NetIron OS 6.3.00c for ExtremeRouting MLX Series Devices

Release Notes 1.1

9036123-02 Rev AB

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Document history

Version	Summary of changes	Publication date
1.0	Initial release	March 2020
1.1	Updated Supported Optics list	June 2020

Preface

Contacting Extreme Technical Support

As an Extreme customer, you can contact Extreme Technical Support using one of the following methods: 24x7 online or by telephone. OEM customers should contact their OEM/solution provider. If you require assistance, contact Extreme Networks using one of the following methods:

- GTAC (Global Technical Assistance Center) for immediate support
- Phone: 1-800-998-2408 (toll-free in U.S. and Canada) or +1 408-579-2826. For the support phone number in your country, visit: www.extremenetworks.com/support/contact.
- Email: support@extremenetworks.com. To expedite your message, enter the product name or model number in the subject line.
- GTAC Knowledge - Get on-demand and tested resolutions from the GTAC Knowledgebase, or create a help case if you need more guidance.
- The Hub - A forum for Extreme customers to connect with one another, get questions answered, share ideas and feedback, and get problems solved. This community is monitored by Extreme Networks employees, but is not intended to replace specific guidance from GTAC.
- Support Portal - Manage cases, downloads, service contracts, product licensing, and training and certifications.

Before contacting Extreme Networks for technical support, have the following information ready:

- Your Extreme Networks service contract number and/or serial numbers for all involved Extreme Networks products
- A description of the failure
- A description of any action(s) already taken to resolve the problem
- A description of your network environment (such as layout, cable type, other relevant environmental information)
- Network load at the time of trouble (if known)
- The device history (for example, if you have returned the device before, or if this is a recurring problem)
- Any related RMA (Return Material Authorization) numbers

Extreme resources

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

White papers, data sheets, and the most recent versions of Extreme software and hardware manuals are available at www.extremenetworks.com. Product documentation for all supported releases is available to registered users at https://www.extremenetworks.com/support/documentation/ .

Document feedback

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- Use our short online feedback form at https://www.extremenetworks.com/documentation-feedback/
- Email us at documentation@extremenetworks.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

NetIron OS Release 6.3.00 enhances the capabilities of ExtremeRouting MLX Series, and ExtremeRouting CER 2000 Series in the following areas:

* BGP services,

* Network Packet Broker functionality

In addition, this release also has further enhancements to manageability and troubleshooting functions to enable efficient network operations.

With these features, the MLX Series Router continues as the leading platform for converged data center and service provider network services.

Behavior changes

Behavior changes in release NetIron 6.3.00c

There are no behavior changes in release NetIron 6.3.00c.

Behavior changes in release NetIron 6.3.00a1

There are no behavior changes in release NetIron 6.3.00a1.

Software Features

NOTE: The NetIron 6.3.00 release (the image files and the documentation) is no longer available from the Extreme Portal. New software features introduced in release 6.3.00 are included in release 6.3.00a.

New software features introduced in R6.3.00c

The following software features are introduced in NetIron 6.3.00c release.

Management features and enhancements

- New CAM profiles: This feature adds two new CAM profiles which is an extension from the existing profiles to increase the size of IP-VPN partition (Multiservice-7) and IPv4 (IPv4-extended).

Monitoring

- CAM error monitoring and recovery: This feature is an addition of NP memory registers CAM1 ERR STATUS1 REGISTER and CAM3 ERR STATUS1 REGISTER into CAM error monitoring and takes necessary recovery action.

New software features introduced in R6.3.00

The following software features are introduced in NetIron 6.3.00 release.

Management features and enhancements

- **SSH server management**: This feature configures the SSH server to allow incoming SSH connection requests from ports that belong to any VRF and from the out-of-band management port when the management VRF is configured.
- **Increase maximum telnet session number from 5 to 10:** The maximum telnet session is increased from 5 to 10.

Security

- **Regular expression support in RADIUS command authorization**: The Extreme-specific RADIUS attribute `foundry-command-string` now supports specifying a range of data for a CLI command.

IP Routing

- **BGP Large Communities:** RFC8092 BGP Large Communities attribute is supported. All routes with this attribute belong to the communities specified in the attribute.
- **Increase number of loopback interfaces in NetIron to 1024:** The number of supported loopback interfaces is increased to 1024.

Monitoring

- Beginning with Extreme NetIron Release 6.3.00a, the Network Processor (NP) error monitoring and recovery feature is supported on Extreme NetIron 8x10G, 2x100G, 20x10G, 2x100G-CFP2 and

4x10G-IPSEC line card modules for ExtremeRouting XMR/MLX Series.

Network Packet Broker

- The maximum TVF LAG FID group size (system-max tvf-lag-lb-fid-group) is increased to 32.

CLI commands

New CLI commands NetIron R6.3.00c

- None

New CLI commands NetIron R6.3.00

- ip large-community-list extended
- ip large-community-list standard
- ip ssh include-all-vrf
- match large-community-list
- set large-community
- set large-community-list
- system-max loopback-interface
- show default values
- show ip bgp routes large-community
- show ip bgp routes large-community-access-list
- show ip bgp routes large-community-regex
- show ip bgp routes detail large-community
- show ip bgp routes detail large-community-access-list
- show ip bgp routes detail large-community-regex

Modified commands

- ip ssh strict-management-vrf
- neighbor send-community
- show ip ssh config
- show who
- system-max tvf-lag-lb-fid-group

Deprecated commands

There are no deprecated commands in this release.

MIBs and messages

MIBs

New MIB Objects

No MIB objects were introduced in release NetIron 6.3.00c

Modified MIBs

The following MIBs have been modified for this release:

Not Applicable

Deprecated MIBs

The following MIBs have been deprecated beginning with this release:

Not Applicable

Messages

New Messages

The following messages are new in this release:

Not Applicable

Modified Messages

The following messages have been modified for this release:

Not Applicable

Deprecated Messages

The following messages have been deprecated beginning with this release:

- Not Applicable

RFCs and standards

The following new RFC is supported in this release.

- RFC8092 -- BGP Large Communities Attribute

Hardware support

Supported devices

The following devices are supported in this release:

NOTE: Beginning with NetIron OS 6.3.00a and later, the ExtremeSwitching CES 2000 Series devices are not supported. Refer to the End of Sale and End of Support page for additional information.

ExtremeRouting XMR Series	ExtremeRouting MLX Series	ExtremeRouting CER 2000 Series
XMR 4000	MLX-4	CER-RT 2024C-4X
XMR 8000	MLX-8	CER-RT 2024F-4X
XMR 16000	MLX-16	CER 2024C
XMR 32000	MLX-32	CER-RT 2024C
	MLXe-4	CER 2024F
	MLXe-8	CER-RT 2024F
	MLXe-16	CER 2048C
	MLXe-32	CER-RT 2048C
		CER 2048CX
		CER-RT 2048CX
		CER 2048F
		CER-RT 2048F
		CER 2048FX
		CER-RT 2048FX

Supported devices for Network Packet Broker R6.3.00a

XMR Series	MLX Series
XMR 4000	MLX-4
XMR 8000	MLX-8
XMR 16000	MLX-16
XMR 32000	MLX-32
	MLXe-4
	MLXe-8
	MLXe-16
	MLXe-32

Supported modules

The following interface modules are supported in this release:

Module	Description	Compatible devices		Generation
		MLXe with MLX or MR2-M mgmt. module	MLXe with XMR or MR2-X mgmt. module	
BR-MLX-10GX4-IPSEC-M	MLX 4-port 10 GbE/1 GbE combo and 4-port 1 GbE (-M) IPsec module with 512,000 IPv4 routes or 240,000 IPv6 routes in hardware	Yes	Yes	3
BR-MLX-10GX20-X2	MLX 20-port 10 GbE/1 GbE (X2) SFP+ and SFP combo module with extended route table support for up to 2.4 million IPv4 or 1.8 million IPv6 routes in hardware. Integrated hardware-enabled MACsec.	Yes	Yes	3
BR-MLX-10GX20-M	MLX 20-port 10 GbE/1 GbE (M) combo module. Supports SFP+ and SFP with up to 512,000 IPv4 routes or 240,000 IPv6 routes in FIB. Integrated hardware-enabled MACsec.	Yes	Yes	3
BR-MLX-1GCX24-X-ML	MLX 24-port (X) 10/100/1,000 copper (RJ-45) module with IPv4/IPv6/MPLS hardware support. Supports 512,000 IPv4 routes in FIB. License upgradable to “X” scalability (1 million IPv4 routes in hardware).	Yes	No	1.1

