31 July 2017

# SLX-OS 17s.1.01 for SLX 9140, SLX 9240

# Release Notes v1.0

# Contents

# Document history

| Version | Summary of changes | Publication date |
|---|---|---|
| 1.0 | Initial Release | July 31, 2017 |

# Preface

## Contacting Brocade Technical Support

As a Brocade customer, you can contact Brocade Technical Support 24x7 online or by telephone. Brocade OEM Customers should contact their OEM/solution provider.

### Brocade Customers

For product support information and the latest information on contacting the Technical Assistance Center, go to www.brocade.com and select Support.

If you have purchased Brocade product support directly from Brocade, use one of the following methods to contact the Brocade Technical Assistance Center 24x7.

| Online | Telephone |
|---|---|
| **Preferred method of contact for non-urgent issues:**<br>• **My Cases through MyBrocade**<br>• **Software downloads and licensing tools**<br>• **Knowledge Base** | Required for Sev 1-Critical and Sev 2-High issues:<br>• Continental US: 1-800-752-8061<br>• Europe, Middle East, Africa, and<br>• Asia Pacific: +800-AT FIBREE<br>• (+800 28 34 27 33)<br>• For areas unable to access toll free number: +1-408-333-6061<br>• Toll-free numbers are available in many countries. |

### Brocade OEM Customers

If you have purchased Brocade product support from a Brocade OEM/solution provider, contact your OEM/solution provider for all of your product support needs.

- OEM/solution providers are trained and certified by Brocade to support Brocade® products.
- Brocade provides backline support for issues that cannot be resolved by the OEM/solution provider.
- Brocade Supplemental Support augments your existing OEM support contract, providing direct access to Brocade expertise. For more information, contact Brocade or your OEM.
- For questions regarding service levels and response times, contact your OEM/solution provider.

## Related documentation

Visit the Brocade website to locate related documentation for your product and additional Brocade resources.

White papers, data sheets, and the most recent versions of Brocade software and hardware manuals are available at www.brocade.com.

Product documentation for all supported releases is available to registered users at MyBrocade. Click the Support tab and select Document Library to access documentation on MyBrocade or www.brocade.com You can locate documentation by product or by operating system.

Release notes are bundled with software downloads on MyBrocade. Links to software downloads are available on the MyBrocade landing page and in the Document Library.

## Document feedback

Quality is our first concern at Brocade, and we have made every effort to ensure the accuracy and completeness of this document.

However, if you find an error or an omission, or you think that a topic needs further development, we want to hear from you. You can provide feedback in two ways:

- Through the online feedback form in the HTML documents posted on www.brocade.com
- By sending your feedback to documentation@brocade.com

Provide the publication title, part number, and as much detail as possible, including the topic heading and page number if applicable, as well as your suggestions for improvement.

# Overview

SLX 9140 and SLX 9240 are fixed 1U switching platform  based of programmable ASIC from Cavium that enables adoption of  new protocols and technologies. These switches were released as a part of SLX-OS 17s.1.00.

- High density 100G spine-leaf connection
- Native 25GE server connectivity at the leaf
- High performance VXLAN routing (Beta)
- Payload timestamping to enable accurate measurement of performance SLAs
- Port-to-port Latency: ~2.5us
- Architecture: Store & Forward

# Software Features

The following are the main software features supported in SLX-OS 17s.1.01. It is categorized into 3 main buckets (detailed in sub-sections below).

### SLX 9240 as Network Packet Broker (GA Feature)

**NOTE**: The Advanced Features Self Authenticated Upgrade (SAU) license enables NPB feature functionality on the Brocade SLX 9140 and Brocade SLX 9240 switches.

The role of network monitoring and security tools is central to the effective operation and monetization of networks. These tools, in turn, depend on a network visibility infrastructure to deliver a copy of network traffic flows for out-of-band analysis. This version SLX-OS 17s.1.01 of SLX-OS introduces a Network Packet Broker mode, which turns the SLX 9240 into a flexible, high-density member of the Brocade visibility infrastructure portfolio. The following figure illustrates the use case.

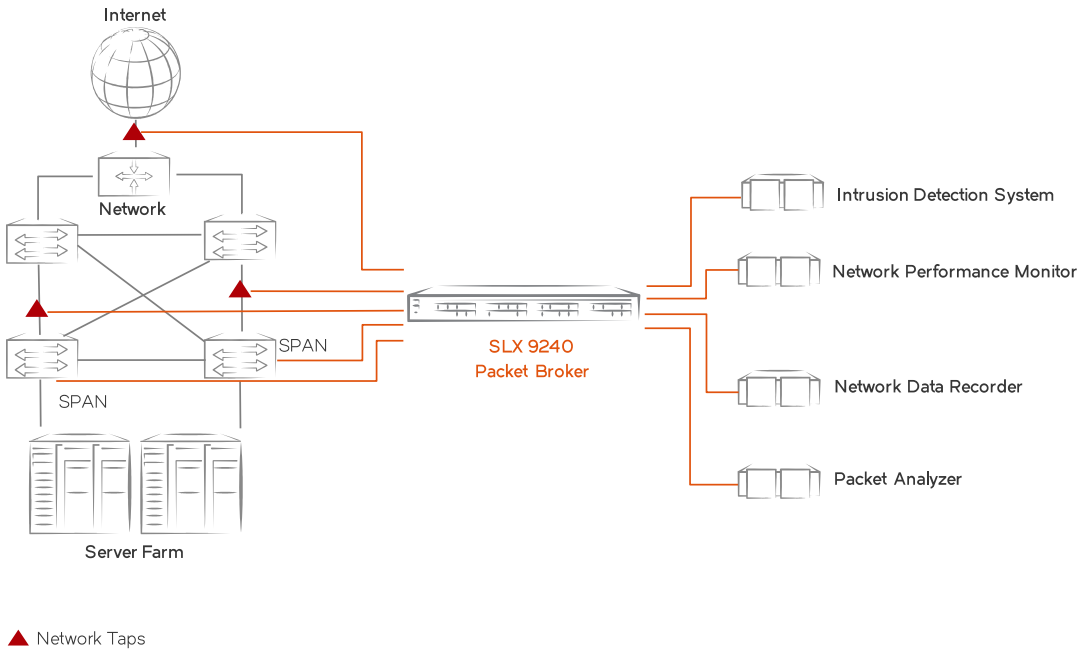



Figure 1: Network Packet Broker

The SLX 9240 supports the following packet broker features:

- Aggregation: Enables pervasive visibility by delivering a copy of network traffic aggregated from all relevant network interfaces to monitoring tools
- Replication: Enables deployment of multiple visibility applications by delivering a copy network traffic to each one
- L2-L4 filtering: Improves network visibility application performance by delivering only the relevant network traffic to each application
- Load balancing: Enables visibility application scalability by distributing network traffic load among multiple instances of the application

### BGP-EVPN (VxLAN) – EVPN VxLAN based Network Virtualization Overlay **(Beta Software)**

Brocade® BGP eVPN Network Virtualization is a controller-less architecture that simplifies data center operations by leveraging open, standards-based protocols to abstract network control plane, data plane, and automation functions from the underlying physical platforms. As an integral part of the Brocade open data center design stack elements (see Figure 3), Brocade BGP eVPN Network Virtualization builds upon underlying infrastructure platforms, fabrics, and automation to deliver simplified and secure network operations.

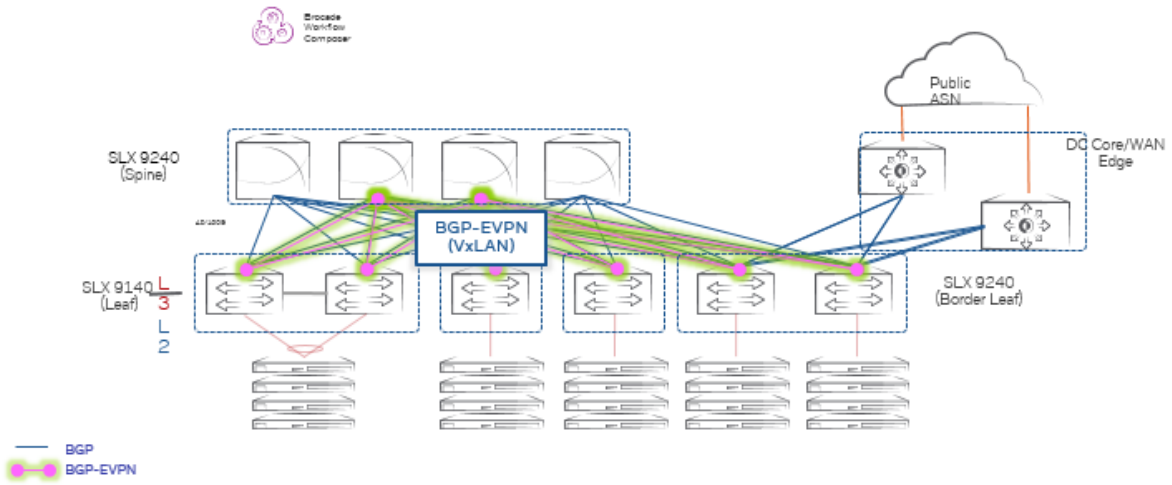



Figure 2: 3-Stage Clos IP fabrics with single or dual-homed servers with BGP-EVPN

The following table lists the set of new features coming in SLX-OS 17s.1.01. Note that the BGP-EVPN feature set are at a Beta level for SLX-OS 17s.1.01.

| **Feature Name** | **Feature Description** |
|---|---|
| BGP eVPN | Standards based, Controller-less Network Virtualization Overlays with VxLAN encapsulation. Provides automatic VxLAN tunnel end point discovery, end host MAC and MAC-IP learning over the control plane. |
| ARP Suppression | Suppress/reduce the ARP broadcast traffic in an IP fabric. |
| Static Anycast Gateway | Static Anycast Gateway allows configuring Static Anycast MAC as gateway for multiple tenant systems in a virtualized data center fabric. Same Gateway address is configured across all TORs for a given Tenant/VLAN combination, thus enabling seamless VM mobility across the leaf switches in an IP Fabric deployment without any need for host gateway configuration changes. |
| Conversational ARP | ARP entries for active conversations only (helps optimize ARP table size) |
| IP Unnumbered Interfaces | Reduces consumption of IP Address space. Leaf to spine inter-switch point-to-point L3 links are configured as ip unnumbered (/31 subnets) to conserve IP addresses and optimize hardware resources. |
| L2 VNI capability | The L2VNI is the MAC/NVE mapping table |

| | |
|---|---|
| L3 VNI | The L3VNI is IP prefix/NVE mapping table |
| CML – IP Fabric | Supports conversational MAC learning (CML) for BGP-EVPN learnt MAC addresess |
| Improved VRF Scale | 512 VRFs are supported in SLX9140 and SLX9240 platforms. |
| Dynamic tunnel (VxLAN) discovery | Supports Dynamic Tunnel discovery using BGP EVPN. |
| Cluster Management | Configuration management between MCT nodes for logical VTEP is supported. |
| Manageability, Monitoring, Debugging | NetConf, RESTful API provisioning,<br>VRF support for Telnet/SNMP/SSH,<br>VxLAN tunnel traffic statistics,<br>Show/debug commands |
| OSPFv2 type3 LSA filtering | Enables OSPF ABR to filter type-3 LSA updates across areas. |

### Brocade SLX Visibility Services (Beta Software)

Brocade SLX Visibility Services – new in SLX-OS 17s.1.01. This is another benefit derived from our flexible ASIC. The ASIC is programmed for richer extensibility in the box (vs. being constrained by what the merchant provides). There are two main elements to this service - classification and action. Similar to any ACL-based service in a switch but with additional richness, so that you can classify what is happening in overlays as well as specific workloads (vs. just port-level data).

