July 2021

Extreme SLX-OS 20.2.2c

Release Notes

Supporting ExtremeRouting and ExtremeSwitching SLX 9740, SLX 9640, SLX 9540, SLX 9150, and SLX 9250

Part Number 9036845-03 Rev AB

Contents

Document History

Version	Summary of changes	Publication date
1.0	Initial version for 20.2.2c	June 2021
2.0 .	Removed the open defects of version 20.2.2b and older	July 2021

Preface

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- The device history (for example, if you have returned the device before, or if this is a recurring problem)
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Release Overview

Release SLX-OS 20.2.2c provides the following features:

No new features were added in this release.

Release SLX-OS 20.2.2b provides the following features:

- Multi-vlan support on Redundant Management ethernet port.(RME).

Release SLX-OS 20.2.2a provides the following features:

- Filter support for Fragmented and Non-Fragmented IPv4 and IPv6 packets through ACLs.
- Enable/disable SLX-OS configuration persistence across reboots.
- Resilient Hashing to ensure minimal disruption to traffic flow in case of a member link addition or failure in an LAG.
- ACL mirroring on port channel and VE (virtual ethernet) interfaces.
- Redundant Management Interface to provide fault resistant management access path to devices.
- Feature parity for the SLX 9740 with the 20.2.2a release software, with exceptions as described in Limitations and Restrictions
- Additional new features are described in Software Features

Behavior Changes

System Feature	Behavior Change
Auto-persistence Configuration Knob	All configurations are automatically preserved across reboot. The **copy running-config startup-config** command is used to take a backup of the configuration. This backup configuration is used only if the running-config 'database' becomes unusable for any reason. On execution of command "auto-persistence disable" the auto persistency of configuration get disabled and on reboot switch will come up with configuration present in startup database.
BGP Prefix-Independent-Convergence	After enabling or disabling the feature, user needs to do 'clear ip route all' for all the VRFs where BGP is enabled.

Software Features

The following key software features are added in the SLX-OS 20.2.2 release.

Feature Name	Supported SLX Platforms	Description
Resilient hashing	SLX 9150, SLX 9250 and SLX 9740	Resilient Hashing (RH) is a L3 forwarding feature which ensures minimal disruption to existing traffic flows in case of link failure or addition.
BFD over VXLAN/MCT	SLX 9740	Traffic destined to host behind CCEP gets distributed to the corresponding LIF depending on the bridge domain ID, inner VLAN and outer VLAN.

Feature Name	Supported SLX Platforms	Description
		Hardware based support is extended to BFD over VxLAN/MCT. Note: SLX 9150/9250 BFD over VxLAN/MCT sessions are SW based.
Support fragment match on ACL	SLX 9540, SLX 9640 and SLX 9740	An access-list (ACL) is a collection of filters which define the action to take on packets which match the configured parameters in the filter. There are multiple matching criteria already supported in L3 ACL. This requirement is to filter traffic with IPv4 /IPv6 fragmented and IPv4/IPv6 unfragmented packets in this release.
Dual management port Redundancy also known as Dual Management Interface introduced on 9740	SLX 9150, SLX 9250 and SLX 9740	This feature utilizes one of front panel port in Inband mode as redundant path for OOB Management Interface purposes. Valid for both SLX OS and TPVM. Mellanox QSA adaptor is required along with a 10Gb SFP + 10GBASE T, Part Number 10338 RME port now supports vlan tag
Port channel and Virtual Ethernet interface mirroring with ACL support	SLX 9150, SLX 9250 and SLX 9740	In earlier releases, ACL based mirroring was supported only on physical ports as source ports. In this release, this has been extended to allow users to configure port-channel interfaces and VE as source for ACL based mirroring.
Heartbeat mechanism between SLX and EFA	All Platforms	This feature is for EFA to keep track of switch liveliness. If switch misses heartbeat (in form of Netconf RPC) for a threshold amount of time then it will execute the configured action.
Auto Persistent (Startup DB) Configuration Knob	All Platforms	On execution of the “auto-persistence disable” command, SLX-OS configuration will no longer be persistent when the device reboots. The switch, on reboot, will come up with the configurations present in the startup database.

Feature Name	Supported SLX Platforms	Description
Static BFD Feature	All Platforms	The feature enables support for monitoring IPv4 and IPv6 static routes through BFD.
VEoVPLS Feature	SLX 9540, SLX 9640 and SLX 9740	VE over VPLS routes packets between the VPLS VE interface and all other IP interfaces outside of VPLS domain which reside on the Provider Edge (PE)
PFC and ECN support	SLX 9150, SLX 9250	PFC and ECN support is for traffic congestion management and are needed features for RoCE v2.
SNMP Trap PDU IP address	All Platforms	V1, V2 and V3 snmp traps will have new varbind snmpTrapAddress in the trap PDU with the varbind list. Trap IP address is SLX Mgmt IP. IPv6 will not be supported. This feature is added to comply with RFC 3584.

CLI CommandsNew commands

1. **Resilient Hashing**

1.1. User VRF Case

```
R1(config-vrf-vrf2)# do show run vrf vrf2
vrf vrf2
 resilient-hash ecmp enable
 resilient-hash max-path <8|16|64>
 address-family ipv4 unicast
 !
address-family ipv6 unicast
 !
```

1.1. Default VRF case

```
R1(config)# do show run resilient-hash
resilient-hash ecmp enable
resilient-hash max-path <8|16|64>
```

2. **Startup database**

2.1. Display startup database

```
SLX# show startup-database
```

3. **Heartbeat Manager**

3.1) Config CLIs

```
SLX(config)# management-heartbeat manager
SLX(config-heartbeat-manager)# ?
Possible completions:
 action           Action taken by switch on expiration of threshold time
 describe         Display transparent command information do Run an
operational-mode command
 enable           Enable manageability heartbeat in admin up state
 exit             Exit from current mode
 help             Provide help information
 no               Negate a command or set its defaults
 pwd              Display current mode path
 threshold-timer  Threshold timer for heartbeat miss
 top              Exit to top level and optionally run command
SLX(config-heartbeat-manager)#
```

3.2 Show commands

```
SLX# show management-heartbeat manager
 Admin state: up
 Operational state: up
 Threshold time: 30 minutes
 Action: Maintenance mode enable
 Time to last heartbeat: 4 minutes
SLX#
```

4. **Priority Flow control**

4.1. QOS profile for PFC support

```
SLX(config)# hardware
SLX(config-hardware)# profile qos ?
Possible completions:
  lossless   set qos hardware lossless profile
  lossy      set qos hardware lossy profile
```

4.2. Enable/Disable PFC on an interface

```
[no] qos flowcontrol pfc <TC#> tx [on|off] rx [on|off]
```

5. **Streaming Telemetry (a.k.a. OperDB Project)**

```
SLX(config)# operational-state syncup enable ?
Possible completions:
  all          Enable oper db syncup for all modules
  bgp          Enable oper db syncup for bgp
  interface    Enable oper db syncup for interface
  platform     Enable platform specific oper db syncup
SLX(config)# operational-state syncup enable
```

Modified commands

1. **Feature - Port channel mirroring with ACL support:**

```
SLX(config)# acl-mirror source ethernet | port-channel <port channel
number> | ve <VE number> destination ethernet | port-channel
```

2. **`Feature` - Support fragment match on ACL:**

```
SLX(conf-ipacl-ext)#deny | permit ip-protocol source-ip | hostname
wildcard [ operator source-tcp/udp-port ] destination-ip | hostname [
icmp-type | num ] wildcard [ operator destination-tcp/udp-port ] [
precedence name | num ] [ tos name | num ] [ fragment ] | [ non-fragmented
]
```

3. **Feature – Static BFD:**

```
no ipv6 route static bfd dest-ipv6-address source-ipv6-address [
interface-type interface-name ] [ interval transmit-time min-rx receive-
time multiplier number ]
```

Parameters

dest-ipv6-address	Specifies the IPv6 address of BFD neighbor.
source-ipv6-address	Specifies the source IPv6 address.
interface-type	The type of interface, such as Ethernet or VE.
interface-name	The interface number or VLAN ID.
Interval transmit-time	Specifies the interval, in milliseconds, a device waits to send a control packet to BFD peers. Valid values range from 50 through 30,000 milliseconds. The default is 300 milliseconds.
min-rx receive-time	Specifies the interval, in milliseconds, a device waits to receive a control packet from BFD peers. Valid values range from 50 through 30,000 milliseconds. The default is 300 milliseconds.
multiplier number	Specifies the number of consecutive BFD control packets that can be missed from a BFD peer before BFD determines that the connection to that peer is not operational. Valid values range from 3 through 50. The default is 3.