Module	Description	Compatible devices		Generation
		MLXe with MLX or MR2-M mgmt. module	MLXe with XMR or MR2-X mgmt. module	
BR-MLX-100GX2-CFP2-M	MLX 2-port 100 GbE (M) CFP2 module. Supports 512,000 IPv4 routes in FIB.	Yes	Yes	3
BR-MLX-100GX2-CFP2-X2	MLX 2-port 100 GbE (X2) CFP2 module with extended route table support for up to 2.4 million IPv4 or 1.8 million IPv6 routes in hardware.	Yes	Yes	3
BR-MLX-10GX8-X	MLX Series 8-port 10 GbE (X) module with IPv4/IPv6/MPLS hardware support—requires SFP optics. Supports up to 1 million IPv4 routes in FIB. Requires high-speed switch fabric modules.	Yes	Yes	2
BR-MLX-1GCX24-X	MLX 24-port (X) 10/100/1,000 copper (RJ-45) module with IPv4/IPv6/MPLS hardware support. Supports 1 million IPv4 routes in hardware.	Yes	Yes	1.1

Module	Description	Compatible devices		Generation
		MLXe with MLX or MR2-M mgmt. module	MLXe with XMR or MR2-X mgmt. module	
BR-MLX-40GX4-M	MLX Series 4-port 40 GbE (M) module with IPv4/IPv6/MPLS hardware support and support for QSFP+ optics, including both LR and SR versions. Supports up to 512,000 IPv4 routes or 128,000 IPv6 routes. Requires high-speed switch fabric modules.	Yes	Yes	3
BR-MLX-10GX4-X	MLX Series 4-port 10 GbE (X) module with IPv4/IPv6/MPLS hardware support—requires XFP optics. Supports 1 million IPv4 routes in hardware.	Yes	Yes	1.1
BR-MLX-10GX4-X-ML	MLX/MLXe 4-port 10 GbE (ML) module with IPv4/IPv6/MPLS hardware support—requires XFP optics. Supports 512,000 IPv4 routes in FIB. License upgradable to "X" scalability (1 million IPv4 routes in hardware).	Yes	No	1.1
NI-MLX-10GX8-M	MLX Series 8-port 10 GbE (M) module with IPv4/IPv6/MPLS hardware support and up to 512,000 IPv4 routes—requires SFP+ optics and high-speed switch fabric modules.	Yes	No	2

Module	Description	Compatible devices		Generation
		MLXe with MLX or MR2-M mgmt. module	MLXe with XMR or MR2-X mgmt. module	
BR-MLX-1GFX24-X	MLX Series 24-port FE/GbE (SFP) module, with IPv4/IPv6/MPLS hardware support. Supports 1 million IPv4 routes in hardware.	Yes	Yes	1.1
BR-MLX-1GFX24-X-ML	MLX Series 24-port FE/GbE (SFP) module, with IPv4/IPv6/MPLS hardware support. Supports 512,000 IPv4 routes in FIB. License upgradable to "X" scalability (1 million IPv4 routes in hardware).	Yes	No	1.1
BR-MLX-10GX24-DM	MLXe 24-port 10 GbE module with IPv4/IPv6/MPLS hardware support—requires SFP optics. Supports 256,000 IPv4 routes in FIB.	Yes	No	3a
NI-MLX-10GX8-D	MLX Series 8-port 10-GbE (D) module with IPv4/IPv6 hardware support - requires SFPP optics. Supports 256K IPv4 routes in FIB. Does not support MPLS. Requires high speed switch fabric modules.	Yes	No	2

Module	Description	Compatible devices		Generation
		MLXe with MLX or MR2-M mgmt. module	MLXe with XMR or MR2-X mgmt. module	
BR-MLX-10GX10-X2	MLX 10-port 10-Gbe/1Gbe (X2) SFP+ and SFP combo module with extended route table support up to 2M IPv4 and 800K IPv6 routes in hardware. MACsec enabled. Upgradeable to 20X10G-X2 using additional software license.	Yes	Yes	3
BR-MLX-1GX20-U10G-M	MLXe twenty (20)-port 1-GBE/1-GBE (M) module with IPv4/IPv6/MPLS hardware support. Requires SFP optics. Supports 512K IPv4 routes in FIB. Requires high speed switch fabric modules. Upgradeable to 10G, with BR-MLX-1GX20-U10G-MUPG license.	Yes	Yes	3

Module	Description	Compatible devices		Generation
		MLXe with MLX or MR2-M mgmt. module	MLXe with XMR or MR2-X mgmt. module	
BR-MLX-1GX20-U10G-X2	MLXe twenty (20)-port 1-GBE (X2) module with IPv4/IPv6/MPLS hardware support. Requires SFP optics. Supports simultaneous 2M IPv4 and 0.8M IPv6, or 1.5M IPv4 and 1M IPv6 routes in FIB. Requires hSFM. Upgradeable to 10G with extra license.	Yes	Yes	3

- Depending on your router model, you can install up to 32 single-slot interface modules, or 16 double-slot interface modules.
- Interface modules are hot-swappable. Interface modules can be removed and replaced without powering down the system.
- Gen 3 - X2 modules with an MR2-M module will only support 512M routes.

Supported power supplies

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

Part number	Description	Compatible devices
BR-MLXE-ACPWR-1800	1800W power supply.	16-, 8- and 4-slot MLXe and 16 and 8-Slot XMR/MLX AC
BR-MLXE-DCPWR-1800	1800W power supply.	16-, 8- and 4-slot MLXe and 16 and 8-Slot XMR/MLX DC
NI-X-ACPWR	1200W power supply.	16-, 8- and 4-slot MLXe and 16 and 8-Slot XMR/MLX AC
NI-X-DCPWR	1200W power supply.	16-, 8- and 4-slot MLXe and 16 and 8-Slot XMR/MLX DC
NI-X-ACPWR-A	1200W power supply.	4-Slot XMR/MLX AC
NI-X-DCPWR-A	1200W power supply.	4-Slot XMR/MLX DC
BR-MLXE-32-ACPWR-3000	AC 3000W power supply.	32-slot MLXe/XMR/MLX
BR-MLXE-32-DCPWR-3000	DC 3000W power supply.	32-slot MLXe/XMR/MLX
NIBI-32-ACPWR-A	AC 2400W power supply.	32-Slot MLXe/XMR/MLX
NIBI-32-DCPWR	2400W power supply.	32-Slot MLXe/XMR/MLX DC

Supported optics

Extreme-branded Top Level SKU	Description
10301	ASSY, SR SFP+ SHIPPING
10302	ASSY, LR SFP+ SHIPPING
10310	ZR SFP+ module
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-ADPT-CFP2-QSFP	100G CFP2 to QSFP28 adapter
100G-CWDM4-QSFP2KM	100G CWDM4 QSFP28 2km
100G-LR4-QSFP10KM	100G LR4 QSFP28 10km
100G-SR4-QSFP100M	100G SR4 QSFP28 100m
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 8pack
40G-AOC-QSFP100M	40G AOC QSFP+ 100m
40G-AOC-QSFP10M	40G AOC QSFP+ 10m
40G-AOC-QSFP20M	40G AOC QSFP+ 20m
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-QSFP5M	40G Active DAC QSFP+ 5m
40G-DACP-QSFP1M	40G Passive DAC QSFP+ 1m
40G-DACP-QSFP3M	40G Passive DAC QSFP+ 3m
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
MGBIC-LC01-G	1GB SX MM, SFP, TAA

Software upgrade and downgrade

Image file names

Download the following images from www.extremenetworks.com.

NOTE: Beginning with NetIron OS 6.3.00a and later, the ExtremeSwitching CES 2000 Series devices are not supported. Refer to the End of Sale and End of Support page for additional information.

NOTE: Hitless upgrade is not supported from NetIron 6.3.00b to 6.300c.

MLX Series and NetIron XMR devices

NOTE: When upgrading MLX Series and XMR Series devices, follow the manifest upgrade to ensure all required files are upgraded. Boot upgrade is not part of the manifest upgrade. If the boot image is R05.6.00 or older, upgrade the boot image.