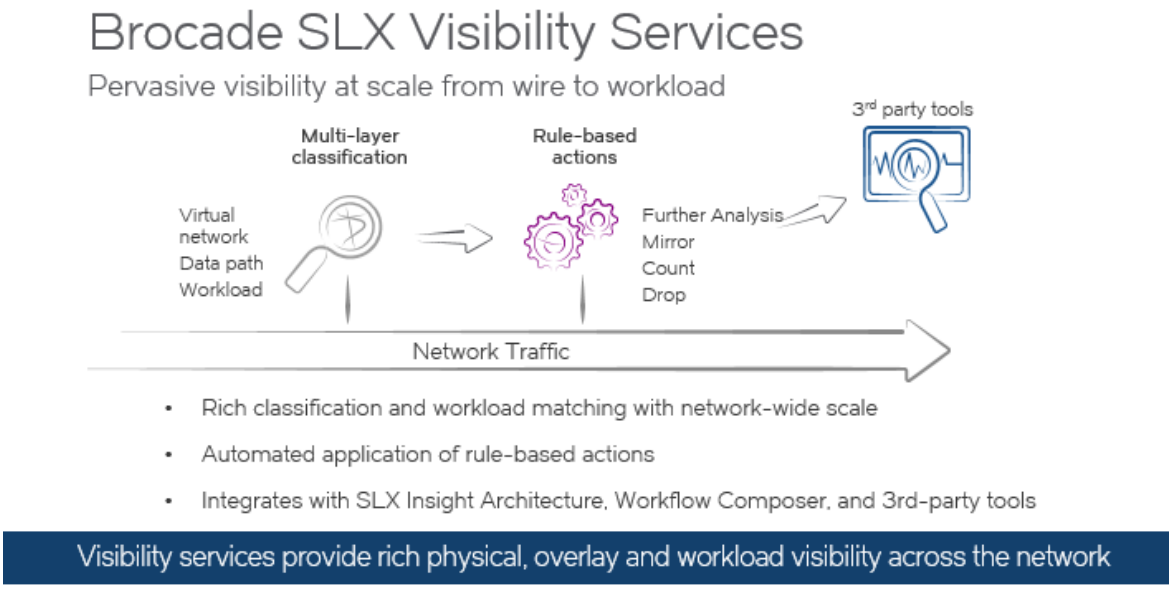


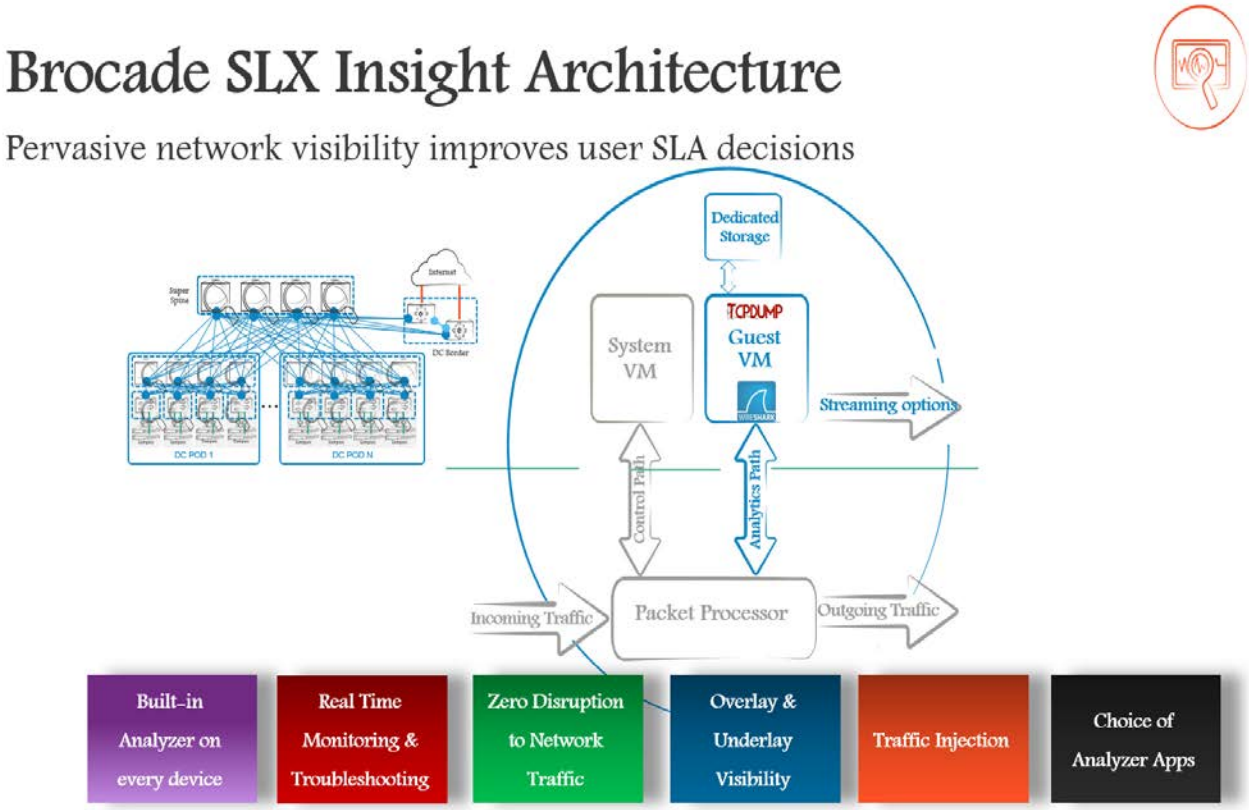

Figure 3: Brocade Visibility Services

The potential actions (such as mirror, count, etc) are dynamic and can be configured by adding a workflow that can react to specific events/criteria. That data can also be pushed to sFlow, span port, streaming APIs; to third party or Brocade tools.

SLX Visibility Services are enabled on the SLX 9140 and SLX 9240 switches so you can have visibility from top of rack through spine and from wire to workflow. Through additional integration with BWC, configuration can also be simplified to avoid box-by-box CLI configuration.

| **Feature Name** | **Supported Actions** |
|---|---|
| Visibility Services*<br><br>*Note: Transit rules to be applied per switch. Per interface and per logical interface is not supported in SLX-OS 17s.1.01. | **Permit**<br>**Deny**<br>**sFlow**<br>**Count**<br>**Mirror/SPAN** |

Insight Interface(GA Feature):



The Brocade SLX 9140 includes Brocade SLX architecture delivered through this release. This new approach to network monitoring

and troubleshooting provides a highly differentiated solution that makes it faster, easier, and more cost-effective to get the comprehensive, real-time visibility needed

for network operations and automation. By embedding network visibility on every switch, the Brocade SLX Insight Architecture can help organizations achieve pervasive visibility throughout the network to quickly and efficiently identify problems, accelerate mean-time-to-resolution, and improve overall service levels.

SLX9140 provides a dedicated analytics path (1GbE) between the packet processor and the Guest VM running on SLX9140. This insight interface is a Port Channel with a single member port and is mapped to Eth0/73. The analytics path enables applications running in the open KVM environment (Guest VM) to extract data without disrupting the forwarding or control plane traffic of the Brocade SLX 9140.

The analytics path is not available on SLX9240.

### Consolidated Features in SLX-OS 17s.1.00 and SLX-OS 17s.1.01

Following table lists the features present in both SLX-OS 17s.1.00 and SLX-OS 17s.1.01. **Bold represents features that are supported starting SLX-OS 17s.1.01 (Beta Software, NPB is GA Feature).**

| **Layer 2 Switching** | |
|---|---|
| • Conversational MAC Learning<br>• Virtual Link Aggregation Group (vLAG) spanning<br>• Layer 2 Access Control Lists (ACLs)<br>• Address Resolution Protocol (ARP) RFC 826<br>• Layer 2 Loop prevention in an overlay environment<br>• MLDv1 Snooping<br>• IGMP v1/v2 Snooping<br>• MAC Learning and Aging<br>• Link Aggregation Control Protocol (LACP) IEEE 802.3ad/802.1AX<br>• Virtual Local Area Networks (VLANs) | • VLAN Encapsulation 802.1Q<br>• BD Support<br>• Per-VLAN Spanning Tree (PVST+/PVRST+)<br>• Rapid Spanning Tree Protocol (RSTP) 802.1w<br>• Multiple Spanning Tree Protocol (MSTP) 802.1s<br>• STP PortFast, BPDU Guard, BPDU Filter<br>• STP Root Guard<br>• Pause Frames 802.3x<br>• Static MAC Configuration<br>• Multi-Chassis Trunking (MCT)<br>• **VXLAN extenstion tunnels**<br>• **Overlay services: overlay gateway instances, overlay transit instances (on spine nodes)**<br>• **Link-fault signaling**<br>• **IP-based management cluster** |
| **Layer 3 Routing** | |
| • Border Gateway Protocol (BGP4+)<br>• DHCP Helper<br>• Layer 3 ACLs<br>• OSPF v2/v3<br>• Static routes | • VRRP-E<br>• IPv4/IPv6 dual stack<br>• ICMPv6 Route-Advertisement Guard IPv6 ACL packet filtering<br>• BGP-Allow AS |

