss. |
| PD4-825283110, PD4-627092945 | When a shared port is configured prior to enabling an EAPS domain, the EAPS protected VLAN does not block the secondary port in some cases. |
| PD4-976632991, PD4-861919266 | Expected traffic convergence time for EAPS has increased after upgrading from ExtremeXOS 11.6 to ExtremeXOS 12.0, resulting in more traffic loss. |
| **ESRP** | |
| PD3-52741820 | Disabling a shared port results in the ESRP port restarting and the configuration disappearing. |
| PD4-817417119, PD4-631761683 | When ESRP is disabled, clients using an ESRP virtual IP address as a default gateway are not able to communicate outside the VLAN. |
| PD4-856338603, PD4-729030981 | A port restart occurs on ports that are enabled for ESRP port restart, even though an ESRP state change has not occurred. |
| PD4-950113977, PD4-740925847 | The following error message is displayed in the log when adding ports to an ESRP slave VLAN.<br>`<Crit:vlan.err.criticalInfo> MSM-A: Critical Info: sysctlWriteSetting: cannot open file.` |
| **IGMP** | |
| PD4-931233151, PD4-926340897 | Even with IGMP proxy enabled, when an IGMP subscriber leaves, the IGMP-leave is forwarded with multiple subscribers on one port. |
| **IPv6 Unicast** | |
| PD3-139714881 | The following info level messages appear in the log when link aggregation is configured on a VLAN associated with an IPv6 6-to-4 tunnel:<br>`05:01:49.04 <Info:HAL.VLAN.Info> MSM-B: pibIPv6InstallTunneledLinkLocalFilter: Could not install filter unit 12, Entry exists`<br>`04/24/2007 05:01:49.05 <Info:HAL.VLAN.Info> MSM-B: pibIPv6InstallTunneledLinkLocalFilter: Repaired filter unit 12`<br>These messages do not affect the operation of the switch. |
| **IS-IS** | |
| PD3-190952336 | When one or more point-to-point interfaces are present on a router with IS-IS graceful restart enabled, the graceful restart may fail for the entire node.<br>**Workaround:** Do not use point-to-point links if graceful restart is also used. |

**Table 41: Platform-Specific and Feature PDs (Continued)**

| PD Number | Description |
|---|---|
| PD3-183234835 | Graceful restart fails during "restart process isis." This problem occurs during a graceful restart when one or more neighbors is not enabled as a restart helper.<br>**Workaround:** Ensure all nodes are enabled as restart helpers prior to executing a graceful restart. |
| **Multicast** | |
| PD4-876867238, PD4-814229965 | Multicast packets using a system MAC address as a destination MAC address are periodically leaked in slowpath every 30 seconds. |
| **Network Login** | |
| PD4-1059144727, PD4-464577708 | A web-based network login client cannot be authenticated using the URL `http://<switch-ip>/hello or http://<switch-ip>/login`. |
| PD4-921213359, PD4-837165339 | Unconfiguring a guest VLAN port on a non-guest VLAN port removes the guest VLAN configuration from all ports. |
| PD4-922865962, PD4-823485808 | Limit-learning does not show the blackhole entries if network login is enabled on the same port. |
| PD4-819023271, PD4-684538103 | Running the `save` configuration command causes a memory leak in the netlogin process. |
| PD4-878324658, PD4-765586466 | Network login enabled ports are authenticating the switch MAC address in certain loopback configurations. |
| PD4-853111507, PD4-843130728 | Network login users are not authenticated if the "Tunnel-Private-Group-ID" attribute value is set to 0 on a RADIUS server. |
| **OSPF** | |
| PD4-875793527, PD4-929585917 | Incoming router LSAs with a router link greater than 420, causes the OSPF process to crash with an assertion failure. |
| PD4-974227589, PD4-896536108 | When running OSPFv3 over a 6-in-4 tunnel interface, OSPFv3 treats the interface as broadcast rather than point-to-point. |
| PD4-824384216, PD4-707855673 | OSPF stops translating external routes after deleting a static route to the same destination IP address. |
| PD4-760942841, PD4-759590041 | After a port in a VLAN is added to an OSPF area, it takes about four seconds to update a neighboring switch. |
| PD4-828769034, PD4-241726909 | If two routers, both reachable from one another, originate functionally equivalent AS external LSAs (same destination, cost, and non-zero forwarding address), the LSA originated by the router having the highest OSPF router ID is used. The router having the lower OSPF router ID can then flush its LSA. However, an ExtremeXOS switch does not purge the functionally equivalent AS external LSA when an Extreme OSPF router ID is lower. |
| PD4-861837558, PD4-767590126 | In a jumbo frame environment, an OSPFv3 neighbor gets stuck at EX_START. |
| PD4-831651183, PD4-701099374 | Setting the ospfSetTrap OID mib-2.14.16.1.1.0 to 0x0000ffff does not cause OSPF to send out OSPF traps. |
| PD4-876299607 | OSPF crashes in ExtremeXOS_LDP regression testing. |
| PD4-956060611, PD4-934588772 | When configuring an OSPFv3 timer, the new configuration may not take affect after a switch reboot. |
| **QoS** | |
| PD4-818833752, PD4-512656071 | A HAL process crash occurs when HQoS is used with CLEAR-Flow and CLEAR-Flow rules are enabled. |
| **ScreenPlay** | |