Required images for R6.3.00c MLX Series/XMR software upgrade

```
# Manifest File for XMR/MLX Release 06.3.00


-NETIRON_IRONWARE_VER XMR-MLXV6.3.00c


#================================================================
===


-DIRECTORY /Boot/InterfaceModule


xmlprm05900.bin

-DIRECTORY /Boot/ManagementModule


xmprm05900.bin

#  Application Images


-DIRECTORY /Combined/FPGA
```

```
lpfpga06300c.bin

-DIRECTORY /Combined/Application


xm06300c.bin

-DIRECTORY /Monitor/InterfaceModule


xmlb06200.bin

-DIRECTORY /Monitor/ManagementModule


xmb06200.bin

-DIRECTORY /Application/ManagementModule


xmr06300c.bin

-DIRECTORY /Application/InterfaceModule


xmlp06300c.bin

-DIRECTORY /FPGA/InterfaceModule


pbif4x40_06300c.bin 2.11
pbif8x10_06300c.bin 2.24
pbifmrj_06300c.bin 4.04
pbifsp2_06300c.bin 4.02
statsmrj_06300c.bin 0.09
xgmacsp2_06300c.bin 0.17
xpp2x100_06300c.bin 1.06
xpp4x40_06300c.bin 6.20
xpp4x10g3_06300c.bin 0.00
xpp8x10_06300c.bin 1.10
xppmrj_06300c.bin 1.03
xppsp2_06300c.bin 1.01
xppxsp2_06300c.bin 1.01
pbif-ber-g3_06300c.bin 2.11
```

```
xpp20x10g3_06300c.bin 0.00
xpp2x100g3_06300c.bin 0.00

-DIRECTORY /FPGA/ManagementModule


mbridge32_06300c.xsvf 36
mbridge_06300c.xsvf 37
sbridge_06300c.mcs 6
hsbridge_06300c.mcs 17

-END_OF_IMAGES

-DIRECTORY /Signatures


xmlprm05900.sig
xmprm05900.sig
xmlb06200.sig
xmb06200.sig
xmr06300c.sig
xmlp06300c.sig
lpfpga06300c.sig
hsbridge_06300c.sig
mbridge_06300c.sig
mbridge32_06300c.sig
sbridge_06300c.sig
pbif4x40_06300c.sig
pbif8x10_06300c.sig
pbifmrj_06300c.sig
pbifsp2_06300c.sig
pbif-ber-g3_06300c.sig
statsmrj_06300c.sig
xgmacsp2_06300c.sig
xpp2x100_06300c.sig
xpp20x10g3_06300c.sig
xpp2x100g3_06300c.sig
xpp4x40_06300c.sig
xpp4x10g3_06300c.sig
xpp8x10_06300c.sig
xppmrj_06300c.sig
xppsp2_06300c.sig
xppxsp2_06300c.sig
xmlprm05900.sha256
xmprm05900.sha256
```

```
xmlb06200.sha256
xmb06200.sha256
xmr06300c.sha256
xmlp06300c.sha256
lpfpga06300c.sha256
hsbridge_06300c.sha256
mbridge_06300c.sha256
mbridge32_06300c.sha256
sbridge_06300c.sha256
pbif4x40_06300c.sha256
pbif8x10_06300c.sha256
pbifmrj_06300c.sha256
pbifsp2_06300c.sha256
pbif-ber-g3_06300c.sha256
statsmrj_06300c.sha256
xgmacsp2_06300c.sha256
xpp2x100_06300c.sha256
xpp20x10g3_06300c.sha256
xpp2x100g3_06300c.sha256
xpp4x40_06300c.sha256
xpp4x10g3_06300c.sha256
xpp8x10_06300c.sha256
xppmrj_06300c.sha256
xppsp2_06300c.sha256
xppxsp2_06300c.sha256

#  MIBS:


-DIRECTORY /MIBS


xmr06300c.mib
xmr06300c_std.mib

-DIRECTORY /Yang


ExampleXML.txt
common-defs.yang
interface-config.yang
interface-statedata.yang
mpls-config.yang
mpls-statedata.yang
netiron-config.yang
```

```
netiron-statedata.yang
version-statedata.yang
vlan-config.yang
vlan-statedata.yang

-DIRECTORY /Tools


sbsupgrd.zip

-DIRECTORY


MLX06300c_mnf.txt
MLX06300c_mnf.sig
MLX06300c_mnf.sha256

-DIRECTORY /Manuals
```

Required images for R6.3.00a1 MLX Series/XMR software upgrade

```
# Manifest File for XMR/MLX Release 06.3.00

-NETIRON_IRONWARE_VER XMR-MLXV6.3.00a1


#====================================================================


-DIRECTORY /Boot/InterfaceModule

xmlprm05900.bin


-DIRECTORY /Boot/ManagementModule

xmprm05900.bin


#  Application Images


-DIRECTORY /Combined/FPGA

lpfpga06300a1.bin


-DIRECTORY /Combined/Application
```

```
xm06300a1.bin

-DIRECTORY /Monitor/InterfaceModule
xmlb06200.bin

-DIRECTORY /Monitor/ManagementModule
xmb06200.bin

-DIRECTORY /Application/ManagementModule
xmr06300a1.bin

-DIRECTORY /Application/InterfaceModule
xmlp06300a1.bin

-DIRECTORY /FPGA/InterfaceModule
pbif4x40_06300a1.bin 2.11
pbif8x10_06300a1.bin 2.24
pbifmrj_06300a1.bin 4.04
pbifsp2_06300a1.bin 4.02
statsmrj_06300a1.bin 0.09
xgmacsp2_06300a1.bin 0.17
xpp2x100_06300a1.bin 1.06
xpp4x40_06300a1.bin 6.20
xpp4x10g3_06300a1.bin 0.00
xpp8x10_06300a1.bin 1.10
xppmrj_06300a1.bin 1.03
xppsp2_06300a1.bin 1.01
xppxsp2_06300a1.bin 1.01
pbif-ber-g3_06300a1.bin 2.11
xpp20x10g3_06300a1.bin 0.00
xpp2x100g3_06300a1.bin 0.00
```

```
-DIRECTORY /FPGA/ManagementModule
mbridge32_06300a1.xsvf 36
mbridge_06300a1.xsvf 37
sbridge_06300a1.mcs 6
hsbridge_06300a1.mcs 17

-END_OF_IMAGES

-DIRECTORY /Signatures
xmlprm05900.sig
xmprm05900.sig
xmlb06200.sig
xmb06200.sig
xmr06300a1.sig
xmlp06300a1.sig
lpfpga06300a1.sig
hsbridge_06300a1.sig
mbridge_06300a1.sig
mbridge32_06300a1.sig
sbridge_06300a1.sig
pbif4x40_06300a1.sig
pbif8x10_06300a1.sig
pbifmrj_06300a1.sig
pbifsp2_06300a1.sig
pbif-ber-g3_06300a1.sig
statsmrj_06300a1.sig
xgmacsp2_06300a1.sig
xpp2x100_06300a1.sig
xpp20x10g3_06300a1.sig
xpp2x100g3_06300a1.sig
```

xpp4x40_06300a1.sig

xpp4x10g3_06300a1.sig

xpp8x10_06300a1.sig

xppmrj_06300a1.sig

xppsp2_06300a1.sig

xppxsp2_06300a1.sig

xmlprm05900.sha256

xmprm05900.sha256

xmlb06200.sha256

xmb06200.sha256

xmr06300a1.sha256

xmlp06300a1.sha256

lpfpga06300a1.sha256

hsbridge_06300a1.sha256

mbridge_06300a1.sha256

mbridge32_06300a1.sha256

sbridge_06300a1.sha256

pbif4x40_06300a1.sha256

pbif8x10_06300a1.sha256

pbifmrj_06300a1.sha256

pbifsp2_06300a1.sha256

pbif-ber-g3_06300a1.sha256

statsmrj_06300a1.sha256

xgmacsp2_06300a1.sha256

xpp2x100_06300a1.sha256

xpp20x10g3_06300a1.sha256

xpp2x100g3_06300a1.sha256

xpp4x40_06300a1.sha256

xpp4x10g3_06300a1.sha256

xpp8x10_06300a1.sha256

xppmrj_06300a1.sha256

```
xppsp2_06300a1.sha256
xppxsp2_06300a1.sha256

#  MIBS:

-DIRECTORY /MIBS
xmr06300a1.mib
xmr06300a1_std.mib

-DIRECTORY /Yang
ExampleXML.txt
common-defs.yang
interface-config.yang
interface-statedata.yang
mpls-config.yang
mpls-statedata.yang
netiron-config.yang
netiron-statedata.yang
version-statedata.yang
vlan-config.yang
vlan-statedata.yang

-DIRECTORY /Tools
sbsupgrd.zip

-DIRECTORY
MLX06300a1_mnf.txt
MLX06300a1_mnf.sig
MLX06300a1_mnf.sha256

-DIRECTORY /Manuals
```

FPGA file names and supported modules

File Name	Supported Modules
pbif4x40_06300a1.bin	4x40G modules
pbif8x10_06300a1.bin	8x10G modules
pbifmrj_06300a1.bin	24x1G and 48x1G modules
pbifsp2_06300a1.bin	2x10G, 4x10G, 4x10G-x and 20x1G modules
statsmrj_06300a1.bin	24x1G and 48x1G modules
xgmacsp2_06300a1.bin	2x10G, 4x10G-x and 4x10G modules
xpp2x100_06300a1.bin	2x100G modules (double-wide CFP-based module)
xpp4x40_06300a1.bin	4x40G modules
xpp4x10g3_06300a1.bin	4x10G modules
xpp8x10_06300a1.bin	8x10G modules
xppmrj_06300a1.bin	24x1G and 48x1G modules
xppsp2_06300a1.bin	2x10G, 4x10G, and 20x1G modules
xppxsp2_06300a1.bin	4x10G-x
pbif-ber-g3_06300a1.bin	20x10G and 2x100G modules (-M and –X2)
xpp20x10g3_06300a1.bin	20x10G modules
xpp2x100g3_06300a1.bin	2x100G modules (half-slot CFP2-based module)
mbridge32_06300a1.xsvf	MBRIDGE32
mbridge_06300a1.xsvf	MBRIDGE
sbridge_06300a1.mcs	Switch fabric modules
hsbridge_06300a1.mcs	High speed switch fabric modules

CER 2000 Series devices

When upgrading CER 2000 Series devices, follow the manifest upgrade to ensure all required files are upgraded. Boot upgrade is not part of the manifest upgrade. If the boot image is R05.5.00 or older, upgrade the boot image.