Usage Guidelines

```
no ipv6 route static bfd dest-ipv6-address source-ipv6-
address [ interface-type interface-name ]
```

Use the no form of this command without interval parameters to remove the configured BFD IPv6 static sessions.

```
no ipv6 route static bfd dest-ipv6-address source-ipv6-
address [ interface-type interface-name ] [ interval
transmit-time min-rx receive-time multiplier number ]
```

Use no form of the command with interval parameter to revert the interval to the default values.

The transmit-time and receive-time variables are the intervals needed by the local device. The actual values in use will be the negotiated values.

For single-hop static BFD sessions, the interval value is taken from the outgoing interface. For multi-hop BFD sessions, if the configured interval and min-rx parameters conflict with those of an existing session, the lower values are used.

For IPv6 static BFD sessions, if the BFD neighbor is link-local, the source IPv6 address must also be linklocal.

If an IPv6 BFD session is running for a link-local BFD neighbor, the interface-type and interface-name parameters are mandatory because the link-local address can be the same on multiple interfaces

4. Feature – Explicit Congestion Notification

4.1. Enabling ECN in RED profile

```
[no] qos red-profile <Profile#> min-threshold <DropStart%>
max-threshold <DropEnd%> drop-probability <MaxDropRate%>
[ecn <on|off>]
```

4.2. To show the red-profile and the ECN status

```
SLX(conf-if-eth-0/1)# do show qos red profiles 1
 Red Profile 1
        Minimum Threshold: 10
        Maximum Threshold: 50
        Drop Probability: 100
        ECN: On

    Activated on the following interfaces:
        Eth 0/1  traffic-class: 0 drop-precedence: 03
```

4.3. To show the per-port ECN marked statistics

```
SLX# show qos red statistics interface eth 0/1
Statistics for interface: Eth 0/1
        Port Statistics:
          Packets Dropped: 147, Queue Full Drops: 222,
ECN Marked: 234
```

5. Feature – Priority Flow Control

```
SLX# show qos flowcontrol stats int eth 0/1
Interface Ethernet 0/1
                                TX              RX
    ------------------------------------------------
    PAUSE Frames:           565856          441122
    PFC Pri0   Frames:      565856          441122
    PFC Pri1   Frames:      565856          441122
    PFC Pri2   Frames:      565856          441122
    PFC Pri3   Frames:      565856          441122
    PFC Pri4   Frames:      565856          441122
    PFC Pri5   Frames:      565856          441122
    PFC Pri6   Frames:      565856          441122
```

```
                PFC Pri7    Frames:      565856          441122
```

Removed commands

- None

Hardware Support

Supported devices and software license

Supported devices	Description
SLX9740-40C	Extreme SLX 9740-40C Router. Base unit with 40x100GE/40GE capable QSFP28 ports, 2 unpopulated power supply slots, 6 unpopulated fan slots
SLX9740-40C-AC-F	Extreme SLX 9740-40C-AC-F Router. Base unit with 40x100GE/40GE capable QSFP28 ports, 2 AC power supplies, 6 fan modules
SLX9740-80C	Extreme SLX 9740-80C Router. Base unit with 80x100GE/40GE capable QSFP28 ports, 4 unpopulated power supply slots, 4 unpopulated fan slots
SLX9740-80C-AC-F	Extreme SLX 9740-80C-AC-F Router. Base unit with 80x100GE/40GE capable QSFP28 ports, 4AC power supplies, 4 fan modules
SLX9740-ADV-LIC-P	Advanced Feature License for MPLS, BGP-EVPN and Integrated Application Hosting for Extreme SLX 9740
SLX9150-48Y-8C	Extreme SLX 9150-48Y Switch with two empty power supply slots, six empty fan slots. Supports 48x25GE/10GE/1GE + 8x100GE/40GE.
SLX9150-48Y-8C-AC-F	Extreme SLX 9150-48Y Switch AC with Front to Back Airflow. Supports 48x25GE/10GE/1GE + 8x100GE/40GE with dual power supplies, six fans.
SLX9150-48Y-8C-AC-R	Extreme SLX 9150-48Y Switch AC with Back to Front Airflow. Supports 48x25GE/10GE/1GE + 8x100GE/40GE with dual power supplies, six fans.
SLX9150-48XT-6C	Extreme SLX 9150-48XT 10GBaseT Switch with two empty power supply slots, six empty fan slots, Supports 48x10GE/1GE + 6x100GE/40GE.
SLX9150-48XT-6C-AC-F	Extreme SLX 9150-48XT 10GBaseT Switch AC with Front to Back Airflow, Supports 48x10GE/1GE + 6x100GE/40GE with dual power supplies, six fans.
SLX9150-48XT-6C-AC-R	Extreme SLX 9150-48XT 10GBaseT Switch AC with Back to Front Airflow, Supports 48x10GE/1GE + 6x100GE/40GE with dual power supplies, six fans.
SLX9150-ADV-LIC-P	SLX 9150 Advanced Feature License for GuestVM, Analytics Path, PTP, BGP-EVPN.
SLX9250-32C	SLX 9250-32C Switch with two empty power supply slots, six empty fan slots. Supports 32x100/40GE.
SLX9250-32C-AC-F	SLX 9250-32C Switch AC with Front to Back Airflow. Supports 32x100GE/40GE with dual power supplies, six fans.
SLX9250-32C-AC-R	SLX 9250-32C Switch AC with Back to Front Airflow. Supports 32x100GE/40GE with dual power supplies, six fans.
SLX9250-ADV-LIC-P	SLX 9250 Advanced Feature License for GuestVM, Analytics Path, BGP-EVPN.
BR-SLX-9540-48S-AC-R	SLX 9540-48S Switch AC with Back to Front airflow (Non-port Side to port side airflow). Supports 48x10GE/1GE + 6x100GE/40GE. (1+1) redundant power supplies and (4+1) redundant fans included.
BR-SLX-9540-48S-AC-F	SLX 9540-48S Switch AC with Front to Back airflow (Port-side to non-port side airflow). Supports 48x10GE/1GE + 6x100GE/40GE. (1+1) redundant power supplies and (4+1) redundant fans included.
BR-SLX-9540-24S-DC-R	SLX 9540-24S Switch DC with Back to Front airflow (Non-port Side to port side airflow). Supports 24x10GE/1GE + 24x1GE ports.
BR-SLX-9540-24S-DC-F	SLX 9540-24S Switch DC with Front to Back airflow (Port-side to non-port side airflow). Supports 24x10GE/1GE + 24x1GE ports.

Supported devices	Description
BR-SLX-9540-24S-AC-R	SLX 9540-24S Switch AC with Back to Front airflow (Non-port Side to port side airflow). Supports 24x10GE/1GE + 24x1GE ports.
BR-SLX-9540-24S-AC-F	SLX 9540-24S Switch AC with Front to Back airflow (Port-side to non-port side airflow). Supports 24x10GE/1GE + 24x1GE ports.
BR-SLX-9540-48S-DC-R	SLX 9540-48S Switch DC with Back to Front airflow (Non-port Side to port side airflow). Supports 48x10GE/1GE + 6x100GE/40GE. (1+1) redundant power supplies and (4+1) redundant fans included.
BR-SLX-9540-48S-DC-F	SLX 9540-48S Switch DC with Front to Back airflow (Port-side to non-port side airflow). Supports 48x10GE/1GE + 6x100GE/40GE. (1+1) redundant power supplies and (4+1) redundant fans included.
BR-SLX-9540-24S-COD-P	Upgrade 24x1GE to 24x10GE/1GE for SLX 9540
BR-SLX-9540-ADV-LIC-P	Advanced Feature License for SLX 9540
EN-SLX-9640-24S	Extreme SLX 9640-24S Router. Supports 24x10GE/1GE + 4x100GE/40GE. (24S+4C sku no Power supplies or Fans)
EN-SLX-9640-24S-12C	Extreme SLX 9640-24S Router. Supports 24x10GE/1GE + 12x100GE/40GE. (All ports 24S+12C sku with no Power supplies or Fans)
EN-SLX-9640-24S-AC-F	Extreme SLX 9640-24S Router AC with Front to Back airflow. Supports 24x10GE/1GE + 4x100GE/40GE.(1 Power supply 6 Fans)
EN-SLX-9640-24S-12C-AC-F	Extreme SLX 9640-24S Router AC with Front to Back airflow. Supports 24x10GE/1GE + 12x100GE/40GE.(1 Power supply 6 Fans)
EN-SLX-9640-4C-POD-P	Extreme SLX 9640 Ports on Demand License for 4 ports of 100GE/40GE Uplinks
EN-SLX-9640-ADV-LIC-P	Extreme SLX 9640 Advanced Feature License