| | |
|---|---|
| • IPv4/v6 ACL<br>• Route Policies<br>• Bidirectional Forwarding Detection (BFD)<br>• 32-Way ECMP<br>• VRF Lite<br>• VRF-aware OSPF, BGP, VRRP, static routes<br>• VRRP v2 and v3<br>• **VRRP and VRRP-E over VxLAN**<br>• **Anycast Gateway over VxLAN** | • BGP Generalized TTL Security Mechanism (GTSM)<br>• IPv6 routing<br>• OSPF Type-3 LSA Filter<br>• Wire-speed routing for IPv4 and IPv6 using any routing protocol<br>• Multi-VRF<br>• **L3 over Bridge Domains (BD)** |
| **Automation and Programmability** | |
| • gRPC Streaming protocol and API<br>• REST API with YANG data model<br>• Python | • PyNOS libraries<br>• DHCP automatic provisioning<br>• NETCONF API |
| **Quality of Service** | |
| • ACL-based QoS<br>• Two Lossless priority levels for QoS<br>• Class of Service (CoS) IEEE 802.1p<br>• DSCP Trust<br>• DSCP to Traffic Class Mutation<br>• DSCP to CoS Mutation<br>• DSCP to DSCP Mutation<br>• **CoPP (Control Plane Policing)** | • Random Early Discard<br>• Per-port QoS configuration<br>• ACL-based Rate Limit<br>• Dual-rate, three-color token bucket<br>• ACL-based remarking of CoS/DSCP/Precedence<br>• ACL-based sFlow<br>• **Overlay GW Services (ACLs, QOS, SFlow, SPAN)**<br>• Scheduling: Strict Priority (SP), Deficit Weighted Round-Robin (DWRR) |
| **Management and Monitoring** | |
| • 1588v2 PTP<br>• Time Stamping<br>• Zero-Touch Provisioning (ZTP)<br>• IPv4/IPv6 management<br>• Industry-standard Command Line Interface (CLI)<br>• NETCONF API<br>• REST API with YANG data model<br>• SSH/SSHv2<br>• Link Layer Discovery Protocol (LLDP) IEEE 802.1AB<br>• MIB II RFC 1213 MIB<br>• Syslog (RASlog, AuditLog)<br>• Management VRF<br>• Switched Port Analyzer (SPAN)<br>• Telnet | • SNMP v1, v2C, v3<br>• sFlow version 5<br>• Out-of-band management<br>• RMON-1, RMON-2<br>• NTP<br>• Management Access Control Lists (ACLs)<br>• Role-Based Access Control (RBAC)<br>• Range CLI support<br>• Python<br>• DHCP Option 82 Insertion<br>• **DHCP Option 82 (Vlan)**<br>• DHCP Relay<br>• Guest VM support<br>• SLX-OS and Linux Shell Interoperability |
| **Security** | |
| • Port-based Network Access Control 802.1X<br>• RADIUS – Authentication and **Authorization**<br>• AAA | • BPDU Drop<br>• Lightweight Directory Access Protocol (LDAP)<br>• Secure Copy Protocol |

| | |
|---|---|
| • TACACS+<br>• Secure Shell (SSHv2)<br>• TLS 1.1, 1.2<br>• HTTP/HTTPS | • Control Plane Protection<br>• LDAP/AD<br>• SFTP<br>• Port Security |
| **IP Fabric** | |
| • **Controllerless Network Virtualization (BGP-EVPN)**<br>• **ARP surpression**<br>• **Conversational ARP**<br>• **Static Anycast Gateway** | • **Logical VTEP**<br>• **IP Un-numbered interface**<br>• **No Traffic Tromboning.**<br>• **RIOT (Routing In and Out of Tunnel)** |
| **Platform** | |
| • **25G AN/LT**<br>• **Insight interface**<br>• **1G/10G/25G/40G/100G Auto speed detection**<br>• **Multi Speed Optic Support** | • **Digital Optical Monitoring( DOM)** |
| **NPB (GA Feature)** | |
| • **Traffic aggregation**<br>• **Traffic replication (via TVF – transparent VLAN flooding)**<br>• **L2-L4 (via L2/L3 ACL matched route-map)**<br>• **Load-balancing (hash-based)** | |

# Important Notes

## Zero Touch Provisioning (ZTP)

- ZTP is enabled by default on SLX switches from factory or by “write erase”. Upon switch power-on or reboot by “write erase”, it will automatically connect to DHCP server through both management interface and inband ports with connection for firmware to download and configuring the switch based on the DHCP configuration.

- If the switch does not have a DHCP server connected or the DHCP server is not configured for ZTP, the switch will keep searching the DHCP server for ZTP.

  The serial console of the switch will display ZTP message as following:

  *ZTP, Mon Mar 27 21:00:58 2017, ========== ZTP start ==========*
  *ZTP, Mon Mar 27 21:00:58 2017, disable raslog*
  *ZTP, Mon Mar 27 21:00:58 2017, CLI is ready*
  *ZTP, Mon Mar 27 21:01:35 2017, inband ports are enabled*
  *ZTP, Mon Mar 27 21:01:36 2017, serial number = EXH3314M00A*
  *ZTP, Mon Mar 27 21:01:36 2017, model name = SLX9140*
  *ZTP, Mon Mar 27 21:01:36 2017, use both management interface and inband interfaces*

*ZTP, Mon Mar 27 21:01:36 2017, checking inband interfaces link status*
*ZTP, Mon Mar 27 21:02:27 2017, find link up on intefaces: eth0 Eth0.4 Eth0.43 Eth0.44*
*ZTP, Mon Mar 27 21:02:27 2017, start dhcp process on interfaces: eth0 Eth0.4 Eth0.43 Eth0.44*
*ZTP, Mon Mar 27 21:02:37 2017, retry in 10 seconds*
*ZTP, Mon Mar 27 21:02:47 2017, inband ports are enabled*
*ZTP, Mon Mar 27 21:02:47 2017, serial number = EXH3314M00A*
*ZTP, Mon Mar 27 21:02:47 2017, model name = SLX9140*
*ZTP, Mon Mar 27 21:02:47 2017, use both management interface and inband interfaces*
*ZTP, Mon Mar 27 21:02:47 2017, dhcp server search timeout in 3529 seconds*
*ZTP, Mon Mar 27 21:02:47 2017, checking inband interfaces link status*
*ZTP, Mon Mar 27 21:02:48 2017, find link up on intefaces: eth0 Eth0.4 Eth0.43 Eth0.44*
*ZTP, Mon Mar 27 21:02:48 2017, start dhcp process on interfaces: eth0 Eth0.4 Eth0.43 Eth0.44*
*ZTP, Mon Mar 27 21:02:58 2017, retry in 10 seconds*
*…*

You may login to the switch and cancel ZTP, then reboot the switch (with “reload system”) before making any configuration change on the switch.

*SLX# **dhcp ztp cancel***
*Warning: This command will terminate the existing ZTP session*
*After ZTP has been confirmed canceled, you need to run "reload system" before configuring the switch.*
*Do you want to continue? [y/n] y*
*SLX# ZTP, Mon Mar 27 21:08:08 2017, serial number = EXH3314M00A*
*ZTP, Mon Mar 27 21:08:08 2017, model name = SLX9140*
*ZTP, Mon Mar 27 21:08:08 2017, use both management interface and inband interfaces*
*ZTP, Mon Mar 27 21:08:08 2017, dhcp server search timeout in 3208 seconds*
*ZTP, Mon Mar 27 21:08:08 2017, checking inband interfaces link status*
*ZTP, Mon Mar 27 21:08:09 2017, find link up on intefaces: eth0 Eth0.4 Eth0.43 Eth0.44*
*ZTP, Mon Mar 27 21:08:09 2017, start dhcp process on interfaces: eth0 Eth0.4 Eth0.43 Eth0.44*

Wait for 10 seconds. You may confirm the ZTP is canceled, re-executing the same command.

*SLX# **dhcp ztp cancel***
*ZTP is not enabled.*

*SLX# SLX# **reload system***

*Warning: This operation will cause the chassis to reboot and*
*requires all existing telnet, secure telnet and SSH sessions to be*
*restarted.*
*Unsaved configuration will be lost. Please run `copy running-config startup-config` to save the current configuration if not done already.*

*Are you sure you want to reboot the chassis [y/n]? y*
*[ 940.360081] VBLADE: vblade_control: FEPORTS_DISABLE*
*xpDma::quiesce:307 devId=0*
*xpDriverWrapper::quiesce:146 devId=0*
*FABOS_BLADE_MSG_BL_DISABLE received in HSLUA for chip 0*
*2017/03/27-21:14:13, [RAS-1007], 567,, INFO, SLX9140, System is about to reload.*
*…*

# Documentation supporting SLX-OS

The most recent versions of Brocade software manuals and hardware manuals are available on the mybrocade.com website.

DOCUMENTATION ON MYBROCADE.COM

1. Log into mybrocade.com
2. Go to the documentation tab.
3. Under Product Manuals, from the “downloaded by” drop down box, select SLX Operating System (SLX OS).
4. Select your publication.