Required images for R6.3.00c CER 2000 software upgrade

```
# Manifest File for XMR/MLX Release 06.3.00


-NETIRON_IRONWARE_VER CES-CERV6.3.00c


#============================================================
======
```

```
-DIRECTORY /Boot


ceb06000.bin

-DIRECTORY /Application


ce06300c.bin

-DIRECTORY /FPGA


pbifmetro_06300c.bin

-END_OF_IMAGES

-DIRECTORY /Signatures


ceb06000.sig
ce06300c.sig
pbifmetro_06300c.sig
ceb06000.sha256
ce06300c.sha256
pbifmetro_06300c.sha256

-DIRECTORY /MIBS


ce06300c.mib
ce06300c_std.mib

-DIRECTORY /Yang


ExampleXML.txt
common-defs.yang
interface-config.yang
interface-statedata.yang
mpls-config.yang
mpls-statedata.yang
netiron-config.yang
netiron-statedata.yang
version-statedata.yang
```

```
vlan-config.yang
vlan-statedata.yang

-DIRECTORY


CES-CER06300c_mnf.txt
CES-CER06300c_mnf.sig
CES-CER06300c_mnf.sha256

-DIRECTORY /Manuals
```

Required images for R6.3.00a1 CER 2000 software upgrade

```
# Manifest File for XMR/MLX Release 06.3.00


-NETIRON_IRONWARE_VER CES-CERV6.3.00a1


#====================================================================


-DIRECTORY /Boot
ceb06000.bin

-DIRECTORY /Application
ce06300a1.bin

-DIRECTORY /FPGA
pbifmetro_06300a1.bin

-END_OF_IMAGES

-DIRECTORY /Signatures
ceb06000.sig
ce06300a1.sig
pbifmetro_06300a1.sig
ceb06000.sha256
ce06300a1.sha256
```

```
pbifmetro_06300a1.sha256

-DIRECTORY /MIBS
ce06300a1.mib
ce06300a1_std.mib

-DIRECTORY /Yang
ExampleXML.txt
common-defs.yang
interface-config.yang
interface-statedata.yang
mpls-config.yang
mpls-statedata.yang
netiron-config.yang
netiron-statedata.yang
version-statedata.yang
vlan-config.yang
vlan-statedata.yang

-DIRECTORY
CES-CER06300a1_mnf.txt
CES-CER06300a1_mnf.sig
CES-CER06300a1_mnf.sha256

-DIRECTORY /Manuals
```

Manifest for Network Packet Broker devices

NOTE: When upgrading MLX Series and XMR Series devices, follow the manifest upgrade to ensure all required files are upgraded. Boot upgrade is not part of the manifest upgrade. If the boot image is R05.6.00 or older, upgrade the boot image.

Required images for Network Packet Broker R6.3.00c software upgrade

```
# Manifest File for XMR/MLX Release 06.3.00


-NETIRON_IRONWARE_VER XMR-MLXV6.3.00c


#================================================================
==


-DIRECTORY /Boot/InterfaceModule


xmlprm05900.bin

-DIRECTORY /Boot/ManagementModule


xmprm05900.bin

#  Application Images


-DIRECTORY /Combined/FPGA


lpfpga_npb_06300c.bin

-DIRECTORY /Combined/Application


xm06300c.bin

-DIRECTORY /Monitor/InterfaceModule


xmlb06200.bin

-DIRECTORY /Monitor/ManagementModule
```

```
xmb06200.bin

-DIRECTORY /Application/ManagementModule


xmr06300c.bin

-DIRECTORY /Application/InterfaceModule


xmlp06300c.bin

-DIRECTORY /FPGA/InterfaceModule


pbif4x40_06300c.bin 2.11
pbif8x10_06300c.bin 2.24
pbifmrj_06300c.bin 4.04
pbifsp2_06300c.bin 4.02
statsmrj_06300c.bin 0.09
xgmacsp2_06300c.bin 0.17
xpp2x100_06300c.bin 1.06
xpp4x40_06300c.bin 6.20
xpp4x10g3_06300c.bin 0.00
xpp8x10_06300c.bin 1.10
xppmrj_06300c.bin 1.03
xppsp2_06300c.bin 1.01
xppxsp2_06300c.bin 1.01
pbif-ber-g3_06300c.bin 2.11
xpp20x10g3_npb_06300c.bin 0.10
xpp2x100g3_npb_06300c.bin 0.10

-DIRECTORY /FPGA/ManagementModule


mbridge32_06300c.xsvf 36
mbridge_06300c.xsvf 37
sbridge_06300c.mcs 6
hsbridge_06300c.mcs 17

-END_OF_IMAGES

-DIRECTORY /Signatures
```

```
xmlprm05900.sig
xmprm05900.sig
xmlb06200.sig
xmb06200.sig
xmr06300c.sig
xmlp06300c.sig
lpfpga_npb_06300c.sig
hsbridge_06300c.sig
mbridge_06300c.sig
mbridge32_06300c.sig
sbridge_06300c.sig
pbif4x40_06300c.sig
pbif8x10_06300c.sig
pbifmrj_06300c.sig
pbifsp2_06300c.sig
pbif-ber-g3_06300c.sig
statsmrj_06300c.sig
xgmacsp2_06300c.sig
xpp2x100_06300c.sig
xpp20x10g3_npb_06300c.sig
xpp2x100g3_npb_06300c.sig
xpp4x40_06300c.sig
xpp4x10g3_06300c.sig
xpp8x10_06300c.sig
xppmrj_06300c.sig
xppsp2_06300c.sig
xppxsp2_06300c.sig
xmlprm05900.sha256
xmprm05900.sha256
xmlb06200.sha256
xmb06200.sha256
xmr06300c.sha256
xmlp06300c.sha256
lpfpga_npb_06300c.sha256
hsbridge_06300c.sha256
mbridge_06300c.sha256
mbridge32_06300c.sha256
sbridge_06300c.sha256
pbif4x40_06300c.sha256
pbif8x10_06300c.sha256
pbifmrj_06300c.sha256
pbifsp2_06300c.sha256
pbif-ber-g3_06300c.sha256
```

```
statsmrj_06300c.sha256
xgmacsp2_06300c.sha256
xpp2x100_06300c.sha256
xpp20x10g3_npb_06300c.sha256
xpp2x100g3_npb_06300c.sha256
xpp4x40_06300c.sha256
xpp4x10g3_06300c.sha256
xpp8x10_06300c.sha256
xppmrj_06300c.sha256
xppsp2_06300c.sha256
xppxsp2_06300c.sha256

#  MIBS:


-DIRECTORY /MIBS


xmr06300c.mib
xmr06300c_std.mib

-DIRECTORY /Yang


ExampleXML.txt
common-defs.yang
interface-config.yang
interface-statedata.yang
mpls-config.yang
mpls-statedata.yang
netiron-config.yang
netiron-statedata.yang
version-statedata.yang
vlan-config.yang
vlan-statedata.yang

-DIRECTORY /Tools


sbsupgrd.zip

-DIRECTORY


MLX_npb_06300c_mnf.txt
```

```
MLX_npb_06300c_mnf.sig
MLX_npb_06300c_mnf.sha256

-DIRECTORY /Manuals
```