Supported power supplies, fans, and rack mount kits for the SLX 9740

XN-ACPWR-1600W-F	SLX 9740 Fixed AC 1600W Power Supply Front to Back. Power cords not included.
XN-ACPWR-1600W-R	SLX 9740 Fixed AC 1600W Power Supply Back to Front. Power cords not included.
XN-DCPWR-1600W-F	SLX 9740 Fixed DC 1600W Power Supply Front to Back. Power cords not included.
XN-ACPWR-1600W-F	SLX 9740 Fixed AC 1600W Power Supply Front to Back. Power cords not included.
XN-FAN-003-F	SLX 9740 FAN Front to Back airflow for SLX9740-40C
XN-FAN-003-R	SLX 9740 FAN Back to Front airflow for SLX9740-40C
XN-FAN-004-F	SLX 9740 FAN Front to Back airflow for SLX9740-80C
XN-FAN-004-R	SLX 9740 FAN Back to Front airflow for SLX9740-80C
XN-4P-RKMT299	2-Post Rail Kit for SLX 9740-40C
XN-2P-RKMT300	2-Post Rail Kit for SLX 9740-80C
XN-4P-RKMT301	4-Post Rail Kit for SLX 9740-80C
XN-4P-RKMT302	4-Post Rail Kit for SLX 9740-40C

Supported optics and cables

Extreme-branded Top Level SKU	Description
10065	10/100/1000BASE-T SFP
10301	ASSY, SR SFP+ SHIPPING
10302	ASSY, LR SFP+ SHIPPING
10303	LRM SFP+ Module
10304	1m SFP+ Cable
10305	3m SFP+ Cable
10306	5M SFP+ Cable
10310	ZR SFP+ module
10319	40g QSFP+ SR$ 850nm
10338	10Gb SFP+ 10GBASE-T
10401	100Gb QSFP28 SR4 MMF
10405	100Gb QSFP28 PSM4
10504	25G LR SFP28 10km
10051H	1000BASE-SX SFP, Hi
10052H	1000BASE-LX SFP, Hi
10056H	1000BASE-BX-D BiDi SFP, Hi
10057H	1000BASE-BX-U BiDi SFP, Hi
10070H	10/100/1000BASE-T SFP, Hi
100G-4WDM-QSFP10KM	100G 4WDM-10 QSFP28 10km
100G-4WDM-QSFP20KM	100G 4WDM-20 QSFP28 20km
100G-4WDM-QSFP40KM	100G 4WDM-40 QSFP28 40km
100G-ADPT-CFP2-QSFP	100G CFP2 to QSFP28 adapter
100G-AOC-QSFP10M-TA	100G AOC QSFP28 10m TAA
100G-CWDM4-QSFP2KM	100G CWDM4 QSFP28 2km
100G-DACP-QSFP1M	100G Passive DAC QSFP28 1m
100G-DACP-QSFP3M	100G Passive DAC QSFP28 3m
100G-DACP-QSFP4SFP1M	100G Passive DAC QSFP28 to 4xSFP28 1m
100G-DACP-QSFP4SFP3M	100G Passive DAC QSFP28 to 4xSFP28 3m
100G-DACP-QSFP4SFP5M	100G Passive DAC QSFP28 to 4xSFP28 5m
100G-DACP-QSFP5M	100G Passive DAC QSFP28 5m
100G-ER4LT-QSFP40KM	100G ER4-lite QSFP28 40km
100G-ESR4-QSFP300M	100G ESR4 QSFP28 300m
100G-LR4-QSFP10KM	100G LR4 QSFP28 10km
100G-LR4-QSFP2KM	100G LR4 QSFP28 2km
100G-SR4-QSFP100M	100G SR4 QSFP28 100m
100G-SWDM4-QSFP100M	100G SWDM4 QSFP28 100m

Extreme-branded Top Level SKU	Description
10G-AOC-SFP10M	10G AOC SFP+ 10m
10G-AOC-SFP7M	10G AOC SFP+ 7m
10G-DACA-SFP1M	10G Active DAC SFP+ 1m
10G-DACA-SFP3M	10G Active DAC SFP+ 3m
10G-DACA-SFP5M	10G Active DAC SFP+ 5m
10G-ER-SFP40KM-ET	10G ER SFP+ 40km Ext.Temp
10G-LR-SFP10KM-ET	10G LR SFP+ 10km Ext.Temp
10G-SR-SFP300M-ET	10G SR SFP+ 300m Ext.Temp
10G-USR-SFP100M	10G USR SFP+ 100m Hight Rx Sens
10GB-BX10-D	10 GB, SINGLE FIBER SM, -D 10 KM
10GB-BX10-U	10 GB, SINGLE FIBER SM, -U 10 KM
25G-DACP-SFP1M	25G Passive DAC SFP28 1m
25G-DACP-SFP3M	25G Passive DAC SFP28 3m
25G-LR-SFP10KM	25G LR SFP28 10km
25G-SR-SFP100M	25G SR SFP28 100m
40G-AOC-QSFP100M	40G AOC QSFP+ 100m
40G-AOC-QSFP10M	40G AOC QSFP+ 10m
40G-AOC-QSFP20M	40G AOC QSFP+ 20m
40G-AOC-QSFP3M	40G AOC QSFP+ 3m
40G-AOC-QSFP4SFP10M	40G AOC QSFP+ to 4xSFP+ 10m
40G-AOC-QSFP5M	40G AOC QSFP+ 5m
40G-BDSR-QSFP150M	40G BiDi SR QSFP+ 150m
40G-DACA-QSFP1M	40G Active DAC QSFP+ 1m
40G-DACA-QSFP3M	40G Active DAC QSFP+ 3m
40G-DACA-QSFP4SFP1M	40G Active DAC QSFP+ to 4xSFP+ 1m
40G-DACA-QSFP4SFP3M	40G Active DAC QSFP+ to 4xSFP+ 3m
40G-DACA-QSFP4SFP5M	40G Active DAC QSFP+ to 4xSFP+ 5m
40G-DACA-QSFP5M	40G Active DAC QSFP+ 5m
40G-DACP-QSFP1M	40G Passive DAC QSFP+ 1m
40G-DACP-QSFP3M	40G Passive DAC QSFP+ 3m
40G-DACP-QSFP4SFP1M	40G Passive DAC QSFP+ to 4xSFP+ 1m
40G-DACP-QSFP4SFP2M	40G Passive DAC QSFP+ to 4xSFP+ 2m
40G-DACP-QSFP4SFP3M	40G Passive DAC QSFP+ to 4xSFP+ 3m
40G-DACP-QSFP4SFP5M	40G Passive DAC QSFP+ to 4xSFP+ 5m
40G-DACP-QSFP5M	40G Passive DAC QSFP+ 5m
40G-DACP-QSFPZ5M	40G Passive DAC QSFP+ 0.5m
40G-ESR4-QSFP400M-NT	40G ESR4 QSFP+ 400m 10G-SR interop.
40G-LM4-QSFP160M	40G LM4 QSFP+ 160m 160m MMF. 1km SMF
40G-LR4-QSFP10KM	40G LR4 QSFP+ 10km
40G-SR4-QSFP150M	40G SR4 QSFP+ 150m 10G-SR interoperable

Extreme-branded Top Level SKU	Description
40G-SR4-QSFP150M	40G SR4 QSFP+ 150m
MGBIC-LC01-G	1GB SX MM, SFP, TAA
QSFP-SFPP-ADPT	10GB, QSFP+-SFP+ ADAPTOR