The following lists the documentation supporting this release:

- Brocade SLX-OS Command Reference, 17s.1.01
- Brocade SLX-OS IP Fabrics Configuration Guide, 17s.1.01
- Brocade SLX-OS IP Multicast Configuration Guide, 17s.1.01
- Brocade SLX-OS Layer 2 Switching Configuration Guide, 17s.1.01
- Brocade SLX-OS Layer 3 Routing Configuration Guide, 17s.1.01
- Brocade SLX-OS Management Configuration Guide, 17s.1.01
- Brocade SLX-OS MIB Reference, 17s.1.01
- Brocade SLX-OS Monitoring Configuration Guide, 17s.1.00
- Brocade SLX-OS Network Packet Broker Configuration Guide, 17s.1.01
- Brocade SLX-OS QoS and Traffic Management Configuration Guide, 17s.1.01
- Brocade SLX-OS REST API, 17s.1.01
- Brocade SLX-OS NetCONF, 17s.1.01
- Brocade SLX-OS YANG, 17s.1.01
- Brocade SLX-OS Security Configuration Guide, 17s.1.01
- Brocade SLX-OS Software Licensing Guide, 17s.1.01
- Brocade SLX 9140 Switch Hardware Installation Guide
- Brocade SLX 9140 Switch Technical Specifications
- Brocade SLX 9240 Switch Hardware Installation Guide
- Brocade SLX 9240 Switch Technical Specifications

# RFCs and Standards

## Brocade SLX 9140, 9240 Specifications

| **IEEE Compliance** | | |
|---|---|---|
| Ethernet | • IEEE 802.1D Spanning Tree Protocol<br>• IEEE 802.1s Multiple Spanning Tree<br>• IEEE 802.1w Rapid Reconfiguration of Spanning Tree Protocol<br>• IEEE 802.3 Ethernet<br>• IEEE 802.3ad Link Aggregation with LACP<br>• IEEE 802.3ae 10G Ethernet<br>• IEEE 802.1Q VLAN Tagging<br>• IEEE 802.1p Class of Service | • Prioritization and Tagging<br>• IEEE 802.1v VLAN Classification by Protocol and Port<br>• IEEE 802.1AB Link Layer Discovery Protocol (LLDP)<br>• IEEE 802.3x Flow Control (Pause Frames)<br>• IEEE 802.3ab 1000BASE-T<br>• IEEE 802.3z 1000BASE-X |
| **RFC Compliance** | | |
| General Protocols | • RFC 768 User Datagram Protocol (UDP)<br>• RFC 783 TFTP Protocol (revision 2)<br>• RFC 791 Internet Protocol (IP)<br>• RFC 792 Internet Control Message Protocol (ICMP)<br>• RFC 793 Transmission Control Protocol (TCP)<br>• RFC 826 ARP<br>• RFC 854 Telnet Protocol Specification<br>• RFC 894 A Standard for the Transmission of IP Datagram over Ethernet Networks<br>• RFC 959 FTP<br>• RFC 1027 Using ARP to Implement Transparent Subnet Gateways (Proxy ARP)<br>• RFC 1112 IGMP v1<br>• RFC 1157 Simple Network Management Protocol (SNMP) v1 and v2<br>• RFC 1305 Network Time Protocol (NTP) Version 3<br>• RFC 1492 TACACS+<br>• RFC 1519 Classless Inter-Domain Routing (CIDR)<br>• RFC 1584 Multicast Extensions to OSPF<br>• RFC 1765 OSPF Database Overflow<br>• RFC 1812 Requirements for IP Version 4 Routers<br>• RFC 1997 BGP Communities Attribute<br>• RFC 2068 HTTP Server<br>• RFC 2131 Dynamic Host Configuration Protocol (DHCP) | • RFC 2710 Multicast Listener Discovery (MLD) for IPv6<br>• RFC 2711 IPv6 Router Alert Option<br>• RFC 2740 OSPFv3 for IPv6<br>• RFC 2865 Remote Authentication Dial-In User Service (RADIUS)<br>• RFC 3101 The OSPF Not-So-Stubby Area (NSSA) Option<br>• RFC 3137 OSPF Stub Router Advertisement<br>• RFC 3176 sFlow<br>• RFC 3392 Capabilities Advertisement with BGPv4<br>• RFC 3411 An Architecture for Describing SNMP Frameworks<br>• RFC 3412 Message Processing and Dispatching for the SNMP<br>• RFC 3587 IPv6 Global Unicast Address Format RFC 4291 IPv6 Addressing Architecture<br>• RFC 3623 Graceful OSPF Restart—IETF Tools<br>• RFC 3768 VRRP<br>• RFC 4271 BGPv4<br>• RFC 4443 ICMPv6 (replaces 2463)<br>• RFC 4456 BGP Route Reflection<br>• RFC 4510 Lightweight Directory Access Protocol (LDAP): Technical Specification Road Map<br>• RFC 4724 Graceful Restart Mechanism for BGP<br>• RFC4750 OSPFv2.MIB |

| | | |
|---|---|---|
| | • RFC 2154 OSPF with Digital Signatures (Password, MD-5)<br>• RFC 2236 IGMP v2<br>• RFC 2267 Network Ingress Filtering Option—Partial Support<br>• RFC 2328 OSPF v2<br>• RFC 2370 OSPF Opaque Link-State Advertisement (LSA)<br>• RFC 2375 IPv6 Multicast Address Assignments RFC 2385 Protection of BGP Sessions with the TCP MD5 Signature Option<br>• RFC 2439 BGP Route Flap Damping<br>• RFC 2460 Internet Protocol, Version 6 (v6) Specification (on management interface)<br>• RFC 2462 IPv6 Stateless Address Auto-Configuration<br>• RFC 2464 Transmission of IPv6 Packets over Ethernet Networks (on management interface)<br>• RFC 2474 Definition of the Differentiated Services Field in the IPv4 and IPv6 Headers RFC 2571 An Architecture for Describing SNMP Management Frameworks<br>• RFC 3413 Simple Network Management Protocol (SNMP) Applications | • RFC 4861 IPv6 Neighbor Discovery<br>• RFC 4893 BGP Support for Four-Octet AS Number Space<br>• RFC 5082 Generalized TTL Security Mechanism (GTSM)<br>• RFC 5880 Bidirectional Forwarding Detection (BFD)<br>• RFC 5881 Bidirectional Forwarding Detection (BFD) for IPv4 and IPv6 (Single Hop)<br>• RFC 5882 Generic Application of Bidirectional Forwarding Detection (BFD)<br>• RFC 5883 Bidirectional Forwarding Detection (BFD) for Multihop Paths<br>• RFC 5942 IPv6 Neighbor Discovery<br>• RFC 7432 BGP-EVPN Control Plane Signaling |
| MIBs | • RFC 4292 IP Forwarding MIB<br>• RFC 4293 Management Information Base for the Internet Protocol (IP)<br>• RFC 7331 BFD MIB<br>• RFC 7331 BFD Helper MIB<br>• RFC 3826 SNMP-USM-AES-MIB<br>• RFC 4273 BGP-4 MIB<br>• RFC 2863 The Interfaces Group MIB<br>• RFC4750 OSPFv2.MIB | • RFC 4133 Entity MIB (Version 3); rmon.mib, rmon2.mib, sflow_v5.mib, bridge.mib, pbridge.mib, qbridge.mib, rstp.mib<br>• lag.mib, lldp.mib, lldp_ext_dot1.mib, lldp_ext_dot3.mib,<br>• RFC 4022 TCP MIB<br>• RFC 4113 UDP.MIB |

# Hardware support

## SLX 9140/9240 Hardware and License SKUs

| | Description |
|---|---|
| BR-SLX-9140-48V-AC-F | Brocade SLX 9140-48V Switch AC with Front to Back airflow 48x25GE/10GE/1GE + 6x100GE/40GE |
| BR-SLX-9140-48V-DC-F | Brocade SLX 9140-48V Switch DC with Front to Back airflow 48x25GE/10GE/1GE + 6x100GE/40GE |
| BR-SLX-9140-48V-AC-R | Brocade SLX 9140-48V Switch AC with Back to Front airflow 48x25GE/10GE/1GE + 6x100GE/40GE |
| BR-SLX-9140-48V-DC-R | Brocade SLX 9140-48V Switch DC with Back to Front airflow 48x25GE/10GE/1GE + 6x100GE/40GE |
| BR-SLX-9240-32C-AC-F | Brocade SLX 9240-32C Switch AC with Front to Back airflow 32x100GE/40GE |
| BR-SLX-9240-32C-DC-F | Brocade SLX 9240-32C Switch DC with Front to Back airflow 32x100GE/40GE |
| BR-SLX-9240-32C-AC-R | Brocade SLX 9240-32C Switch AC with Back to Front airflow 32x100GE/40GE |
| BR-SLX-9240-32C-DC-R | Brocade SLX 9240-32C Switch DC with Back to Front airflow 32x100GE/40GE |
| BR-SLX-9140-ADV-LIC | Advanced Software License |
| BR-SLX-9240-ADV-LIC | Advanced Software License |

## Supported power supplies

The following table lists the power supplies that are available for the devices supported in this release:

| | Description |
|---|---|
| BR-ACPWR-650-F | SLX FIXED AC 650W POWER SUPPLY F2B AIRFL |
| BR-ACPWR-650-R | SLX FIXED AC 650W POWER SUPPLY B2F AIRFL |
| BR-DCPWR-650-F | SLX FIXED DC 650W POWER SUPPLY F2B AIRFL |
| BR-DCPWR-650-R | SLX FIXED DC 650W POWER SUPPLY B2F AIRFL |
| BR-3250CFM-FAN-F | SLX FIXED FAN AC F2B AIRFLOW |
| BR-3250CFM-FAN-R | SLX FIXED FAN AC B2F AIRFLOW |

## Supported optics

For a list of supported fiber-optic transceivers that are available from Brocade, refer to the latest version of the Brocade Optics Family Data Sheet available online at www.brocade.com.