Required images for Network Packet Broker R6.3.00a1 software upgrade

```
# Manifest File for XMR/MLX Release 06.3.00

-NETIRON_IRONWARE_VER XMR-MLXV6.3.00a1

#====================================================================

-DIRECTORY /Boot/InterfaceModule
xmlprm05900.bin

-DIRECTORY /Boot/ManagementModule
xmprm05900.bin

#  Application Images

-DIRECTORY /Combined/FPGA
lpfpga_npb_06300a1.bin

-DIRECTORY /Combined/Application
xm06300a1.bin

-DIRECTORY /Monitor/InterfaceModule
xmlb06200.bin

-DIRECTORY /Monitor/ManagementModule
xmb06200.bin
```

```
-DIRECTORY /Application/ManagementModule
xmr06300a1.bin

-DIRECTORY /Application/InterfaceModule
xmlp06300a1.bin

-DIRECTORY /FPGA/InterfaceModule
pbif4x40_06300a1.bin 2.11
pbif8x10_06300a1.bin 2.24
pbifmrj_06300a1.bin 4.04
pbifsp2_06300a1.bin 4.02
statsmrj_06300a1.bin 0.09
xgmacsp2_06300a1.bin 0.17
xpp2x100_06300a1.bin 1.06
xpp4x40_06300a1.bin 6.20
xpp4x10g3_06300a1.bin 0.00
xpp8x10_06300a1.bin 1.10
xppmrj_06300a1.bin 1.03
xppsp2_06300a1.bin 1.01
xppxsp2_06300a1.bin 1.01
pbif-ber-g3_06300a1.bin 2.11
xpp20x10g3_npb_06300a1.bin 0.10
xpp2x100g3_npb_06300a1.bin 0.10

-DIRECTORY /FPGA/ManagementModule
mbridge32_06300a1.xsvf 36
mbridge_06300a1.xsvf 37
sbridge_06300a1.mcs 6
hsbridge_06300a1.mcs 17

-END_OF_IMAGES
```

```
-DIRECTORY /Signatures
xmlprm05900.sig
xmprm05900.sig
xmlb06200.sig
xmb06200.sig
xmr06300a1.sig
xmlp06300a1.sig
lpfpga_npb_06300a1.sig
hsbridge_06300a1.sig
mbridge_06300a1.sig
mbridge32_06300a1.sig
sbridge_06300a1.sig
pbif4x40_06300a1.sig
pbif8x10_06300a1.sig
pbifmrj_06300a1.sig
pbifsp2_06300a1.sig
pbif-ber-g3_06300a1.sig
statsmrj_06300a1.sig
xgmacsp2_06300a1.sig
xpp2x100_06300a1.sig
xpp20x10g3_npb_06300a1.sig
xpp2x100g3_npb_06300a1.sig
xpp4x40_06300a1.sig
xpp4x10g3_06300a1.sig
xpp8x10_06300a1.sig
xppmrj_06300a1.sig
xppsp2_06300a1.sig
xppxsp2_06300a1.sig
xmlprm05900.sha256
xmprm05900.sha256
xmlb06200.sha256
xmb06200.sha256
```

```
xmr06300a1.sha256
xmlp06300a1.sha256
lpfpga_npb_06300a1.sha256
hsbridge_06300a1.sha256
mbridge_06300a1.sha256
mbridge32_06300a1.sha256
sbridge_06300a1.sha256
pbif4x40_06300a1.sha256
pbif8x10_06300a1.sha256
pbifmrj_06300a1.sha256
pbifsp2_06300a1.sha256
pbif-ber-g3_06300a1.sha256
statsmrj_06300a1.sha256
xgmacsp2_06300a1.sha256
xpp2x100_06300a1.sha256
xpp20x10g3_npb_06300a1.sha256
xpp2x100g3_npb_06300a1.sha256
xpp4x40_06300a1.sha256
xpp4x10g3_06300a1.sha256
xpp8x10_06300a1.sha256
xppmrj_06300a1.sha256
xppsp2_06300a1.sha256
xppxsp2_06300a1.sha256

#  MIBS:

-DIRECTORY /MIBS
xmr06300a1.mib
xmr06300a1_std.mib

-DIRECTORY /Yang
ExampleXML.txt
```

```
common-defs.yang
interface-config.yang
interface-statedata.yang
mpls-config.yang
mpls-statedata.yang
netiron-config.yang
netiron-statedata.yang
version-statedata.yang
vlan-config.yang
vlan-statedata.yang

-DIRECTORY /Tools
sbsupgrd.zip

-DIRECTORY
MLX_npb_06300a1_mnf.txt
MLX_npb_06300a1_mnf.sig
MLX_npb_06300a1_mnf.sha256

-DIRECTORY /Manuals
```

FPGA file names for NPB and supported modules

File Name	Supported Modules
xpp20x10g3_npb_06300a1.bin	20x10G modules FPGA for NPB
xpp2x100g3_npb_06300a1.bin	2x100G modules (half-slot CFP2-based module) FPGA to NPB

Migration path

To establish an appropriate migration path from your current release of Extreme NetIron, consult your Extreme TAC representative (see the Preface of this document).

Upgrade and downgrade considerations

To upgrade to NetIron 6.3.00a1 and later releases, a multiple step upgrade process is required.
The multiple step upgrade process is not required for CER or CES.

Scenario 1

Customers running releases 05.9.00a, 05.6.00ga, 05.6.00h, 05.8.00e, 05.7.00e or subsequent releases can directly upgrade to NetIron 6.3.00a1 and later releases.

NOTE: If you are not running one of the releases listed above, you CANNOT directly upgrade to 6.3.00a1 or later releases.

Scenario 2

To upgrade from 05.6.00c or any later release (other than the images mentioned in Scenario 1), a two-step approach is required.

1. Upgrade to 05.9.00a or any of the following releases: 05.6.00ga, 05.6.00h, 05.8.00e, 05.7.00e or subsequent patch releases and reload the device.

2. Upgrade to NetIron 6.3.00a1 (and later releases). Reload the device.

Scenario 3

To upgrade to NetIron 6.3.00a1 and later releases from releases prior to R05.6.00c, a multiple step approach is required.

1. Upgrade to 5.9.00a or any of the following releases: 05.6.00ga, 05.6.00h, 05.8.00e or 05.7.00e and reload the device.

2. Upgrade again to the same image which was used in step 1 and reload the device again. This ensures that the device will have the SHA256 signatures on the device if they are needed, for example for LP Auto-upgrade.

3. Upgrade to NetIron 6.3.00a1 or later releases and reload the device.

Scenario 4

Use Scenario 4 if you want to use the following features specific to the NPB FPGA.

- VxLAN header stripping
- GTP de-encapsulation
- Packet Timestamping
- Source port labeling
- NVGRE stripping
    - NetIron 6.3.00a1 UDA Enhancements

1. Upgrade to NetIron 6.3.00a1 and later releases using any of above scenarios based on the image from which the upgrade is being performed.
2. Reload the device again and verify that the system is up with NetIron 6.3.00a1 or later releases.
3. Configure the **fpga-mode-npb** command and save the configuration.
4. Upgrade to the NetIron 6.3.00a1 or later NPB image using MLX_npb_06300a1_mnf.txt and reload the device.
5. Make sure BR-MLX-10Gx20 and BR-MLX-100Gx2-CFP2 have NPB XPP images.
6. Verify the system. Check the output of the **show version** command and the **show flash** command to make sure the image versions are correct. Check the output of the **show module** command to make sure the line cards are not in Interactive state due to FPGA mismatch. Interactive state is an error state due to FPGA mismatch.

Show output examples

The following examples provide excerpts of the command output.

Output example for the show version command

```
NetIron XMR-4000 Router#show version
System Mode: XMR
Chassis: MLXe 4-slot (Serial #: BGD2547F02N,  Part #: 40-1000363-03)
NI-X-HSF Switch Fabric Module 1 (Serial #: BEW0338F01Z,  Part #: 60-1001512-09)
FE 1: Type fe600,  Version 1
Switch Fabric Module 1 Up Time is 3 minutes 17 seconds
NI-X-HSF Switch Fabric Module 2 (Serial #: BEW0338F00M,  Part #: 60-1001512-09)
FE 1: Type fe600,  Version 1
Switch Fabric Module 2 Up Time is 3 minutes 17 seconds
NI-X-HSF Switch Fabric Module 3 (Serial #: BEW0335F04M,  Part #: 60-1001512-10)
FE 1: Type fe600,  Version 1
Switch Fabric Module 3 Up Time is 3 minutes 17 seconds
======================================================================
SL M1: BR-MLX-MR2-X Management Module Active (Serial #: BVR2505J02G, Part #: 60-
1002375-06):
Boot     : Version 5.9.0T165 Copyright (c) 2017-2019 Extreme Networks, Inc.
Compiled on Mar 19 2015 at 03:16:46 labeled as xmprm05900
 (521771 bytes) from boot flash
Monitor  : Version 6.2.0T165 Copyright (c) 2017-2019 Extreme Networks, Inc.
Compiled on Aug 17 2017 at 11:22:12 labeled as xmb06200
```

```
 (546965 bytes) from code flash
IronWare : Version 6.3.0aT163 Copyright (c) 2017-2019 Extreme Networks, Inc.
Compiled on Aug 12 2019 at 18:29:16 labeled as xmr06300a1
 (10807321 bytes) from Primary
Board ID : 00 MBRIDGE Revision : 37
1666 MHz Power PC processor 7448 (version 8004/0202) 166 MHz bus
512 KB Boot Flash (MX29LV040C), 128 MB Code Flash (MT28F256J3)
4096 MB DRAM INSTALLED
4096 MB DRAM ADDRESSABLE
Active Management uptime is 3 minutes 17 seconds
========================================================================
SL 3: BR-MLX-10Gx4-M-IPSEC 4-port 1/10GbE and 4-port 1GbE Module (Serial #:
CWH0451K00F, Part #: 60-1002974-12)
Boot     : Version 5.9.0T175 Copyright (c) 2017-2019 Extreme Networks, Inc.
Compiled on Mar 19 2015 at 03:17:00 labeled as xmlprm05900
 (449576 bytes) from boot flash
Monitor  : Version 6.2.0T175 Copyright (c) 2017-2019 Extreme Networks, Inc.
Compiled on Aug 17 2017 at 11:22:42 labeled as xmlb06200
 (573366 bytes) from code flash
IronWare : Version 6.3.0aT177 Copyright (c) 2017-2019 Extreme Networks, Inc.
Compiled on Aug 12 2019 at 18:58:22 labeled as xmlp06300a1
 (9536730 bytes) from Primary
FPGA versions:
Valid PBIF Version = 2.11, Build Time = 8/19/2016 14:54:00

 Valid XPP Version = 0.00, Build Time = 4/13/2017 16:22:00
```