Supported FEC modes

SLX 9250

Port Type	Media Type	Default FEC Mode	Supported FEC Modes
100G	Passive DAC	RS-FEC	RS-FEC Disabled
100G	SR4	RS-FEC	RS-FEC Disabled
100G	LR4	Disabled	RS-FEC Disabled
25G	Breakout DAC SR	Auto-Neg	RS-FEC FC-FEC Auto-Neg Disabled
25G	Breakout SR4	FC-FEC	RS-FEC FC-FEC Disabled

SLX 9740

Port Type	Media Type	Default FEC Mode	Supported FEC Modes
100G	Passive DAC	RS-FEC	RS-FEC Disabled
100G	SR4	RS-FEC	RS-FEC Disabled
100G	LR4	Disabled	RS-FEC Disabled
25G	Breakout DAC SR	FC-FEC	FC-FEC Disabled
25G	Breakout SR4	FC-FEC	FC-FEC Disabled

SLX 9150

Port Type	Media Type	Default FEC Mode	Supported FEC Modes
100G	Passive DAC	RS-FEC	RS-FEC Disabled
100G	SR4	RS-FEC	RS-FEC Disabled
100G	LR4	Disabled	RS-FEC Disabled
25G(Native)	DAC	Auto-Neg	RS-FEC FC-FEC Auto-Neg Disabled
25G(Native)	SFP	FC-FEC	RS-FEC FC-FEC Disabled

SLX 9540 and SLX 9640

Port Type	Media Type	Default FEC Mode	Supported FEC Modes
100G	Passive DAC	RS-FEC	RS-FEC Disabled
100G	SR4	RS-FEC	RS-FEC Disabled
100G	LR4	Disabled	RS-FEC Disabled

Software Download and Upgrade

For more information about the various methods of upgrading to SLX-OS 20.2.2c, see the *Extreme SLX-OS Software Upgrade Guide.*

Image files

Download the following images from www.extremenetworks.com.

Image file name	Description
SLX-OS_20.2.2c.tar.gz	SLX-OS 20.2.2c software
SLX-OS_20.2.2_mib.tar	SLX-OS 20.2.2c MIBS
SLX-OS_20.2.2c.md5	SLX-OS 20.2.2c md5 checksum
SLX-OS_20.2.2c-releasenotes.pdf	Release Notes

SLX 9740

To / From	20.2.2a	20.2.2b	20.2.2c
20.2.1a	Use the normal Firmware Download / coldboot	Use the normal Firmware Download / coldboot	Use the normal Firmware Download / coldboot
20.2.2	Use the normal Firmware Download / coldboot	Use the normal Firmware Download / coldboot	Use the normal Firmware Download / coldboot
20.2.2a	NA	Use the normal Firmware Download / coldboot	Use the normal Firmware Download / coldboot
20.2.2b	Use the normal Firmware Download / coldboot	NA	Use the normal Firmware Download / coldboot
20.2.2c	Use the normal Firmware Download / coldboot	Use the normal Firmware Download / coldboot	NA

SLX 9540 and SLX 9640

To / From	20.2.2a	20.2.2b	20.2.2c
18r.2.00bc	For SLX 9540: 1. First upgrade to 20.1.2e using fullinstall. 2. Then upgrade to 20.2.2a using fullinstall. For SLX 9640: Use fullinstall.	For SLX 9540: 1. First upgrade to 20.1.2e using fullinstall. 2. Then upgrade to 20.2.2b using fullinstall. For SLX 9640: Use fullinstall.	For SLX 9540: 1. First upgrade to 20.1.2e or above using fullinstall. 2. Then upgrade to 20.2.2c using fullinstall. For SLX 9640: Use fullinstall.
20.1.1	For SLX 9540: 1. First upgrade to 20.1.2e using fullinstall. 2. Then upgrade to 20.2.2a using fullinstall. For SLX 9640: Use fullinstall.	For SLX 9540: 1. First upgrade to 20.1.2e using fullinstall. 2. Then upgrade to 20.2.2b using fullinstall. For SLX 9640: Use fullinstall.	For SLX 9540: 1. First upgrade to 20.1.2h using fullinstall. 2. Then upgrade to 20.2.2c using fullinstall. For SLX 9640: Use fullinstall.
20.2.1a	Use the normal Firmware Download / coldboot	Use the normal Firmware Download / coldboot	Use the normal Firmware Download / coldboot
20.2.2	Use the normal Firmware Download / coldboot	Use the normal Firmware Download / coldboot	Use the normal Firmware Download / coldboot
20.2.2a	NA	Use the normal Firmware Download / coldboot	Use the normal Firmware Download / coldboot

20.2.2b	Use the normal Firmware Download / coldboot	NA	Use the normal Firmware Download / coldboot
20.2.2c	Use the normal Firmware Download / coldboot	Use the normal Firmware Download / coldboot	NA

Notes:

- When upgrading from the 18r.1.00x and 18r.2.00a and earlier patches, upgrade first to 18r.2.00bx and then to 20.2.2x, which is a two-step upgrade procedure.
- The MCT upgrade procedure from 18r.2.00bc to 20.2.x is detailed in the *Extreme SLX-OS Software Upgrade Guide.*
- Because SLX 9540 is a bare metal device, use the "fullinstall" option to migrate between the SLX-OS 20.2.2x and SLX-OS 20.1.x releases.
- Because SLX9540 is moved to the bare metal mode in 20.2.1, use 'fullinstall' when migrating between SLX-OS 20.2.2x and SLX-OS 2.1.x releases.
- Downgrading from 20.2.2x to 20.1.1 requires 'fullinstall' option for all platforms due to a change in *glibc*
- Downgrading from 20.2.2x to 20.1.1 may not require a 2 step procedure.

SLX 9150 and SLX 9250

To / From	**20.2.2a**	**20.2.2b**	**20.2.2c**
20.1.1	Use the normal firmware download / coldboot	Use the normal firmware download / coldboot	Use the normal firmware download / coldboot
20.1.2x	Use the normal firmware download / coldboot	Use the normal firmware download / coldboot	Use the normal firmware download / coldboot
20.2.1a	Use the normal firmware download / coldboot	Use the normal firmware download / coldboot	Use the normal firmware download / coldboot
20.2.1	Use the normal firmware download / coldboot	Use the normal firmware download / coldboot	Use the normal firmware download / coldboot
20.2.2	Use the normal firmware download / coldboot	Use the normal firmware download / coldboot	Use the normal firmware download / coldboot
20.2.2a	NA	Use the normal firmware download / coldboot	Use the normal firmware download / coldboot
20.2.2b	Use the normal firmware download / coldboot	NA	Use the normal firmware download / coldboot
20.2.2c	Use the normal firmware download / coldboot	Use the normal firmware download / coldboot	NA

SLX TPVM Support Matrix for 9150 and 9250

SLX Build	TPVM – Fresh Install Supported	EFA
20.2.2	TPVM-4.1.1	EFA-2.3
20.2.2a	TPVM-4.1.2	EFA-2.3.x
20.2.2b	TPVM-4.1.2	EFA-2.3.x
20.2.2c	TPVM-4.1.2	EFA-2.3.x

Upgrading TPVM from 3.0. or 4.0.x to 4.1.x

Consider the following when upgrading TPVM from 20.1.2x to 20.2.2/x

- SLX-OS 20.2.2/x has TPVM 4.1.x. SLX-OS 20.1.2x variants have TPVM 4.0.x, which is based on Ubuntu18.
- To upgrade from TPVM 4.0 to latest, take the following steps:
  - Upgrade to SLX-OS 20.2.2/x with existing TPVM continue to run
  - Remove existing TPVM using the **tpvm stop** and **tpvm uninstall** commands.
  - Copy the new tpvm-4.1.x-0.amd64.deb to /tftpboot/SWBD2900 on the SLX device.
  - Install TPVM 4.1.x using the **tpvm install** or **tpvm deploy** command.
  - Note that any additional TPVM disks, including vdb (implicitly created by TPVM 3.0.0/4.0.x), are preserved with data during the previous steps.
  - If you need to remove the disks and start clean, then use the **tpvm uninstall force** command in place of **tpvm uninstall** in these steps. Alternatively, you can use **tpvm disk remove name <disk name>** to remove each additional disk manually. For example, `tpvm disk remove name vdb`.