| Description | Orderable PN | BRCD P/N |
|---|---|---|
| 1000Base-SX | E1MG-SX-OM | 33210-100 |
| | | |
| 1000Base-LX | E1MG-LX-OM | 33211-100 |
| 1GE Copper SFP (Pseudo-Branded) | E1MG-TX | 33002-100 |
| 1GE Copper SFP (BR-Branded) | XBR-000190 | 57-1000042-02 |
| 10GE USR SFP+ | 10G-SFPP-USR | 57-1000130-01 |
| 10GE USR SFP+ | 10G-SFPP-USR | 57-1000130-02 |
| 10GE SR SFP+, 85C | 10G-SFPP-SR | 57-0000075-01 |
| 10GE SR SFP+, 70C | 10G-SFPP-SR | 57-1000340-01 |
| 10GE SR SFP+, 70C | 10G-SFPP-SR | 57-1000340-01 |
| 10GE AOC 7M | 10GE-SFPP-AOC-0701 | 57-1000273-01 |
| 10GE AOC 10M | 10GE-SFPP-AOC-1001 | 57-1000274-01 |
| 10GE Direct Attach 5M Active | 10G-SFPP-TWX-0501 | 58-1000023-01 |
| 10GE Direct Attach 1M Active | 10G-SFPP-TWX-0101 | 58-1000026-01 |
| 10GE Direct Attach 3M Passive | 10G-SFPP-TWX-P-0301 | 58-1000025-01 |
| 10GE Direct Attach 5M Passive | 10G-SFPP-TWX-P-0501 | 58-1000019-01 |
| 25G SR | 25G-SFP28-SR | 57-1000342-01 |
| 25GE Direct Attach 01M Passive | 25G-SFP28-TWX-P-0101 | 58-0000064-01 |
| 25GE Direct Attach 03M Passive | 25G-SFP28-TWX-P-0301 | 58-0000065-01 |
| 40GE QSFP+ SR4 | 40G-QSFP-SR4 | 57-1000128-01 |
| 40GE BiDi QSFP+ | 40G-QSFP-SR-BIDI | 57-1000339-01 |
| 40GE QSFP+ LR4, 10KM, 70C | 40G-QSFP-LR4 | 57-1000263-01 |
| 40GE QSFP+ SR4 to 10G-SR SFP+ | 40G-QSFP-SR4-INT | 57-1000129-01 |
| 40GE QSFP to QSFP 1M Cable(Passive) | 40G-QSFP-C-0101 | 58-0000033-01 |
| 40GE QSFP to QSFP 3M Cable(Passive) | 40G-QSFP-C-0301 | 58-0000034-01 |

| | | |
|---|---|---|
| 40GE QSFP to QSFP 5M Cable(Passive) | 40G-QSFP-C-0501 | 58-0000035-01 |
| 4x10GE QSFP+ to 4 SFP+ Active copper cable - 1m | 40G-QSFP-4SFP-C-0101 | 58-0000051-01 |
| 4x10GE QSFP+ to 4 SFP+ Active copper cable - 3m | 40G-QSFP-4SFP-C-0301 | 58-0000052-01 |
| 4x10GE QSFP+ to 4 SFP+ Active copper cable - 5m | 40G-QSFP-4SFP-C-0501 | 58-0000053-01 |
| 40GE QSFP to QSFP cable - 10m AOC | 40G-QSFP-QSFP-AOC-1001 | 57-1000306-01 |
| 100GE QSFP28 SR4 | 100G-QSFP28-SR4 | 57-1000326-01 |
| 100GE QSFP28 LR4 (3.5W) | 100G-QSFP28-LR4-LP-10KM | 57-1000338-01 |
| 100GE QSFP28 CWDM | 100G-QSFP28-CWDM4-2KM | 57-1000336-01 |
| 100G QSFP-28 Active Optical (10m) | 100G-QSFP-QSFP-AOC-1001 | 57-1000347-01 |

**New Optics supported starting SLX17s.1.01**

| | | |
|---|---|---|
| 10GE LR SFP+, 85C | 10G-SFPP-LR | 57-0000076-01 |
| 10GE LR SFP+ TAA | 10G-SFPP-LR-SA | 57-1000345-01 |

# Software upgrade and downgrade

## Image file names

Download the following images from www.brocade.com.

| Image file name | Description |
|---|---|
| slxos17s.1.01.tar.gz | SLX-OS 17s.1.01 software |
| slxos17s.1.01_all_mibs.tar.gz | SLX-OS 17s.1.01 MIBS |
| slxos17s.1.01.md5 | SLX-OS md5 checksum |

## Migration path

Recommended upgrade/downgrade migration paths in NPB mode.

| From \ To | SLX 17s.1.00 | SLX17s.1.00a | SLX17s.1.01 |
|---|---|---|---|
| SLX 17s.1.00 | NA | Default - config | Default - config |
| SLX 17s.1.00a | Default - config | NA | Default - config |
| SLX 17s.1.01 | Default- config | Default - Config | NA |

Recommended upgrade/downgrade migration paths in default mode (non-NPB mode)

| From \ To | SLX 17s.1.00 | SLX17s.1.00a | SLX17s.1.01 |
|---|---|---|---|
| SLX 17s.1.00 | NA | FWDL coldboot | FWDL coldboot |
| SLX 17s.1.00a | Default - config | NA | FWDL coldboot |

| | | | |
|---|---|---|---|
| SLX 17s.1.01 | Default- config | Default – config | NA |

**NOTES:**

**NPB:**

Starting SLX 17s.1.01 NPB feature is supported only with “Advanced feature” licence.

**SLX 17s.1.00a to SLX 17s.1.01 UPGRADE**

**SLX 9240 revert to DEFAULT mode prior to upgrade**

1. Save running-config to either local flash or remote location
2. Restore SLX 9240 with default configuration ***(note: breakout configuration will NOT be preserved)***
3. Revert SLX 9240 to DEFAULT mode
4. Reload system
5. FWDL upgrade to SLX 17s.1.01
6. Install ADVANCE FEATURE license
7. Configure SLX 9240 to NPB mode
8. Reload system
9. If the saved configuration in *Step 2* contains breakout interfaces, manually configure breakout interfaces on the appropriate ports
    a. Copy the running config to startup config
    b. Reload system
10. Perform “*copy <file> running-config*” to load the configuration saved in *Step 2*

**SLX 17s.1.01 to SLX 17s.1.00/a DOWNGRADE**

**SLX 9240 revert to DEFAULT mode prior to downgrade**

1. Save running-config to either local flash or remote location
2. Restore SLX 9240 with default configuration
3. Revert SLX 9240 to DEFAULT mode
4. Reload system
5. FWDL downgrade to SLX 17s.1.00/a

# Limitations and restrictions

## Compatibility and interoperability

- **Platform**:
  - **DIAG:**
    - Diag related commands work only under /offline_diag directory.
    - Diag portloopbacktest with exeternal loopback plug is not supported on SLX9240 platform.
- **Muticast**
  - Frame corruption might occur while performing high rate of replication with traffic flowing at line rate
- **NPB**:
  - When switching from NPB to default mode, the user should un-configure the following and reload the system:
  - TVF domains, NPB policy route-map, and route-map set next-hop-tvf-domain
  - When switching from default to NPB mode, the user should revert the system to default-configuration and reload the system
  - To achieve the maximum L2/L3 ACL rules, the ACLs must be applied equally among the following four port groups
    - Port Group 0: eth0/5-12
    - Port Group 1: eth0/21-28
    - Port Group 2: eth0/1-4 and eth0/13-16
    - Port Group 3: eth0/17-20 and eth0/29-32
  - With 4k TVF/route-maps scale, system takes longer time to load on config replay.
- **Layer 2**:
  - In RSTP, when native vlan is shut, convergence is affected vlan traffic when interop with cisco devices.
  - Hashing issues observed in may lead to Routes and Mac DB not getting programmed.
- **Layer3:**
  - **VRRP:**
    - "show vrrp summary" and "show ipv6 vrrp summary" will display all sessions in default vrf.
  - **BGP:**
    - Extended community filters support is not available.
- **ACL:**
  - Egress ACLs, Flow-Based QOS not supported on Ports and Port-Channel/MCT interfaces on SLX 9140, SLX 9240
- **Port-Security:**
  - OUI Mac Addresses are not supported.
- **Security:**

- Login authentication service (aaa authentication login cli):
  - With “local” option specified as secondary authentication service, local authentication will be tried only when the primary authentication service - (TACACS+/RADIUS/LDAP) is either unreachable or not available.
  - When login authentication configuration is modified, the user sessions are not logged out. All connected user sessions can be explicitly logged out using “clear sessions” CLI.
- ACLs are not supported for egress traffic flows on management interfaces.
- Configuring TACACS+ or RADIUS without a key is not supported. If no key is configured, the switch uses a default key of “sharedsecret”. If the specific vrf is not mentioned, mgmt.-vrf will be taken as default.
- There is a possibility that locked user accounts will get unlocked after a reboot if the running-config (before reboot) is different from startup-config of user accounts.
- Encrypted text (taken from running-config of any user account password with encryption turned on) should not be used as input for clear-text password for the same user. This may result in login failure of the user subsequently.

- **QOS:**
  - **FB QoS - Cos Marking, DSCP Marking, Sflow, SPAN**
    - SPAN with L2 ACL in egress direction (SLX 9240)
    - Flow-based QoS is not supported in egress direction
  - **QoS – WRED**
    - Byte counter is not available as part of show qos red statistics CLI for port-channel
  - **QoS – Pause/PFC/Buffer Management**
    - PFC and Flow-control statistics are not supported due to hardware limitation
    - Max allowed tx buffer in SLX9140 is 3000 and not 8000.
- **Traffic:**
  - On the Brocade SLX 9140 and SLX 9240, traffic destined to 128.0.0.0/16 block is dropped.
- **Telemetry Streaming**
  - Running gRPC server on non-default port not supported.
- **PTP**
  - Rest API operational-state GET will not correctly display the output of the following PTP "show" commands:
    - show ptp clock foreign-masters record
    - show ptp corrections
  - No REST API URL for “show ptp port-interface Ethernet|port-channel”
- **REST API**
  - REST configuration for startup-config datastore is not supported.
  - Only one command can be configured with one REST request. Configuring multiple commands in a single request is not supported.
  - Pagination and Range is not supported.
  - Maximum 30 sessions are supported.
  - in-band with user-defined vrf and default-vrf not supported
- **NetConf**

- Netconf configuration for startup-config datastore is not supported
- Configuring multiple commands in a single request is supported for configuration/deletion of vlan, switch port, trunk port, VE and rules under IP ACL only.
- Range is not supported.
- Maximum 16 sessions supported.