Output example for the show flash command

```
 NetIron XMR-4000 Router#show flash

 ~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~

 Active Management Module (Left Slot)

 Code Flash - Type MT28F256J3, Size 128 MB

   o IronWare Image (Primary)

     Version 6.3.0aT163, Size 10807321 bytes, Check Sum e5f2

     Compiled on Aug 12 2019 at 18:29:16 labeled as xmr06300a1

   o LP Kernel Image (Monitor for LP Image Type 0)

     Version 6.2.0T175, Size 573366 bytes, Check Sum faad

     Compiled on Aug 17 2017 at 11:22:42 labeled as xmlb06200

   o LP IronWare Image (Primary for LP Image Type 0)

     Version 6.3.0aT177, Size 9536730 bytes, Check Sum 901d

     Compiled on Aug 12 2019 at 18:58:22 labeled as xmlp06300a1

   o Monitor Image

     Version 6.2.0T165, Size 546965 bytes, Check Sum b926
```

```
    Compiled on Aug 17 2017 at 11:22:12 labeled as xmb06200
  o Startup Configuration
    Size 2838 bytes, Check Sum 78a8
    Modified on 08:40:55 GMT+00 Wed Aug 14 2019

Boot Flash - Type MX29LV040C, Size 512 KB
  o Boot Image
    Version 5.9.0T165, Size 521771 bytes, Check Sum 4fb8
    Compiled on Mar 19 2015 at 03:16:46 labeled as xmprm05900
~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~
Line Card Slot 1
Code Flash: Type MT28F256J3, Size 66846720 Bytes (~64 MB)
  o IronWare Image (Primary)
    Version 6.3.0aT177, Size 9536730 bytes, Check Sum 901d
    Compiled on Aug 12 2019 at 18:58:22 labeled as xmlp06300a1
  o IronWare Image (Secondary)
    Version 5.7.0bT177, Size 7800332 bytes, Check Sum 5d75
    Compiled on Oct 22 2014 at 20:08:46 labeled as xmlp05700b
  o Monitor Image
    Version 6.2.0T175, Size 573366 bytes, Check Sum faad
    Compiled on Aug 17 2017 at 11:22:42 labeled as xmlb06200
Boot Flash: Type MX29LV040C, Size 512 KB
  o Boot Image
    Version 5.9.0T175, Size 449576 bytes, Check Sum 3bc9
    Compiled on Mar 19 2015 at 03:17:00 labeled as xmlprm05900
FPGA Version (Stored In Flash):
 PBIF Version = 2.11, Build Time = 8/19/2016 14:54:00

 XPP Version = 0.00, Build Time = 9/22/2017 11:27:00

~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~
Line Card Slot 2
```

```
Code Flash: Type MT28F256J3, Size 66846720 Bytes (~64 MB)
  o IronWare Image (Primary)
    Version 6.3.0aT177, Size 9536730 bytes, Check Sum 901d
    Compiled on Aug 12 2019 at 18:58:22 labeled as xmlp06300a1
  o IronWare Image (Secondary)
    Version 5.7.0bT177, Size 7800332 bytes, Check Sum 5d75
    Compiled on Oct 22 2014 at 20:08:46 labeled as xmlp05700b
  o Monitor Image
    Version 6.2.0T175, Size 573366 bytes, Check Sum faad
    Compiled on Aug 17 2017 at 11:22:42 labeled as xmlb06200
Boot Flash: Type MX29LV040C, Size 512 KB
  o Boot Image
    Version 5.9.0T175, Size 449576 bytes, Check Sum 3bc9
    Compiled on Mar 19 2015 at 03:17:00 labeled as xmlprm05900
FPGA Version (Stored In Flash):
 PBIF Version = 2.11, Build Time = 8/19/2016 14:54:00

 XPP Version = 0.00, Build Time = 9/22/2017 11:27:00

~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~
Line Card Slot 3
Code Flash: Type MT28F256J3, Size 66846720 Bytes (~64 MB)
  o IronWare Image (Primary)
    Version 6.3.0aT177, Size 9536730 bytes, Check Sum 901d
    Compiled on Aug 12 2019 at 18:58:22 labeled as xmlp06300a1
  o IronWare Image (Secondary)
    Version 5.8.0T177, Size 9128949 bytes, Check Sum 6c57
    Compiled on Dec 17 2014 at 17:24:32 labeled as xmlp05800
  o Monitor Image
    Version 6.2.0T175, Size 573366 bytes, Check Sum faad
    Compiled on Aug 17 2017 at 11:22:42 labeled as xmlb06200
Boot Flash: Type MX29LV040C, Size 512 KB
```

```
  o Boot Image
    Version 5.9.0T175, Size 449576 bytes, Check Sum 3bc9
    Compiled on Mar 19 2015 at 03:17:00 labeled as xmlprm05900
FPGA Version (Stored In Flash):
 PBIF Version = 2.11, Build Time = 8/19/2016 14:54:00


 XPP Version = 0.00, Build Time = 4/13/2017 16:22:00
```

Output example for the show module command

```
NetIron XMR-4000 Router#show module
Module                                                          Status
Ports    Starting MAC
M1 (left ):BR-MLX-MR2-X Management Module                       Active
M2 (right):
F1: NI-X-HSF Switch Fabric Module                               Active
F2: NI-X-HSF Switch Fabric Module                               Active
F3: NI-X-HSF Switch Fabric Module                               Active
S1: BR-MLX-10Gx20 20-port 1/10GbE Module                        CARD_STATE_UP
20       0024.3880.5d00
S2: BR-MLX-10Gx20 20-port 1/10GbE Module                        CARD_STATE_UP
20       0024.3880.5d30
S3: BR-MLX-10Gx4-M-IPSEC 4-port 1/10GbE and 4-port 1GbE Module  CARD_STATE_UP
8        0024.3880.5d60
S4:
```

OpenFlow upgrade and downgrade

When downgrading the system from NetIron 6.3.00a1 (and later releases) to NetIron 05.8.00, if there are any VRF interfaces which are enabled with OpenFlow, some unexpected IFL entries will be seen after moving to R05.8.00. These unexpected IFL entries may affect the L3VPN/6VPE traffic.

Extreme recommends removing OpenFlow from the VRF interfaces before downgrading the router to R05.8.00. For upgrade and migration considerations, refer to the latest version of the Extreme NetIron Software Upgrade Guide.

Hitless upgrade support

Hitless upgrade is supported from NI6.3.00b to NI6.3.00c

Limitations and restrictions

Important notes

Hitless upgrade is not supported from NetIron 6.3.00b to 6.300c.

Saving system information to flash

- This feature is not supported on Gen1 LPs.

Support for Management IP as snmp trap-source

- IPV6 support is not present currently for trap source addresses.

ACL/PBR co-existence with Openflow on same port

- PBR/ACL is not supported on L23 openflow hybrid port.
- L2 PBR/ACL is not supported on L3 openflow hybrid port.
- L3 PBR/ACL is not supported on L2 openflow hybrid port.
- L2 ACL Deny logging is not supported openflow hybrid port.

RADIUS Over Transport Layer Security (TLS)

- Dot1x accounting is not supported over RADSEC/TLS.

IPv6 ACL based rate limit for CES/CER

- ACL based rate limit is supported only on physical interface.