Consider the following when you upgrade TPVM from releases earlier than SLX-OS 20.2.1 to SLX-OS 20.2.x:

- During startup, the latest TPVM creates an additional TPVM disk (named vdb) and creates an ext4 partition inside it (named vdb1).
- This additional disk partition is mounted at `/apps` inside TPVM.
- The disk uses all the free space available and reserved for TPVM (platform specific) TPVM disk quota.
- If you are running an older TPVM and have the additional TPVM disks already created, as a best practice make a backup and then delete the old disks. Use the **tpvm disk remove name <disk name>** command, which requires TPVM to be started if not already running.
- Uninstall the older TPVM using the **tpvm stop** and **tpvm uninstall** command.
- Install the new TPVM package using the **tpvm install** or **tvpm deploy** command.

Alternatively, after the SLX has been upgraded, you can use one command, **tpvm uninstall force**, to uninstall the TPVM and delete all the disks in the TPVM disk pool.

Important: The **tpvm uninstall force** process is destructive and irreversible, causing all TPVM data to be lost. The process works only if the TPVM is installed on the system.

Entire TPVM Data is automatically backed up in SLX while doing "**tpvm stop**" and restored during the next "**tpvm start**". However, only "/apps" partition and its data are preserved during "tpvm stop, uninstall" &

“tpvm install”. User installed applications in TPVM are not preserved. During TPVM upgrade, it is advised to take EFA data backup from TPVM using “**efa system backup**” and transfer the backup file outside TPVM to be completely safe. EFA release note document has a section for TPVM upgrade scenario and entire steps are mentioned in that document.

“**When EFA is installed on TPVM, “tpvm stop” followed by “uninstall” automatically takes only EFA database backup and not backup of EFA installation.”**

Limitations and Restrictions

Base MAC address is modified after upgrading to SLXOS 20.1.1 or higher on SLX 9540 and SLX9640

The MAC address modification may cause issues if there are permit or deny ACL's using the MAC address of the device, specifically when a peer is expecting the prior MAC address (from 18r.x software version), and a different MAC address is now seen (with 20.x.x software version).

Network administrators may be required to reconfigure ALCs on the remote peer side to account for the modified MAC addresses, which are modified by two digits.

40G links on SLX 9540 failed to come up with out "speed 40000" configuration due to SLXOS-58832

On 20.2.2c ,40g links are coming up on 9540 only if we configure the "speed 40000".

Port macro restrictions on breakout port configuration on SLX 9740

A port macro (PM) is a port group. Each PM has 4 ports, which are contiguous. PM0 has ports 0/1-0/4, PM1 has ports 0/5-0/8, PM2 has ports 0/9-0/12, and so on.

There are 9 PMs in the SLX 9740-40C and 18 PMs in the SLX 9740-80C. Only the odd ports can be split to 4x10G or 4x25G using the breakout cables: 0/1, 0/3, 0/9, 0/11, 0/13, 0/15, 0/17, 0/19, 0/21, 0/23, 0/25, 0/27, 0/29, 0/31, 0/33, 0/35, 0/37, 0/39, 0/41, 0/43, 0/49, 0/51, 0/53, 0/55, 0/57, 0/59, 0/61, 0/63, 0/65, 0/67, 0/69, 0/71, 0/73, 0/75, 0/77, and 0/79. Breaking out these ports using the breakout cables results in 72 interfaces for the SLX 9740-40 and 144 interfaces for the SLX 9740-80C.

- Ports 5-8 and 45-48 cannot be broken up and are supported only in 100G.
- For any PM, 40G and 10G ports cannot coexist with 25G ports. The following configurations are not supported:

PM Configuration	Examples
If any port is configured as 40G or 4x10G breakout, no 4x25G breakout is allowed unless the 40G ports will be removed as part of the breakout operation.	• If 0/3 or 0/4 is 40G, you cannot configure 0/1 as 4x25G breakout. • If 0/1 is 4x10G breakout, you cannot configure 0/3 as 4x25G breakout. • If 0/3 is 4x10G breakout, you cannot configure 0/1 as 4x25G breakout. • If 0/1 or 0/2 is 40G, you can configure 0/1 as 4x25G breakout because 0/1 and 0/2 will be removed. • If 0/3 or 0/4 is 40G, you can configure 0/3 as 4x25G breakout because 0/3 and 0/4 will be removed.
If 4x25G breakout is configured, no 40G or 4x10G.	• If 0/1 is configured as 4x25G breakout, you cannot configure 0/3 or 0/4 as 40G. • If 0/1 is configured as 4x25G breakout, you cannot configure 0/3 as 4x10G breakout. • If 0/3 is configured as 4x25G breakout, you cannot configure 0/1 or 0/2 as 40G. • If 0/3 is configured as 4x25G breakout, you cannot configure 0/1 as 4x10G breakout.

FEC mode configuration

- The **no fec mode** configuration commands are not supported, users will not be able to go the default FEC mode due to this limitation, users can do explicit FEC configuration
- The Default FEC Mode on 25G Breakout port with 100G SR4 Optics is shown as “Disabled” instead of FC-FEC on the First Breakout port , internally the FEC is enabled as FC-FEC (Refer defect disclosure for SLXOS-55483). On Reboot the correct FEC mode is displayed
- The 25G in SLX 9250/9150 will display as Auto-Neg if the link is in down state instead of FC-FEC. If the link is in upstate, then proper FEC mode will be displayed (Refer defect disclosure for SLXOS-56046). This is applicable only for 25G port with SR Optic.
- When user explicitly configures “**fec mode auto-negotiation**”, the configuration is not shown in running-config(SLXOS-55857)

QoS

- PCP remarking is not supported for SLX 9740.
- Conformed and Violated counters are not supported for egress rate limiting for SLX 9740.
- Egress rate limiting in a Bridge Domain configuration is not supported for SLX 9740.
- DSCP-COS map is not work correctly for SLX 9740.

Others

- Tag-type is supported for SLX 9740. The default TPID and one more TPID are allowed.
- sflow sampling is not working for VLL when BUM rate limiting is applied on interface in SLX9740
- sflow sample traffic to CPU is rate-limited. You can use the **qos cpu slot** command to change the rate.
- The **show running ip prefix-list <name>** command can take a long time to complete in a scaled prefix-list configuration.
- When Resilient Hashing CLI is enabled or disabled, or the *max-path* value is changed, it may cause **BFD sessions** in **related VRFs** to go down. However, **BDF sessions in unrelated VRFs will not be affected.**
- Resilient Hashing supports 16K Flowset entries for SLX 9740, and 32K Flowset entries for SLX 9150/9250.

Open Config Telemetry Support

- Secure channel (TLS) to access OperDB is not supported
- User authentication not supported
- gNMI calls through inband interfaces not supported
- Usage of wild cards is not supported
- gNMI SET is not supported
- gNMI ON CHANGE subscription is not supported

Open Defects

The following software defects are open in 20.2.2c as of June 2021:

Parent Defect ID:	SLXOS-56576	**Issue ID:**	SLXOS-57997
Severity:	S3 - Medium		
Product:	SLX-OS	**Reported in Release:**	SLXOS 20.2.2a
Technology Group:	Other	**Technology:**	Other
Symptom:	On SLX 9740, User upgrades software from 20.2.2a to 20.2.2b and device becomes unreachable when accessing through inband port.		
Condition:	Software upgrade through in-band port.		

Defects Closed with Code Changes

The following software defects were closed in 20.2.2c with a code change as of June 2021:

Parent Defect ID:	SLXOS-56443	**Issue ID:**	SLXOS-57539
Severity:	S1 - Critical		
Product:	SLX-OS	**Reported in Release:**	SLXOS 18r.1.00e
Technology Group:	MPLS	**Technology:**	MPLS VPLS - Virtual Private LAN Services
Symptom:	Unexpected restart of MPLSd with core file (without System reload)		
Condition:	When peer interface is flapping carrying the LDP sessions.		

Parent Defect ID:	SLXOS-56967	**Issue ID:**	SLXOS-57634
Severity:	S2 - High		
Product:	SLX-OS	**Reported in Release:**	SLXOS 20.2.2b
Technology Group:	Layer 3 Routing/Network Layer	**Technology:**	ICMP - Internet Control Message Protocol
Symptom:	Console may get flooded with RADV-1009 RASLOG		
Condition:	In SLXOS, by default, all global IPv6 address will have ‘online’ and ‘autonomus’ flag in its prefix option field. If a remote device sends IPv6 router advertisement packet without autonomous address flag in its prefix option field, SLXOS will flag will it as inconsistency and RASLOG 1009 will be generated.		