- **ARAS**
  - Host data Collection, Ceclone backup and restore through ipv6 address is not supported.
- **sFlow**
  - If Port based and flow based sflow is enabled on an interface, Port based sflow takes effect
  - Flow-based Sflow is not supported on port-channel and its member ports
  - Port-based Sflow not supported on port-channel but supported on member ports
  - There will be no counter samples when only flow based sampling is enabled.
  - When multiple sampling rates are applied on an interface through multiple class-maps, the lowest sample-rate will take the effect.
- **Port mirroring**
  - Only Flow based SPAN supported for port channel. Member ports of port channel can be enabled with port SPAN.
  - Deny rules in service ACL is pass through in Flow based QoS. Only permit rules with SPAN action will result in Flow based mirroring
  - In class map if SPAN action coexists with QOS action (e.g. DSCP marking which results in frame editing), original packet will be mirrored and not reflect the frame editing done as per the QOS action.
- **SNMP**
  - Warning messages while loading MIBs
  - Certain MIB browsers may show warning messages while loading MIBs when dependent MIB is already not loaded. For example, in RFC 3289 MIB, DIFFSERV-MIB module has dependency on INTEGRATED-SERVICES-MIB module which is defined in the same RFC. However, DIFFSERV-MIB occurs first in the file and hence may throw a warning since INTEGRATED-SERVICES-MIB is not loaded yet. It should not be an issue as long as the MIB objects show up in the MIB browser. To avoid the warning, place the dependent MIB module file in the same folder with name as <MIB MODULE>.mib or <MIB MODULE>.my (ex: INTEGRATED-SERVICES-MIB.mib) …"
- **IP Fabric**
  - Route leak prefixes show as Best Routes (BE) in BGP VRF even after the L3 VNI VLAN and VEs are deleted.
  - ACLs names are case-sensitive on Management interface.
  - In rare scenarios, Ping to BGP EVPN installed prefix route host may fail, though the route is present in control plane and in hardware.
  - "LeakArp" ARP entries are not cleared after removing leaked static route and doing "clear arp no-refresh"
  - With Scale, traffic convergence takes long time in IP Fabric for symmetric and asymmetric scenarios.

- After delete and add the vlan to vni mapping for L3 VNI, Tunnel membership is not established for these L3VNI.
- In IP Fabric, L3 ECMP is not supported over IP-Unnumbered uplink.
- IP MTU is not honored on the VE interfaces.
- In some occurences, Inclusive Multicast Routes (IMR) getting filtered after remove/add evpn config on one of the MCT node causing traffic loss.
- In some scenarios, BFD process restarted on MCT node while flapping loopback interface

# Defects

## TSBs—Critical issues to consider prior to installing this release

Technical Support Bulletins (TSBs) provide detailed information about high priority defects or issues present in a release. The following sections specify all current TSBs that have been identified as being a risk to or resolved with this specific release. Please review carefully and refer to the complete TSB for relevant issues prior to migrating to this version of code. On http://my.brocade.com (sign-in required) this product documentation can be found by selecting **Support > Document Library** then under **Explore by Content Type** select **View All** > **Technical Service Bulletin** (note that TSBs are generated for all Brocade platforms and products, so not all TSBs apply to this release).

### TSB issues resolved in SLX-OS 17s.1.01

| TSB | Summary |
|---|---|
| **None** | |

### TSB issues outstanding in SLX-OS 17s.1.01

| TSB | Summary |
|---|---|
| **None** | |

## Closed with code changes for SLX-OS v17s.1.01

This section lists software defects with Critical, High, and Medium Technical Severity closed with a code change as of July 28, 2017 in SLX-OS v17s.1.01.

| | |
|---|---|
| **Defect ID:** DEFECT000612076 | |
| **Technical Severity:** High | **Probability:** High |
| **Product:** Brocade SLX-OS | **Technology Group:** Monitoring |
| **Reported In Release:** SLXOS 17s.1.00 | **Technology:** Hardware Monitoring |
| **Symptom:** The output of the command show-media for some 25G SFP may show the transceiver value as zero. | |
| **Condition:** This issue will be seen when there is a 25G SFP media plugged into the device. | |

| | |
|---|---|
| **Defect ID:** DEFECT000623115 | |
| **Technical Severity:** High | **Probability:** High |
| **Product:** Brocade SLX-OS | **Technology Group:** Monitoring |
| **Reported In Release:** SLXOS 17s.1.00 | **Technology:** Hardware Monitoring |
| **Symptom:** With offline diagnostic, the external port loopback test with loopback plug fails on SLX9240 platform. | |
| **Condition:** This only happens in offline diagnostic. | |
| **Workaround:** Portloopbacktest for mode 1 is not supported. Will support the feature in SLX-OS 17s.1.01 | |

| | |
|---|---|
| **Defect ID:** DEFECT000629041 | |
| **Technical Severity:** High | **Probability:** Medium |
| **Product:** Brocade SLX-OS | **Technology Group:** Layer 3 Routing/Network Layer |
| **Reported In Release:** SLXOS 17s.1.00 | **Technology:** Static Routing (IPv6) |
| **Symptom:** Few IPV6 BFD sessions on the system in down state or do not get created. | |
| **Condition:** On cold reboot of the system with scaled BFD config of 250 sessions. | |
| **Recovery:** Remove configuration and re-configure BFD sessions. | |

| | |
|---|---|
| **Defect ID:** DEFECT000630215 | |
| **Technical Severity:** Medium | **Probability:** High |
| **Product:** Brocade SLX-OS | **Technology Group:** Layer 2 Switching |
| **Reported In Release:** SLXOS 17s.1.00 | **Technology:** MCT - Multi-Chassis Trunking |
| **Symptom:** Error "%Error: Generic Vlan Classification Error3" is displayed on the console. | |
| **Condition:** When switchport mode is changed from trunk to trunk-no-default-native. | |
| **Recovery:** Do a "no switchport" and then try the same configuration. | |

| | |
|---|---|
| **Defect ID:** DEFECT000630974 | |
| **Technical Severity:** High | **Probability:** High |
| **Product:** Brocade SLX-OS | **Technology Group:** Layer 3 Routing/Network Layer |
| **Reported In Release:** SLXOS 17s.1.00 | **Technology:** OSPF - IPv4 Open Shortest Path First |
| **Symptom:** OSPF External LSA's are not flushed. | |
| **Condition:** Changing the OSPF External LSA limit to 100. | |
| **Workaround:** Add a loopback address & export to OSPF. External LSA's will be flushed. | |

| | |
|---|---|
| **Defect ID:** DEFECT000631497 | |
| **Technical Severity:** Medium | **Probability:** Medium |
| **Product:** Brocade SLX-OS | **Technology Group:** Layer 2 Switching |
| **Reported In Release:** SLXOS 17s.1.00 | **Technology:** LAG - Link Aggregation Group |
| **Symptom:** In a scaled PO config "show interface switchport" using REST get request does not display all interface configurations. | |
| **Condition:** REST for "show interface switchport" is not displaying the physical interface details and its not having the <has-more> tag for indicating its not full output. | |

| | |
|---|---|
| **Defect ID:** DEFECT000631758 | |
| **Technical Severity:** Medium | **Probability:** Medium |
| **Product:** Brocade SLX-OS | **Technology Group:** Layer 2 Switching |
| **Reported In Release:** SLXOS 17s.1.00 | **Technology:** VLAN - Virtual LAN |
| **Symptom:** Error "N O T A K N O W N R e s o u r c e I d" will be displayed when BD is configured. | |
| **Condition:** This error will be displayed on SLX9240 platform when a BD is configured and has ID greater than 3566. | |

| | |
|---|---|
| **Defect ID:** DEFECT000632466 | |
| **Technical Severity:** High | **Probability:** Low |
| **Product:** Brocade SLX-OS | **Technology Group:** Layer 3 Routing/Network Layer |
| **Reported In Release:** SLXOS 17s.1.00 | **Technology:** OSPF - IPv4 Open Shortest Path First |
| **Symptom:** Changing the "admin distance" from 255 to default is not reflected. | |
| **Condition:** Setting "admin distance" for intra-area routes to default after configuring max value is not working. | |

| | |
|---|---|
| **Defect ID:** DEFECT000632766 | |
| **Technical Severity:** High | **Probability:** High |
| **Product:** Brocade SLX-OS | **Technology Group:** Management |
| **Reported In Release:** SLXOS 17s.1.00 | **Technology:** SNMP - Simple Network Management Protocol |
| **Symptom:** SNMP get of MIB ifHighSpeed for 100G interface returns value 99999 | |
| **Condition:** SNMP get response for MIB ifHighSpeed on 100G interface will return 99999 instead of 100000 | |

| | |
|---|---|
| **Defect ID:** DEFECT000632935 | |
| **Technical Severity:** High | **Probability:** Medium |
| **Product:** Brocade SLX-OS | **Technology Group:** Layer 2 Switching |
| **Reported In Release:** SLXOS 17s.1.00 | **Technology:** MCT - Multi-Chassis Trunking |
| **Symptom:** Control traffic across ICL link fails if a VLAN is removed while it still has VE configured. | |
| **Condition:** Remove a VLAN while it still has VE configured. | |
| **Recovery:** Issue below noscli commands:<br>cluster no-deploy<br>cluster deploy | |

| | |
|---|---|
| **Defect ID:** DEFECT000633064 | |
| **Technical Severity:** High | **Probability:** Medium |
| **Product:** Brocade SLX-OS | **Technology Group:** IP Multicast |
| **Reported In Release:** SLXOS 17s.1.00 | **Technology:** IGMP - Internet Group Management Protocol |
| **Symptom:** RSTP Reports are being sent from a port in discarding state | |
| **Condition:** After RSTP re-convergence, reports are being sent from a port in discarding state. | |

| | |
|---|---|
| **Defect ID:** DEFECT000633144 | |
| **Technical Severity:** High | **Probability:** Medium |
| **Product:** Brocade SLX-OS | **Technology Group:** Layer 2 Switching |
| **Reported In Release:** SLXOS 17s.1.00 | **Technology:** VLAN - Virtual LAN |
| **Symptom:** SLX-9140 unable to achieve PTP time sync in a 4-hop PTP network | |
| **Condition:** With SLX-9140, 4 hop PTP network | |
| **Workaround:** Modifying PTP sync and delay-request interval from -4 to -2 and restarting the external stratum 2 grandmaster clock | |

| | |
|---|---|
| **Defect ID:** DEFECT000633680 | |
| **Technical Severity:** High | **Probability:** Low |
| **Product:** Brocade SLX-OS | **Technology Group:** Monitoring |
| **Reported In Release:** SLXOS 17s.1.00 | **Technology:** Hardware Monitoring |
| **Symptom:** 25G SR optics are identified as 'Copper Media' , when 'show media' command is executed. | |
| **Condition:** Issue is seen with 25G SR optics are inserted and used. | |

| **Defect ID:** DEFECT000633721 | |
|---|---|
| **Technical Severity:** High | **Probability:** High |
| **Product:** Brocade SLX-OS | **Technology Group:** Management |
| **Reported In Release:** SLXOS 17s.1.00 | **Technology:** CLI - Command Line Interface |
| **Symptom:** Creation of flow-based SPAN session with port-channel as destination fails. | |
| **Condition:** When a port-channel is set as the destination in a flow-based SPAN session, the command does not go through. | |
| **Workaround:** Use physical interface as destination. | |