SCP based simplified upgrade

- This is not supported on CES/CER devices.
- This feature is supported on MR2 management modules.
- Feature is supported from 5.7 and above version.
- The signature verification is performed when the firmware version is 6.1.
- Verification supported only when pre-upgrade version on device is NetIron 6.1 and above.

OpenFlow group table

- The only action allowed in action bucket is output port.
- Each action bucket can have only one output port.
- Maximum of 8 buckets are allowed in an OpenFlow group with logical ports.
- Group types All, Indirect and Fast-Failover are not supported for logical port groups. Only SELECT group type will be supported.
- Bucket statistics is not supported.
- Group cannot have physical port and logical port in the buckets. Either physical ports or logical ports should be present.
- Modification of a group with all physical ports to all logical ports in the buckets and vice versa are not supported.
- Generic OpenFlow rule with action logical port group is not supported.
- This feature is not supported in CES/R.

- Logical port group along with actions other than L2VPN/L3VPN label in flow action are not supported.

VLAN modification in MPLS egress

- Pop VLAN action is limited to OpenFlow hybrid ports as output in action.
- In a dual tagged packet, only modification of outer VLAN is supported and addition/deletion of outer VLAN he inner VLAN modification/addition/deletion are not supported.

SCP checksum, firmware integrity

- The signature verification is not performed for copying LP application, monitor to specific slot using TFTP , Slot1/Slot2 and LP boot using from Slot1/Slot2

IPv6 ACL Scaling 4k Enhancement is supported only on XMR /MLX Series·

LDP interface transport address

- LDP interface transport address should not be enabled when there are multiple parallel adjacencies (interfaces) present between the LDP routers. If user wishes to enable this feature then they should remove the additional adjacencies. If a user enables this feature with multiple adjacencies to a peer then it is possible that the interface transport address may not be used and/or the session would be torn down due to role conflict.
- Pre-requisites: Enabling LDP interface transport address feature on the interface (adjacency) will cause any existing session to flap and come back up with interface IP address as transport address (only in cases where there is a single adjacency between the peers). This can be service impacting and something the user should be well aware of before executing the command.

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. TSBs can be found at https://extremeportal.force.com/ (note that TSBs are generated for all Extreme platforms and products, so not all TSBs apply to this release).

TSB issues resolved in NI 6.3.00c

TSB	Summary
None	

TSB issues outstanding in NI 6.3.0c

TSB	Summary
None	

Closed with code changes NI6.3.00c

This section lists software defects with Critical, High, and Medium Technical Severity closed with a code change as of March 2020 in NetIron OS 6.3.00c.

Parent Defect ID:	NI-14753	**Issue ID:**	NI-17685
Severity:	S2 - High		
Product:	NetIron OS	**Technology Group:**	Layer 3 Routing/Network Layer
Reported in Release:	NI 05.8.00f	**Technology:**	BGP4 - IPv4 Border Gateway Protocol
Symptom:	MLX may send BGP update message with empty AS-SET Path attribute to BGP peer. The update messages would be dropped by peer due to incorrect or empty AS-SET path information.		
Condition:	1. When BGP neighbor is configured with "remove-private-as" command on MLX device 2. Private AS number is exist/connected in network		

Parent Defect ID:	NI-9350	**Issue ID:**	NI-21189
Severity:	S3 - Medium		
Product:	NetIron OS	**Technology Group:**	Layer 3 Routing/Network Layer
Reported in Release:	NI 05.8.00g	**Technology:**	OSPF - IPv4 Open Shortest Path First
Symptom:	OSPF neighbors may show all ECMP paths after upgraded MLXe fails setting a forwarding address in AS External LSA.		
Condition:	It is rarely observed with the following steps:-(1) OSPFv2 is enabled on the device(2) static routes are configured with gateway, which is reachable and redistributed into OSPFv2(3) Repeated image upgrade and downgrade		
Workaround:	NA		

Parent Defect ID:	NI-21238	**Issue ID:**	NI-21306
Severity:	S3 - Medium		
Product:	NetIron OS	**Technology Group:**	Layer 3 Routing/Network Layer
Reported in Release:	NI 06.3.00b	**Technology:**	Static Routing (IPv4)
Symptom:	Traffic may be forwarded by Line card CPU causing high CPU utilization		
Condition:	Port is removed from GTP profile with PBR configured		
Workaround:	Re-binding the IP/IPV6 PBR on the interface		

Parent Defect ID:	NI-21231	**Issue ID:**	NI-21347
Severity:	S2 - High		
Product:	NetIron OS	**Technology Group:**	Layer 3 Routing/Network Layer
Reported in Release:	NI 06.2.00a	**Technology:**	IPv6 Addressing
Symptom:	Line card may reload with the following stack trace :- Possible Stack Trace (function call return address list) 21685920: memset(pc) 20c09860: generic_get_mem_from_pool(lr) 20fcd940: ip6_get_free_cache_entry 20faf9fc: ip6_process_route_loookup 20faa738: ipv6_fwd_unicast_packet 20fac984: ipv6_packet_receive 20f350e0: rx_pkt_processing 20d8b720: lp_pkt_receive 20a1deb4: ppcr_recieve_packet 207f3360: lp_pbif_packet_task 00040158: sys_end_task		
Condition:	Processing large number of ICMPv6 echo request packets for unknown destination hosts with 'ipv6 max-host-drop-cam' configured		
Workaround:	NA		

Parent Defect ID:	NI-21312	**Issue ID:**	NI-21359
Severity:	S3 - Medium		
Product:	NetIron OS	**Technology Group:**	Layer 3 Routing/Network Layer
Reported in Release:	NI 05.8.00f	**Technology:**	OSPF - IPv4 Open Shortest Path First
Symptom:	Router ID may not displayed correctly in 'show ip ospf' config output		
Condition:	1. OSPF is configured on the device 2. router-id is configured on a loopback		

Parent Defect ID:	NI-21371	**Issue ID:**	NI-21385
Severity:	S3 - Medium		
Product:	NetIron OS	**Technology Group:**	Monitoring
Reported in Release:	NI 06.3.00b	**Technology:**	OAM - Operations, Admin & Maintenance
Symptom:	Port may not go down on 2x100G CFP2 Line card module		
Condition:	When "loopback system" configuration is removed from an interface having QSFP28-SR4 optic installed with no physical connection		

Parent Defect ID:	NI-14775	**Issue ID:**	NI-21409
Severity:	S2 - High		
Product:	NetIron OS	**Technology Group:**	Layer 3 Routing/Network Layer
Reported in Release:	NI 06.3.00a	**Technology:**	ICMP - Internet Control Message Protocol
Symptom:	Host may fail to ping directly connected virtual interface and packets may get dropped in NP as Routed Packet drops		
Condition:	1. when a port is configured as untagged port in default VLAN and associated with virtual interface 2. Rarely observed during repeated disconnection of directly connected host		
Workaround:	NA		

Parent Defect ID:	NI-21340	**Issue ID:**	NI-21461
Severity:	S2 - High		
Product:	NetIron OS	**Technology Group:**	Layer 3 Routing/Network Layer
Reported in Release:	NI 06.2.00c	**Technology:**	IPv6 Addressing
Symptom:	Line card may reload unexpectedly with the following stack trace :- Possible Stack Trace (function call return address list) 20e112dc: debug_assert(pc) 20fcdcb0: ip6_remove_cache_from_LinkList(lr) 20fce940: ip6_delete_host_cache_entry 20d1fda8: ipv6_cam_ageout_handler 20aef974: xpp80ge_age_rc2 20aefd0c: xpp80ge_age_rc 20a05d60: ppcr_rc_aging_poll 20005a74: perform_callback 2000647c: timer_timeout 00040160: sys_end_entry 0005e4a0: suspend 0005cf78: dev_sleep 00005024: xsyscall 207f18b0: main 00040158: sys_end_task		
Condition:	Processing large number of ICMPv6 echo request packets for unknown destination hosts with 'ipv6 max-host-drop-cam' configured		

Parent Defect ID:	NI-21465	**Issue ID:**	NI-21481
Severity:	S3 - Medium		
Product:	NetIron OS	**Technology Group:**	Layer 3 Routing/Network Layer
Reported in Release:	NI 06.3.00b	**Technology:**	GRE - Generic Routing Encapsulation
Symptom:	High LP CPU utilization may be observed		
Condition:	Existence of tunnel interface with tunnel mode as gre ip without any tunnels established and receiving unknown GRE packets/traffic		

Parent Defect ID:	NI-21477	**Issue ID:**	NI-21485
Severity:	S2 - High		
Product:	NetIron OS	**Technology Group:**	Layer 3 Routing/Network Layer
Reported in Release:	NI 05.8.00h	**Technology:**	OSPF - IPv4 Open Shortest Path First
Symptom:	The routes learnt over sham-link are treated as O2 (external routes)		
Condition:	1. In the OSPF network, there are 2 PE devices, between which sham-link is brought UP and 2 CE devices connect to each of the two PE devices. 2. A static route is configured on one of the PE devices and redistributed		