Parent Defect ID:	SLXOS-57247	**Issue ID:**	SLXOS-57736
Severity:	S2 - High		
Product:	SLX-OS	**Reported in Release:**	SLXOS 20.2.2b
Technology Group:	Traffic Management	**Technology:**	QoS - Quality of Service
Symptom:	Protocols may flap with high rate of host traffic when TM Rx max queue size is increased to 35MB or more.		
Condition:	When QOS CLI is configured with max queue size 35MB or more. qos rx-queue unicast traffic-class 0 min-queue-size 1024 max-queue-size 35		

Parent Defect ID:	SLXOS-57556	**Issue ID:**	SLXOS-57783
Severity:	S2 - High		
Product:	SLX-OS	**Reported in Release:**	SLXOS 20.2.2b
Technology Group:	Management	**Technology:**	Other
Symptom:	"show media optical-monitoring interface ethernet <No>" displaying TX value even though the interface is down.		
Condition:	Shutdown the ethernet interface and check the TX power using this "show media optical-monitoring interface ethernet <No>" command.		

Parent Defect ID:	SLXOS-57233	**Issue ID:**	SLXOS-57842
Severity:	S3 - Medium		
Product:	SLX-OS	**Reported in Release:**	SLXOS 18r.2.00
Technology Group:	Layer 3 Routing/Network Layer	**Technology:**	Other
Symptom:	Receive ACL (RACL) deny is working but its logging feature is not working		
Condition:	RACL deny packets are dropped but not logged in RASLOG		

Parent Defect ID:	SLXOS-55583	**Issue ID:**	SLXOS-57931
Severity:	S3 - Medium		
Product:	SLX-OS	**Reported in Release:**	SLXOS 20.1.2c
Technology Group:	Other	**Technology:**	Other
Symptom:	FCLF8522P2BTL-EX on 9150 ports show link up even when cable is removed		
Condition:	FCLF8522P2BTL-EX optic in SLX 9150 25G ports		

Parent Defect ID:	SLXOS-56326	**Issue ID:**	SLXOS-58000
Severity:	S2 - High		
Product:	SLX-OS	**Reported in Release:**	SLXOS 20.2.2b
Technology Group:	Layer 3 Routing/Network Layer	**Technology:**	GRE - Generic Routing Encapsulation
Symptom:	On SLX 9740, Transit GRE Encapsulated packets of 258 byte packet size are copied to the CPU.		
Condition:	Transit GRE Encapsulated packets of 258 byte packet size will be copied to CPU		

Parent Defect ID:	SLXOS-55916	**Issue ID:**	SLXOS-58006
Severity:	S2 - High		
Product:	SLX-OS	**Reported in Release:**	SLXOS 20.2.2b
Technology Group:	Layer 3 Routing/Network Layer	**Technology:**	Other
Symptom:	IPv6 packets with source address of fe80:: are trapped to CPU.		
Condition:	Receiving IPv6 packets with source address of LinkLocal fe80:: on SLX 9540/9640/9740 device.		

Parent Defect ID:	SLXOS-56646	**Issue ID:**	SLXOS-58011
Severity:	S3 - Medium		
Product:	SLX-OS	**Reported in Release:**	SLXOS 20.2.2b

Technology Group:	Layer 3 Routing/Network Layer	**Technology:**	GRE - Generic Routing Encapsulation
Symptom:	On SLX 9540 and SLX 9640, GRE Tunnel packets with size 200-300 are copied to the CPU.		
Condition:	GRE Tunnelled packets on transit nodes.		

Parent Defect ID:	SLXOS-57029	**Issue ID:**	SLXOS-58016
Severity:	S3 - Medium		
Product:	SLX-OS	**Reported in Release:**	SLXOS 20.2.2b
Technology Group:	Layer 3 Routing/Network Layer	**Technology:**	Other
Symptom:	When fragmented pkts punted to CPU with high rate than it may cause protocol flaps.		
Condition:	When MTU violated pkts comes to CPU with high rate than it may lead to CPU congestion with protocol flaps.		

Parent Defect ID:	SLXOS-57103	**Issue ID:**	SLXOS-58017
Severity:	S3 - Medium		
Product:	SLX-OS	**Reported in Release:**	SLXOS 20.2.2b
Technology Group:	Traffic Management	**Technology:**	Rate Limiting and Shaping
Symptom:	TTL1 Traffic will be completely dropped on 9640/9540 this will impact trace-routes and other TTL related features.		
Condition:	When traffic is sent with TTL1		

Parent Defect ID:	SLXOS-56170	**Issue ID:**	SLXOS-58018
Severity:	S3 - Medium		
Product:	SLX-OS	**Reported in Release:**	SLXOS 20.2.2b
Technology Group:	Traffic Management	**Technology:**	QoS - Quality of Service
Symptom:	On SLX 9540, CPU traffic will be dropped and could impact the protocols, when below QOS rx-queue cmd with [no] option is executed - "no qos rx-queue"		
Condition:	When QOS rx-queue cmd is used with [no] option to configure default queue configuration.		

Parent Defect ID:	SLXOS-56241	**Issue ID:**	SLXOS-58019
Severity:	S3 - Medium		
Product:	SLX-OS	**Reported in Release:**	SLXOS 18r.2.00bd
Technology Group:	Layer 3 Routing/Network Layer	**Technology:**	BGP4 - IPv4 Border Gateway Protocol

Symptom:	Console display of BGP DOWN with reason code as "TCP Connection Closed by Remote" instead of expected BGP DOWN message "Peer had exceeded the prefix limit"
Condition:	Configure BGP maximum ip prefix allowed as 500 Violate above rule by redistributing routes greater than 500 from BGP peer

Parent Defect ID:	SLXOS-55549	**Issue ID:**	SLXOS-58020
Severity:	S3 - Medium		
Product:	SLX-OS	**Reported in Release:**	SLXOS 18r.2.00c
Technology Group:	Layer 3 Routing/Network Layer	**Technology:**	GRE - Generic Routing Encapsulation
Symptom:	Protocol flaps and CPU spike are seen on SLX		
Condition:	90 mbps of traffic is pumped over the GRE tunnel		

Parent Defect ID:	SLXOS-56998	**Issue ID:**	SLXOS-58021
Severity:	S3 - Medium		
Product:	SLX-OS	**Reported in Release:**	SLXOS 20.2.2b
Technology Group:	Layer 2 Switching	**Technology:**	LAG - Link Aggregation Group
Symptom:	Traffic impact on non port-channel interface		
Condition:	One of the member port is removed from Port-channel		

Parent Defect ID:	SLXOS-56958	**Issue ID:**	SLXOS-58026
Severity:	S3 - Medium		
Product:	SLX-OS	**Reported in Release:**	SLXOS 20.1.2g
Technology Group:	Other	**Technology:**	Other
Symptom:	Port may not be operational with admin UP		
Condition:	a) DUT should have connection with cisco device. b) DUT Interface connected to cisco configured with "speed auto-neg" and Cisco interface configured with "speed 100"		

Parent Defect ID:	SLXOS-51201	**Issue ID:**	SLXOS-58027
Severity:	S2 - High		
Product:	SLX-OS	**Reported in Release:**	SLXOS 18r.1.00d
Technology Group:	IP Multicast	**Technology:**	IPv4 Multicast Routing
Symptom:	Unexpected reload		
Condition:	When processing of the high scale of timed out (S,G) entries		

Parent Defect ID:	SLXOS-56043	**Issue ID:**	SLXOS-58028
Severity:	S2 - High		

Product:	SLX-OS	**Reported in Release:**	SLXOS 18r.1.00f
Technology Group:	IP Multicast	**Technology:**	IGMP - Internet Group Management Protocol
Symptom:	Unexpected reload		
Condition:	When Layer 2 IGMP entries are aging out continuously.		

Parent Defect ID:	SLXOS-57969	**Issue ID:**	SLXOS-58047
Severity:	S3 - Medium		
Product:	SLX-OS	**Reported in Release:**	SLXOS 20.2.3b
Technology Group:	Traffic Management	**Technology:**	Rate Limiting and Shaping
Symptom:	When TTL1 traffic is sent with high rate than it may impact protocol with flaps on 9640/9540.		
Condition:	When TTL1 traffic is sent with high rate to specific port may cause impact to system.		