| **Defect ID:** DEFECT000633863 | |
|---|---|
| **Technical Severity:** High | **Probability:** Low |
| **Product:** Brocade SLX-OS | **Technology Group:** Layer 2 Switching |
| **Reported In Release:** SLXOS 17s.1.00 | **Technology:** MCT - Multi-Chassis Trunking |
| **Symptom:** MAC learnt on a client interface will be shown as a dynamic entry. | |
| **Condition:** When a bridge-domain is added to MCT cluster before creating it, then this issue will be observed. | |
| **Recovery:** "shut/no shut" on the client interface. | |

| **Defect ID:** DEFECT000634179 | |
|---|---|
| **Technical Severity:** Medium | **Probability:** Low |
| **Product:** Brocade SLX-OS | **Technology Group:** Layer 3 Routing/Network Layer |
| **Reported In Release:** SLXOS 17s.1.00 | **Technology:** IP Addressing |
| **Symptom:** route gets filtered from the routing database when the next hops lies within the route's subnet | |
| **Condition:** route add with next hop falls under the subnet prefix | |

| **Defect ID:** DEFECT000634478 | |
|---|---|
| **Technical Severity:** Medium | **Probability:** Medium |
| **Product:** Brocade SLX-OS | **Technology Group:** Management |
| **Reported In Release:** SLXOS 17s.1.00 | **Technology:** Configuration Fundamentals |
| **Symptom:** Support save failure is not logged when saving to USB. | |
| **Condition:** When support save is triggered to copy to USB, but the USB device is not connected. | |
| **Workaround:** Support save can be triggered and saved to remote host. | |

| | |
|---|---|
| **Defect ID:** DEFECT000634637 | |
| **Technical Severity:** Medium | **Probability:** Low |
| **Product:** Brocade SLX-OS | **Technology Group:** Security |
| **Reported In Release:** SLXOS 17s.1.00 | **Technology:** TACACS & TACACS+ |
| **Symptom:** If there exist same user locally and in the TACACS+ server with different roles and user is authenticated using TACACS+ server then "show user" command will show local user role instead of TACACS+ provided user role. This is just a display issue. The TACACS+ authenticated user will function with the role provided by the TACACS+ server. | |
| **Condition:** Same user with different roles should exist locally and on TACACS+ server. | |

| | |
|---|---|
| **Defect ID:** DEFECT000634887 | |
| **Technical Severity:** High | **Probability:** Medium |
| **Product:** Brocade SLX-OS | **Technology Group:** Layer 3 Routing/Network Layer |
| **Reported In Release:** SLXOS 17s.1.00 | **Technology:** VRRPv2 - Virtual Router Redundancy Protocol Version 2 |
| **Symptom:** VRRP MAC's are not synced between master and backup when ARP packets are received at high rate via ICL link between MCT node. | |
| **Condition:** ARP packets are received at high rate and flooded out to MCT ICL link. | |
| **Workaround:** 1. Enble SPF for all vrrp sessions<br>2. Do not configure BFD over ICL | |
| **Recovery:** Issue "shut", "no shut" on master interface. | |

| | |
|---|---|
| **Defect ID:** DEFECT000634945 | |
| **Technical Severity:** High | **Probability:** Medium |
| **Product:** Brocade SLX-OS | **Technology Group:** Network Automation and Orchestration |
| **Reported In Release:** SLXOS 17s.1.00 | **Technology:** YANG |
| **Symptom:** Rest API operational-state GET is not correctly displaying the output of the following PTP "show" commands<br>1. show ptp clock foreign-masters record<br>2. show ptp corrections | |
| **Condition:** Using REST API to issue PTP show commands | |
| **Workaround:** Use CLI "show ptp" | |

| | |
|---|---|
| **Defect ID:** DEFECT000635053 | |
| **Technical Severity:** High | **Probability:** Medium |
| **Product:** Brocade SLX-OS | **Technology Group:** Monitoring |
| **Reported In Release:** SLXOS 17s.1.00 | **Technology:** Hardware Monitoring |
| **Symptom:** With offline diagnostic LED test, if user first turns LED off and then on for all ports, then the next LED off command does not take effect. | |
| **Condition:** This problem only happens on LED tests in offline diagnostic when user first runs loopback test before LED tests without power-cycling the switch in between. | |
| **Workaround:** Power-cycle the switch after running loopback or system verification test in offline diagnostic will prevent this problem. | |

| **Defect ID:** DEFECT000635106 | |
|---|---|
| **Technical Severity:** High | **Probability:** Low |
| **Product:** Brocade SLX-OS | **Technology Group:** Layer 2 Switching |
| **Reported In Release:** SLXOS 17s.1.00 | **Technology:** xSTP - Spanning Tree Protocols |
| **Symptom:** In certain scenarios where MCT is UP in one node and down on another node; STP's port role could be displayed as DISABLED in the node where MCT is down. | |
| **Condition:** This issue can happen only if MCT is DOWN in one node of the cluster and UP in another node of the cluster. | |
| **Workaround:** When the MCT becomes UP, correct port role will be displayed in both nodes of the cluster | |

| **Defect ID:** DEFECT000635251 | |
|---|---|
| **Technical Severity:** High | **Probability:** Low |
| **Product:** Brocade SLX-OS | **Technology Group:** Layer 2 Switching |
| **Reported In Release:** SLXOS 17s.1.00 | **Technology:** VLAN - Virtual LAN |
| **Symptom:** System may undergo unexpected reload | |
| **Condition:** PTP is configured and more than 4000 vlans are configured | |

| **Defect ID:** DEFECT000635291 | |
|---|---|
| **Technical Severity:** High | **Probability:** Low |
| **Product:** Brocade SLX-OS | **Technology Group:** Monitoring |
| **Reported In Release:** SLXOS 17s.1.00 | **Technology:** Hardware Monitoring |
| **Symptom:** Some times after executing bladevershow or fanshow commands, kernel logs can indicate problems in allocating warm memory | |
| **Condition:** Rarely observed. | |
| **Workaround:** No obvious instabilities or impact to functionality reported. | |
| **Recovery:** No obvious instabilities or impact to functionality reported. | |

| **Defect ID:** DEFECT000635306 | |
|---|---|
| **Technical Severity:** High | **Probability:** Low |
| **Product:** Brocade SLX-OS | **Technology Group:** Layer 2 Switching |
| **Reported In Release:** SLXOS 17s.1.00 | **Technology:** MCT - Multi-Chassis Trunking |
| **Symptom:** May observe system reset while booting with saved scale BD configuration. | |
| **Condition:** copy scaled BD configuration file to the current running configuration. | |

| **Defect ID:** DEFECT000635491 | |
|---|---|
| **Technical Severity:** Medium | **Probability:** Medium |
| **Product:** Brocade SLX-OS | **Technology Group:** Monitoring |
| **Reported In Release:** SLXOS 17s.1.00 | **Technology:** Hardware Monitoring |
| **Symptom:** "show interface" on SLX9140, shows 25G for ports with default speed of 10G. | |
| **Condition:** On running "show interface" on SLX9140 | |

| **Defect ID:** DEFECT000635785 | |
|---|---|
| **Technical Severity:** High | **Probability:** Medium |
| **Product:** Brocade SLX-OS | **Technology Group:** Management |
| **Reported In Release:** SLXOS 17s.1.00 | **Technology:** Configuration Fundamentals |
| **Symptom:** With SLX9140, link may not come online if it shut within 5 seconds of being brought online | |
| **Condition:** With SLX9140, If physical interface is not completely online (typically 3-4s). | |
| **Recovery:** "shut" and "no shut" the interface | |

## Closed without code changes for SLX-OS v17s.1.01

| | |
|---|---|
| **Defect ID:** DEFECT000626004 | |
| **Technical Severity:** Medium | **Probability:** Low |
| **Product:** Brocade SLX-OS | **Technology Group:** Layer 2 Switching |
| **Reported In Release:** SLXOS 17s.1.00 | **Technology:** VLAN - Virtual LAN |
| **Symptom:** The output of the command show-media for some 25G SFP may show the transceiver value as zero. | |
| **Condition:** This issue will be seen when there is a 25G SFP media plugged into the device. | |

| | |
|---|---|
| **Defect ID:** DEFECT000627992 | |
| **Technical Severity:** High | **Probability:** Low |
| **Product:** Brocade SLX-OS | **Technology Group:** Layer 3 Routing/Network Layer |
| **Reported In Release:** SLXOS 17s.1.00 | **Technology:** DHCP - Dynamic Host Configuration Protocol |
| **Symptom:** Unable to set DHCP Relay address thru REST after configuring and deleting it through CLI. | |
| **Condition:** Configure DHCP Relay through CLI using "use vrf option" and deleting and re-adding through REST using ".". | |

| | |
|---|---|
| **Defect ID:** DEFECT000629957 | |
| **Technical Severity:** High | **Probability:** Low |
| **Product:** Brocade SLX-OS | **Technology Group:** Layer 3 Routing/Network Layer |
| **Reported In Release:** SLXOS 17s.1.00 | **Technology:** Static Routing (IPv4) |
| **Symptom:** In rare scale scenarios, multi-hop BFD session over loopback interfaces may flap. | |
| **Condition:** 'clear ip route all' is executed. | |

| | |
|---|---|
| **Defect ID:** DEFECT000631903 | |
| **Technical Severity:** High | **Probability:** Low |
| **Product:** Brocade SLX-OS | **Technology Group:** Layer 2 Switching |
| **Reported In Release:** SLXOS 17s.1.00 | **Technology:** MCT - Multi-Chassis Trunking |
| **Symptom:** A logical interface will not be added to a bridge-domain | |
| **Condition:** An error will be displayed to user when logical interface is added to a bridge-domain | |
| **Recovery:** Do a "no switchport" on the parent interface and try configuring the logical interface. | |

| | |
|---|---|
| **Defect ID:** DEFECT000633320 | |
| **Technical Severity:** High | **Probability:** High |
| **Product:** Brocade SLX-OS | **Technology Group:** Layer 2 Switching |
| **Reported In Release:** SLXOS 17s.1.00 | **Technology:** xSTP - Spanning Tree Protocols |
| **Symptom:** Higher priority multicast traffic may not be prioritized when there is high rate of lower priority BUM traffic. | |
| **Condition:** High rates of lower priority BUM traffic. | |
| **Recovery:** An Ingress ACL entry to drop the packets (Loop Traffic) that's causing the loop, can recover the system. | |