**Table 41: Platform-Specific and Feature PDs (Continued)**

| PD Number | Description |
|---|---|
| PD4-817159860, PD4-552010000 | The following message is periodically logged when the Event Log screen is left open in ScreenPlay:<br>`Login passed for user admin through xml (::)` |
| PD4-860761605, PD4-774800225 | ScreenPlay shows the wrong port speed after setting autonegotiation to off and on because the XML API returns the incorrect configuration speed after disabling and enabling autonegotiation. |
| PD4-902392480, PD4-776663281 | ScreenPlay does not load management information. It just prints "Loading" for the "Management" information on the dashboard tab. |
| **sFlow** | |
| PD4-1083414641, PD4-962328921 | VRRP advertisement packets are dropped when sFlow sampling is enabled. |
| **SNMP** | |
| PD4-769355749 | When more than five SNMP requests are received by a switch, the switch only responds to five requests at a time. |
| PD4-1010444641, PD4-902287187 | The EXTREME-V2TRAP-MIB definition misses the “EapsRingPort” at the IMPORTS section. Because of this, the Spectrum NMS fails to compile the ExtremeXOS 12.1.3 MIB file with an error against EapsRingPort. |
| PD4-945120628, PD4-888471111 | The snmpMaster process experiences memory depletion while sending out AuthFailure SNMP traps.<br>**Workaround:** Disable the AuthenTraps by setting the OID snmpEnableAuthenTraps to value 2 (disabled).<br>`snmpset -v 2c -c snmpEnableAuthenTraps.0 i 2` |
| PD4-815857259, PD4-747221911 | Changing the storage type of default SNMP objects (Communities/Users/Groups/Access) to “non-volatile” allows a user to delete these default SNMP entities like any other user created entity. |
| PD4-901753841, PD4-547591482 | Performing an snmpwalk on OID 1.3.6.1.4.1.1916.1.4 (enterprises.extremeAgent.extremePort) on a stack returns the error `No Such Object available on this agent`. |
| PD4-962617420, PD4-920567275 | Process FDB may die with signal 11 when processing SNMP Get requests for dot1dTpFdbTable. |
| PD4-1014320379, PD4-950751340 | Configuring an SNMP target address using a MIB incorrectly sets the VR option, which results in traps not being sent. |
| **Spanning Tree Protocol** | |
| PD4-822468514, PD4-538752306 | The `load script` command displays an error if the script file contains MSTP configurations. |
| PD4-863979257, PD4-814770957 | An STP topology change triggers EAPS to flush FDBs and send FlushFdb PDUs despite the fact that none of the STP protected VLANs are participating in EAPS. |
| PD4-931015749, PD4-925787371 | In RSTP, when a port becomes a root port and an alternate port exists on a bridge, agreement BPDUs are not immediately sent back as per standards. |
| **VRRP** | |
| PD4-804569911, PD4-796161449 | System memory is depleted when non-ICMP IP packets are sent to a VRRP virtual IP address. |
| PD4-860703541, PD4-855539430 | When ping-tracking is enabled for VRRP, VRRP performs the failover based on a cumulative ping-track failure instead of consecutive ping-track failures. |
| PD4-824643270, PD4-629585032 | VRRP backup does not return the real IP address of the VRRP master for the SNMP object vrrpOperMasterIpAddr. |