Parent Defect ID:	SLXOS-57092	**Issue ID:**	SLXOS-58051
Severity:	S3 - Medium		
Product:	SLX-OS	**Reported in Release:**	SLXOS 20.2.2b
Technology Group:	MPLS	**Technology:**	IP over MPLS
Symptom:	Packets sent over mpls tunnels carry zero destination mac. Traffic gets dropped at the receiving side.		
Condition:	When an interface where mpls is configured is flapped, addressed removed and re-added etc		
Workaround:	None		

Parent Defect ID:	SLXOS-57966	**Issue ID:**	SLXOS-58169
Severity:	S2 - High		
Product:	SLX-OS	**Reported in Release:**	SLXOS 20.2.2b
Technology Group:	Traffic Management	**Technology:**	Rate Limiting and Shaping
Symptom:	When Sflow config is enabled than sflow traffic will be rate-limited to low shaper with drops which may impact collector output.		
Condition:	When Sflow config is enabled than sflow traffic will be rate-limited with cpu sflow drops.		

The following software defects were closed in 20.2.2b with a code change as of December 2020:

Parent Defect ID:	SLXOS-46324	**Issue ID:**	SLXOS-46324
Severity:	S3 - Medium		
Product:	SLX-OS	**Reported in Release:**	SLXOS 18r.2.00a
Technology Group:	IP Multicast	**Technology:**	PIM - Protocol-Independent Multicast
Symptom:	SLX device is not forwarding the multicast traffic.		

Condition:	1. SLX device is the first hop router and acting as RP. 2. When the source of stream is not directly connected and statically forwarded from different IP subnet.

Parent Defect ID:	SLXOS-52929	**Issue ID:**	SLXOS-52929
Severity:	S2 - High		
Product:	SLX-OS	**Reported in Release:**	SLXOS 20.1.2a
Technology Group:	Layer 3 Routing/Network Layer	**Technology:**	BGP4 - IPv4 Border Gateway Protocol
Symptom:	Unexpected reload		
Condition:	"Clear ip bgp" executer for a VRF with BGP EVPN, MCT and VRF are configured		

Parent Defect ID:	SLXOS-54157	**Issue ID:**	SLXOS-54157
Severity:	S2 - High		
Product:	SLX-OS	**Reported in Release:**	SLXOS 20.2.2
Technology Group:	Layer 2 Switching	**Technology:**	LAG - Link Aggregation Group
Symptom:	On an SLX 9740 40C, the Home-Run Port Channel flaps if physical ports link up for the first time after a reboot		
Condition:	Home Run port channel is configured and has "no shut" configuration		
Workaround:	There is no work around at this point		
Recovery:	There is no recovery mechanism at this point		

Parent Defect ID:	SLXOS-54463	**Issue ID:**	SLXOS-54463
Severity:	S2 - High		
Product:	SLX-OS	**Reported in Release:**	SLXOS 20.1.2c
Technology Group:	MPLS	**Technology:**	LDP - Label Distribution Protocol
Symptom:	LDP neighborship is not formed.		
Condition:	LDP neighborship will not be formed over L2 vlan on ICL in MCT cluster.		

Parent Defect ID:	SLXOS-55277	**Issue ID:**	SLXOS-55277
Severity:	S1 - Critical		
Product:	SLX-OS	**Reported in Release:**	SLXOS 20.2.2a
Technology Group:	Management	**Technology:**	Other
Symptom:	After reboot, Redundant Management ethernet port link is not coming up.		
Condition:	With some 1000BaseT peers, optical module part #10388 (Extreme Networks 10GBaseT module) does not link up after a reboot		
Recovery:	Reseating of the module brings up the link		

Parent Defect ID:	SLXOS-55297	**Issue ID:**	SLXOS-55297
Severity:	S2 - High		
Product:	SLX-OS	**Reported in Release:**	SLXOS 20.2.1
Technology Group:	Monitoring	**Technology:**	Telemetry
Symptom:	On SLXOS 9740, inoctets/outoctets counter output of interfaces or snmp query for these same counters of ports spike at some point and the spiked		

	values continue. These spikes are not real reflection of data but just a counter read issue.
Condition:	There is no specific condition for this inaccuracy in the counter

Parent Defect ID:	SLXOS-55388	**Issue ID:**	SLXOS-55388
Severity:	S3 - Medium		
Product:	SLX-OS	**Reported in Release:**	SLXOS 20.2.2
Technology Group:	MPLS	**Technology:**	LDP - Label Distribution Protocol
Symptom:	LDP KA packets are trapped to CPU in transient node without destined to box on SLX 9740.		
Condition:	When LDP KA Pkts are sent in transient node are trapped to CPU.		

Parent Defect ID:	SLXOS-55482	**Issue ID:**	SLXOS-55482
Severity:	S1 - Critical		
Product:	SLX-OS	**Reported in Release:**	SLXOS 20.2.2a
Technology Group:	Management	**Technology:**	Other
Symptom:	Link will not come up between SLX 9150 native 25G port and SLX 9250 Breakout 25G port, if we have "fec mode auto-neg" configured on both sides.		
Condition:	Link will not come up between SLX 9150 native 25G port and SLX 9250 Breakout 25G port, if we have "fec mode auto-neg" configured on both sides.		
Workaround:	Link will come up if user configures other supported FEC modes on both sides.		

Parent Defect ID:	SLXOS-55490	**Issue ID:**	SLXOS-55490
Severity:	S2 - High		
Product:	SLX-OS	**Reported in Release:**	SLXOS 20.2.2a
Technology Group:	Layer 3 Routing/Network Layer	**Technology:**	BFD - BiDirectional Forwarding Detection
Symptom:	BFD sessions flaps for few times.		
Condition:	BFD Sessions path via ICL and triggers to bring down session and bring up.		

Parent Defect ID:	SLXOS-55497	**Issue ID:**	SLXOS-55497
Severity:	S1 - Critical		
Product:	SLX-OS	**Reported in Release:**	SLXOS 20.2.2a
Technology Group:	Management	**Technology:**	CLI - Command Line Interface
Symptom:	On SLX 9250, the 25G breakout port will show FEC mode as Auto-Neg.		
Condition:	On Reload the FEC mode on 25G breakout port shows as Auto-Neg only if the link is in down state.		
Workaround:	Bring up the Link and the port will display the appropriate FEC mode		

Parent Defect ID:	SLXOS-55539	**Issue ID:**	SLXOS-55539
Severity:	S2 - High		
Product:	SLX-OS	**Reported in Release:**	SLXOS 20.2.2a

Technology Group:	Layer 2 Switching	**Technology:**	Other
Symptom:	User configures thru CLI "breakout mode" for a connector under hardware submode.		
Condition:	For the completion of CLI "breakout mode", 4x1g option is not displayed in the help description		
Workaround:	User configuration is accepted by the switch, if the user enters 4x1g on the CLI command on valid interfaces		

Parent Defect ID:	SLXOS-55545	**Issue ID:**	SLXOS-55545
Severity:	S2 - High		
Product:	SLX-OS	**Reported in Release:**	SLXOS 20.2.2a
Technology Group:	Management	**Technology:**	Configuration Fundamentals
Symptom:	On Reboot of SLX 9250, the link between the 25G breakout port and Spirent 25G goes down.		
Condition:	The issue is seen observed when the" fec mode auto-neg" is configured on both the sides.		
Workaround:	Issue is not seen if explicit supported FEC mode is configured on both sides.		

Parent Defect ID:	SLXOS-55546	**Issue ID:**	SLXOS-55546
Severity:	S2 - High		
Product:	SLX-OS	**Reported in Release:**	SLXOS 20.2.2a
Technology Group:	Management	**Technology:**	Other
Symptom:	In the supportsave file, distributed_log_output.txt contains the details of operations executed on the switch. The error is seen as the content of this file is invalid content.		
Condition:	Issue is seen during collection of supportsave.		

Parent Defect ID:	SLXOS-55552	**Issue ID:**	SLXOS-55552
Severity:	S3 - Medium		
Product:	SLX-OS	**Reported in Release:**	SLXOS 18r.2.00ca
Technology Group:	MPLS	**Technology:**	LDP - Label Distribution Protocol
Symptom:	On SLX 9640 and SLX 9540, LDP Protocol packets will be trapped to CPU in the transient router.		
Condition:	LDP Protocol packets will be trapped to CPU in transient router even though they are not destined to the device's IP address.		