| | |
|---|---|
| **Defect ID:** DEFECT000634014 | |
| **Technical Severity:** High | **Probability:** Low |
| **Product:** Brocade SLX-OS | **Technology Group:** Layer 2 Switching |
| **Reported In Release:** SLXOS 17s.1.00 | **Technology:** xSTP - Spanning Tree Protocols |
| **Symptom:** After software upgrade, port channel may display RTPT DSC state. Rarely seen after an upgrade and reload. | |
| **Condition:** Port channel with RSTP enabled when executing "show spann br". | |
| **Recovery:** "shut", "no-shut" or "disable" and "enable" RSTP. | |

| | |
|---|---|
| **Defect ID:** DEFECT000634734 | |
| **Technical Severity:** High | **Probability:** Medium |
| **Product:** Brocade SLX-OS | **Technology Group:** Management |
| **Reported In Release:** SLXOS 17s.1.00 | **Technology:** CLI - Command Line Interface |
| **Symptom:** Displays more than configured terminal length. | |
| **Condition:** When pipe command " \| " is used to filter. | |
| **Workaround:** show running-config command should be used in conjunction with 'include' option to search for occurrence of particular string. | |

| | |
|---|---|
| **Defect ID:** DEFECT000634923 | |
| **Technical Severity:** High | **Probability:** Low |
| **Product:** Brocade SLX-OS | **Technology Group:** Layer 2 Switching |
| **Reported In Release:** SLXOS 17s.1.00 | **Technology:** xSTP - Spanning Tree Protocols |
| **Symptom:** On MSTPoMCT, MAPT role was shown instead of RTPT for local MST regions. Also, Cisco nodes with flavor other than MSTP needs to be configured and should be part of the topology. | |
| **Condition:** BPDU's from Cisco are getting flooded into the cluster and onto the nodes which are not directly connected to Cisco. Hence MAPT role is seen because non MSTP bpdus are received in MSTP regions. | |
| **Workaround:** Cisco interop enable command needs to be configured on the nodes which are not directly connected to Cisco. | |
| **Recovery:** Cisco interop enable command needs to be configured on all the nodes in the topology. | |

| | |
|---|---|
| **Defect ID:** DEFECT000635639 | |
| **Technical Severity:** High | **Probability:** Medium |
| **Product:** Brocade SLX-OS | **Technology Group:** Layer 3 Routing/Network Layer |
| **Reported In Release:** SLXOS 17s.1.00 | **Technology:** Static Routing (IPv4) |
| **Symptom:** Some of the IPv6 sessions on the system after reboot or upgrade remain in the down state or do not get created. | |
| **Condition:** On rare occurrence, upgrade of the system with scaled BFD config of 250 sessions, some of the IPv6 sessions are not created. | |
| **Recovery:** Unconfigure and reconfigure of the BFD session will get the sessions working. | |

## Known issues for SLX-OS v17s.1.01

This section lists open software defects with Critical, High, and Medium Technical Severity as of July 28, 2017 in SLX-OS 17s.1.0 of these Release Notes.

| | |
|---|---|
| **Defect ID:** DEFECT000610503 | |
| **Technical Severity:** High | **Probability:** High |
| **Product:** Brocade SLX-OS | **Technology Group:** Monitoring |
| **Reported In Release:** SLXOS 17s.1.00 | **Technology:** Hardware Monitoring |
| **Symptom:** Transceiver field under 'show media' command sometime shows invalid data. | |
| **Condition:** The issue is seen only when running 'show media' command on an interface with 100Gbps speed supported optics inserted. | |

| | |
|---|---|
| **Defect ID:** DEFECT000625516 | |
| **Technical Severity:** Medium | **Probability:** Medium |
| **Product:** Brocade SLX-OS | **Technology Group:** Layer 3 Routing/Network Layer |
| **Reported In Release:** SLXOS 17s.1.00 | **Technology:** IPv6 Addressing |
| **Symptom:** SNMP Trap is not generated for a VE interface 'no shut' operation. | |
| **Condition:** "no shut" command is issued on a VE interface. | |
| **Recovery:** Issue a "shut", "no shut" command for the VE interface. | |

| | |
|---|---|
| **Defect ID:** DEFECT000627390 | |
| **Technical Severity:** High | **Probability:** High |
| **Product:** Brocade SLX-OS | **Technology Group:** Layer 3 Routing/Network Layer |
| **Reported In Release:** SLXOS 17s.1.00 | **Technology:** IPv6 Addressing |
| **Symptom:** IPv6 nd address may not get suppressed by using this command. | |
| **Condition:** The issue is seen only when ipv6 nd address <address> suppress command is used. | |

| | |
|---|---|
| **Defect ID:** DEFECT000629903 | |
| **Technical Severity:** Medium | **Probability:** Low |
| **Product:** Brocade SLX-OS | **Technology Group:** Layer 3 Routing/Network Layer |
| **Reported In Release:** SLXOS 17s.1.00 | **Technology:** VRRPv3 - Virtual Router Redundancy Protocol Version 3 |
| **Symptom:** Port-channel could not be added as the track interface to an IPv6 VRRPE session | |
| **Condition:** Through a NETCONF session adding a track interface to an IPv6 VRRPE session would not be possible. | |
| **Workaround:** Use CLI to do this configuration. | |

| | |
|---|---|
| **Defect ID:** DEFECT000630360 | |
| **Technical Severity:** High | **Probability:** Medium |
| **Product:** Brocade SLX-OS | **Technology Group:** Security |
| **Reported In Release:** SLXOS 17s.1.00 | **Technology:** ACLs - Access Control Lists |
| **Symptom:** Applying "permit ipv6 any any" ipv6 access-list on management interface blocks all incoming management traffic (telnet,ssh, ntp etc.) | |
| **Condition:** When IPv6 ACL with "permit ipv6 any any" rule applied on management interface. | |
| **Workaround:** Work around is to have permit rule for each of the application ports<br>SLX(conf-ip6acl-ext)# do show running-config ipv6 access-list<br>ipv6 access-list extended 456<br>seq 30 permit udp any eq ntp any<br>seq 40 permit tcp any eq telnet any<br>seq 50 permit tcp any eq 22 any<br>seq 60 permit ipv6 any any | |

| | |
|---|---|
| **Defect ID:** DEFECT000631251 | |
| **Technical Severity:** High | **Probability:** Low |
| **Product:** Brocade SLX-OS | **Technology Group:** Security |
| **Reported In Release:** SLXOS 17s.1.00 | **Technology:** ACLs - Access Control Lists |
| **Symptom:** With large number of rules in IPv4 and IPv6 ACLs, boot up of switch could take up to two hours | |
| **Condition:** Seen in scenarios where there are large number of rules configured in IPv4 and IPv6 ACL's. | |

| | |
|---|---|
| **Defect ID:** DEFECT000631502 | |
| **Technical Severity:** Medium | **Probability:** Low |
| **Product:** Brocade SLX-OS | **Technology Group:** Management |
| **Reported In Release:** SLXOS 17s.1.00 | **Technology:** SNMP - Simple Network Management Protocol |
| **Symptom:** The objects tcpConnectionLocalAddress and tcpConnectionRemAddress which are INDICES to the table tcpConnectionTable show up in reverse order when queried as part of the objects in this table. | |
| **Condition:** This is limited to objects tcpConnectionLocalAddress and tcpConnectionRemAddress in the tcpConnectionTable | |

| | |
|---|---|
| **Defect ID:** DEFECT000631738 | |
| **Technical Severity:** High | **Probability:** Medium |
| **Product:** Brocade SLX-OS | **Technology Group:** Layer 3 Routing/Network Layer |
| **Reported In Release:** SLXOS 17s.1.00 | **Technology:** OSPFv3 - IPv6 Open Shortest Path First |
| **Symptom:** Not able to create any NSSA in OSPFv3 using REST API. | |
| **Condition:** Configuring NSSA through REST interface.<br><br>Example: Following http POST request will fail with response as bad request.<br><br>curl -v -X POST -d "<nssa />" -u admin:password http://<IP>:80/rest/config/running/ipv6/router/ospf/default-vrf/area/<ID> | |
| **Workaround:** Use CLI to configure OSPFv3 NSSA instead of REST. | |

| | |
|---|---|
| **Defect ID:** DEFECT000634550 | |
| **Technical Severity:** High | **Probability:** High |
| **Product:** Brocade SLX-OS | **Technology Group:** Layer 2 Switching |
| **Reported In Release:** SLXOS 17s.1.00 | **Technology:** VLAN - Virtual LAN |
| **Symptom:** Traffic on VLAN 1 on a logical interface with BD enabled MAC's will not be learnt or flooded. | |
| **Condition:** When user tries to change the switchport mode from "switchport mode trunk-no-default-native" to "switchport mode trunk mode". | |
| **Recovery:** Do "no switchport", "switchport" on that interface. | |

| | |
|---|---|
| **Defect ID:** DEFECT000634943 | |
| **Technical Severity:** High | **Probability:** Medium |
| **Product:** Brocade SLX-OS | **Technology Group:** Layer 2 Switching |
| **Reported In Release:** SLXOS 17s.1.00 | **Technology:** VLAN - Virtual LAN |
| **Symptom:** Response to 'show -config' command will be slow | |
| **Condition:** Response to 'show running-config' command will be slow when (a) snmpwalk, (b) telemetry streaming and (c) REST API running in parallel | |
| **Workaround:** Stop REST API temporarily while running 'show running-config' through CLI | |

| | |
|---|---|
| **Defect ID:** DEFECT000634975 | |
| **Technical Severity:** High | **Probability:** Medium |
| **Product:** Brocade SLX-OS | **Technology Group:** Layer 3 Routing/Network Layer |
| **Reported In Release:** SLXOS 17s.1.00 | **Technology:** IP Addressing |
| **Symptom:** Under conditions of multi dimensional scale and deleting interfaces, routing component (ribmgr) may run out of memory with error messages (5066 failed to refresh). System may become non responsive. | |
| **Condition:** Deleting interface under conditions of multi dimensional scale | |