Parent Defect ID:	SLXOS-55560	**Issue ID:**	SLXOS-55560
Severity:	S2 - High		
Product:	SLX-OS	**Reported in Release:**	SLXOS 20.2.2a
Technology Group:	Layer 3 Routing/Network Layer	**Technology:**	BFD - BiDirectional Forwarding Detection
Symptom:	On SLX 9740, Few BFD over VxLAN Sessions in Border Leaf node flap and network convergence issue is seen.		
Condition:	ICL Link in the leaf MCT cluster node is flapped.		

Parent Defect ID:	SLXOS-55700	**Issue ID:**	SLXOS-55702
Severity:	S2 - High		
Product:	SLX-OS	**Reported in Release:**	SLXOS 20.2.2a
Technology Group:	Layer 3 Routing/Network Layer	**Technology:**	VRRPv3 - Virtual Router Redundancy Protocol Version 3
Symptom:	On SLX 9740, VRRP/VRRP-E IPv6 packets are getting copied to CPU.		
Condition:	When IPv6 VRRP/VRRP-E traffic with UDP port 8888 is sent to a transient node, packets are copied to the CPU, even if VRRP/VRRP-E is not enabled.		

Parent Defect ID:	SLXOS-55722	**Issue ID:**	SLXOS-55725
Severity:	S2 - High		
Product:	SLX-OS	**Reported in Release:**	SLXOS 20.1.1
Technology Group:	Layer 2 Switching	**Technology:**	MCT - Multi-Chassis Trunking
Symptom:	In MCT scenario, ARP replies are sent back to the source for a brief period of time to the CCEP client.		
Condition:	Momentary traffic loop is caused by the flooding of unicast traffic received from host connected as MCT client. The loop is seen for ~50ms after MAC learn event is received and until the MAC is getting programmed in the hardware. Any packets received in this time interval with destination MAC as this new MAC, get looped back to the client.		

Parent Defect ID:	SLXOS-55734	**Issue ID:**	SLXOS-55738
Severity:	S3 - Medium		
Product:	SLX-OS	**Reported in Release:**	SLXOS 20.2.2a
Technology Group:	Layer 3 Routing/Network Layer	**Technology:**	GRE - Generic Routing Encapsulation
Symptom:	On SLX 9740, GRE KA(Keepalive) pkts are trapped to CPU on the transient router.		
Condition:	GRE KA(Keepalive) packets trapped to CPU, even for packets not destined to router's MY_IP address.		

Parent Defect ID:	SLXOS-55472	**Issue ID:**	SLXOS-55741
Severity:	S2 - High		
Product:	SLX-OS	**Reported in Release:**	SLXOS 20.2.2
Technology Group:	Layer 3 Routing/Network Layer	**Technology:**	Multi-VRF
Symptom:	L3VPN VRF traffic forwarding may stop working and routes need to be cleared periodically.		
Condition:	Happens when a PE router imports routes to a VRF with routes from multiple PE routers or multiple labels from a PE router.		
Recovery:	clear VRF routes using "clear ip route all vrf <vrf-name>".		

Parent Defect ID:	SLXOS-55963	**Issue ID:**	SLXOS-56004
Severity:	S2 - High		
Product:	SLX-OS	**Reported in Release:**	SLXOS 20.1.2a

Technology Group:	Layer 3 Routing/Network Layer	**Technology:**	Multi-VRF
Symptom:	Inter VRF route leak doesn't work		
Condition:	Inter VRF route leak doesn't work if the used route-map uses 'match tag' as the match criteria.		

Defects Closed without Code Changes

Parent Defect ID:	SLXOS-47226	**Issue ID:**	SLXOS-47226
Reason Code:	Insufficient Information	**Severity:**	S3 - Medium
Product:	SLX-OS	**Reported in Release:**	SLXOS 20.1.1
Technology Group:	Layer 2 Switching	**Technology:**	VLAN - Virtual LAN
Symptom:	A message "port_vlan_duplication_detected" may be seen on console session.		
Condition:	User was able to assign same VLAN to Logical-interface, and it's main interface.		
Recovery:	User should execute "no switchport" on the interface where the issue is seen, and reconfigure/add the VLANs on that interface.		

Parent Defect ID:	SLXOS-52103	**Issue ID:**	SLXOS-52103
Reason Code:	Already Implemented	**Severity:**	S3 - Medium
Product:	SLX-OS	**Reported in Release:**	SLXOS 18r.2.00bc
Technology Group:	Layer 3 Routing/Network Layer	**Technology:**	BGP4 - IPv4 Border Gateway Protocol
Symptom:	Incorrect MED value under the below show CLI's: show ip bgp neighbors <ip> advertised-routes show ip bgp neighbors <ip> advertised-routes detail		
Condition:	After configuring the MED value through "set metric-type internal" in outbound BGP route-map		
Workaround:	Use the below CLI to set the required MED value: "set metric assign <value>" Ex: SLX(config-route-map-route/permit/10)# set metric assign 10		

Parent Defect ID:	SLXOS-52124	**Issue ID:**	SLXOS-52124
Reason Code:	Already Implemented	**Severity:**	S2 - High
Product:	SLX-OS	**Reported in Release:**	SLXOS 18r.2.00a
Technology Group:	Layer 3 Routing/Network Layer	**Technology:**	MBGP - Multiprotocol Border Gateway Protocol
Symptom:	In certain conditions SLX device would reload unexpectedly.		
Condition:	BGP Static-network is configured locally and BGP also learns the same static-network prefix from one or more BGP peers.		
Workaround:	Apply an inbound route-map or prefix list to deny static-network prefixes from Remote peers.		

Parent Defect ID:	SLXOS-51906	**Issue ID:**	SLXOS-52593
Reason Code:	Already Implemented	**Severity:**	S3 - Medium
Product:	SLX-OS	**Reported in Release:**	SLXOS 18r.2.00b
Technology Group:	Other	**Technology:**	Other
Symptom:	Unexpected reload		
Condition:	When we use the "ip prefix-list name" more than 32 character.		

Parent Defect ID:	SLXOS-52623	**Issue ID:**	SLXOS-52623
Reason Code:	Already Implemented	**Severity:**	S3 - Medium
Product:	SLX-OS	**Reported in Release:**	SLXOS 20.1.2a
Technology Group:	Layer 3 Routing/Network Layer	**Technology:**	IPv6 Addressing
Symptom:	Ipv6 RACL is not working as expected.		
Condition:	When we applying RACL to ipv6 address is not working.		

Parent Defect ID:	SLXOS-50955	**Issue ID:**	SLXOS-52703
Reason Code:	Already Implemented	**Severity:**	S3 - Medium
Product:	SLX-OS	**Reported in Release:**	SLXOS 20.1.2
Technology Group:	Other	**Technology:**	Other
Symptom:	Unexpected reload under the rare condition.		
Condition:	This issue observed in rare scenario. Due to interrupt trigger during the SDK initialization.		

Parent Defect ID:	SLXOS-53703	**Issue ID:**	SLXOS-53703
Reason Code:	Already Implemented	**Severity:**	S3 - Medium
Product:	SLX-OS	**Reported in Release:**	SLXOS 18s.1.03a
Technology Group:	Monitoring	**Technology:**	Syslog
Symptom:	RASLOG DCM-1101 is not working as expected		
Condition:	When we use short form of "copy run start "		
Workaround:	Use the full CLI: SLX9240# copy running-config startup-config		

Parent Defect ID:	SLXOS-55491	**Issue ID:**	SLXOS-55491
Reason Code:	Insufficient Information	**Severity:**	S2 - High
Product:	SLX-OS	**Reported in Release:**	SLXOS 20.2.2a
Technology Group:	Layer 3 Routing/Network Layer	**Technology:**	BFD - BiDirectional Forwarding Detection
Symptom:	On SLX 9740, BFD session flap observed on VE that has a port-channel configuration		
Condition:	A non-primary member port of the Port channel is flapped		

Parent Defect ID:	SLXOS-55868	**Issue ID:**	SLXOS-55883
Reason Code:	Already Implemented	**Severity:**	S3 - Medium
Product:	SLX-OS	**Reported in Release:**	SLXOS 20.1.2d
Technology Group:	Management	**Technology:**	Other
Symptom:	"usb on" command doesn't work on Avalanche running 20.1.x release.		
Condition:	Backend USB scripts are not able to detect the correct FS type of the USB		
Workaround:	Applicable only for 20.1.x releases and not applicable in 20.2.x.		