Parent Defect ID:	NI-9349	**Issue ID:**	NI-21490
Severity:	S3 - Medium		
Product:	NetIron OS	**Technology Group:**	Layer 3 Routing/Network Layer
Reported in Release:	NI 05.8.00g	**Technology:**	OSPF - IPv4 Open Shortest Path First
Symptom:	Inconsistent behavior may be observed between OSPFV2 and OSPFV3		
Condition:	Configuration of 'max-metric' command		

Parent Defect ID:	NI-21468	**Issue ID:**	NI-21492
Severity:	S3 - Medium		
Product:	NetIron OS	**Technology Group:**	Management
Reported in Release:	NI 06.0.00f	**Technology:**	CLI - Command Line Interface
Symptom:	Management Module may reload unexpectedly with the following stack trace:- Possible Stack Trace (function call return address list) 203c0e40: uprintf(pc) 203c0e40: uprintf(lr) 20025b3c: copy_runConfig_startConfig 202eff7c: call_action_func 202f0a74: parse_node 202f04f0: parse_node_recurse 202f0d48: parse_node 2036485c: parse_input 2042a90c: cli_aaa_accounting_callback 2079f3bc: aaa_accounting_start 2042a160: cli_request_command_accounting 202f0964: parse_node 2036485c: parse_input 2042ab9c: cli_aaa_authorization_callback 2079f450: aaa_authorization_start 20429780: cli_request_command_authorization 202f0954: parse_node 202eefb8: parser 20364838: parse_input 20aa4e48: ssh_event_handler 20ab80a0: ProcessChannelData 20ab56bc: ShProcessMessage 20abea5c: ProcessClientInputData 20abe1f4: ShFiniteStateMachine 209c06ec: HandleProtocolAction 209c04cc: HandleConnectionTask 20aa3a18: ssh_connection_task 20aa4164: ssh_socket_control 20aa6e00: ssh_receive_data_ready 20aa6e44: ssh_tcp_receive_data_ready_callback 20ba3ac0: itc_process_msgs_internal 20ba3f6c: itc_process_msgs 20a9f0d4: ssh_in_task 00005e18: sys_end_task		
Condition:	killing the SSH session while 'write mem' with large size running configuration is being performed		

Parent Defect ID:	NI-21400	**Issue ID:**	NI-21494
Severity:	S2 - High		
Product:	NetIron OS	**Technology Group:**	Layer 3 Routing/Network Layer
Reported in Release:	NI 06.2.00b	**Technology:**	OSPF - IPv4 Open Shortest Path First
Symptom:	MLX/CER router may reload unexpectedly with the following stack trace:- Possible Stack Trace (function call return address list) 20fdfea0: calculate_routes_to_a_single_external_destination(pc) 20fdfe54: calculate_routes_to_a_single_external_destination(lr) 20fdf80c: ospf_recalc_type5_route_chunk 20fbb610: ospf_construct_routing_table 20fca9b0: ospf_route_calculation_process 20fa02f4: ospf_route_calc_task 00040158: sys_end_task		
Condition:	1. OSPF is enabled on the device 2. OSPF has learnt external LSAs with forwarding address, which is not reachable		

Parent Defect ID:	NI-21440	**Issue ID:**	NI-21499
Severity:	S3 - Medium		
Product:	NetIron OS	**Technology Group:**	Security
Reported in Release:	NI 06.0.00h	**Technology:**	TACACS & TACACS+
Symptom:	The below authentication logs will be observed for every successful TACACS login. Aug 14 04:19:04:I:Tacplus service for Authentication session gave response=ACCEPT from server_ip=a.b.c.d		
Condition:	TACACS authentication is Enabled.		

Parent Defect ID:	NI-21401	**Issue ID:**	NI-21503
Severity:	S3 - Medium		
Product:	NetIron OS	**Technology Group:**	Monitoring
Reported in Release:	NI 06.0.00d	**Technology:**	RAS - Reliability, Availability, and Serviceability
Symptom:	Timestamp of error messages in "show sysmon log" and "show logging" does not match.		
Condition:	Errors detected by sysmon monitoring		

Parent Defect ID:	NI-21427	**Issue ID:**	NI-21516
Severity:	S3 - Medium		
Product:	NetIron OS	**Technology Group:**	Monitoring
Reported in Release:	NI 06.0.00j	**Technology:**	RAS - Reliability, Availability, and Serviceability
Symptom:	In show optic command output, Tx power levels will not be displayed for QSFP28 optics.		
Condition:	QSFP28 optical connector connected to the device.		

Parent Defect ID:	NI-8943	**Issue ID:**	NI-21525
Severity:	S3 - Medium		
Product:	NetIron OS	**Technology Group:**	SDN
Reported in Release:	NI 05.8.00e	**Technology:**	OpenFlow
Symptom:	Traffic may not be forwarded properly on an Open Flow enabled port		
Condition:	Observed when the same Open Flow rules are pushed through Lumina controller by Rest API repeatedly with different priorities.		

Parent Defect ID:	NI-9125	**Issue ID:**	NI-21527
Severity:	S3 - Medium		
Product:	NetIron OS	**Technology Group:**	Layer 2 Switching
Reported in Release:	NI 05.8.00f	**Technology:**	QnQ - IEEE 802.1Q
Symptom:	Double tagged packets with both inner and outer tag-type as 8100 may get dropped on 20X10G Line card module		
Condition:	Ingress port is configured as tagged with tag-type 8100		

Parent Defect ID:	NI-21135	**Issue ID:**	NI-21532
Severity:	S3 - Medium		
Product:	NetIron OS	**Technology Group:**	Layer 3 Routing/Network Layer
Reported in Release:	NI 06.0.00f	**Technology:**	Static Routing (IPv6)
Symptom:	May observe duplicate route entry messages on LP console like below:- kbp_duplicate_entry_IPV6[0] idx : 0x0033a932 tbl_id : 144 pfx :00000000:00000000:00000000:00000000/0		
Condition:	1.Addition and removal of IPv6 static default NULL0 route 2.IPv6 is disabled on interface		

Parent Defect ID:	NI-17565	**Issue ID:**	NI-21533
Severity:	S3 - Medium		
Product:	NetIron OS	**Technology Group:**	Traffic Management
Reported in Release:	NI 06.0.00g	**Technology:**	Rate Limiting and Shaping
Symptom:	Traffic may be dropped with the packet size larger than 1100 bytes		
Condition:	1. Port speed configured as 100M full duplex 2. Rate-limit configured with cbs greater than 54000(256000/125000)bytes 3. In the presence of burst traffic		

Parent Defect ID:	NI-17589	**Issue ID:**	NI-21535
Severity:	S3 - Medium		
Product:	NetIron OS	**Technology Group:**	MPLS
Reported in Release:	NI 06.2.00b	**Technology:**	MPLS VPLS - Virtual Private LAN Services
Symptom:	MCT Local VPLS switchover may take up to 15sec		
Condition:	One of the MCT peer goes Down with 3.5k VPLS instances configured on MCT		

Parent Defect ID:	NI-17613	**Issue ID:**	NI-21536
Severity:	S3 - Medium		
Product:	NetIron OS	**Technology Group:**	Management
Reported in Release:	NI 05.4.00ea	**Technology:**	CLI - Command Line Interface
Symptom:	LP module uptime may show incorrect value		
Condition:	Observed after LP reload with MP running for more than 1500 days		

Parent Defect ID:	NI-21210	**Issue ID:**	NI-21538
Severity:	S3 - Medium		
Product:	NetIron OS	**Technology Group:**	Management
Reported in Release:	NI 06.3.00b	**Technology:**	CLI - Command Line Interface
Symptom:	Incorrect media and optical information observed		
Condition:	1.On 100G module with QSFP28 optic 2.Port configured with loopback system		

Parent Defect ID:	NI-21353	**Issue ID:**	NI-21539
Severity:	S2 - High		
Product:	NetIron OS	**Technology Group:**	Traffic Management
Reported in Release:	NI 06.2.00c	**Technology:**	Rate Limiting and Shaping
Symptom:	Traffic may not be rate-limited as configured		
Condition:	When ACL based rate-limit configuration with different queue priority is modified multiple times ex: rate-limit output access-group xxx priority q2 policy-map xyzMbps rate-limit output access-group xxx priority q0 xyz abc		

Parent Defect ID:	NI-21164	**Issue ID:**	NI-21544
Severity:	S2 - High		
Product:	NetIron OS	**Technology Group:**	Management
Reported in Release:	NI 05.6.00j	**Technology:**	FDP - Foundry Discovery Protocol
Symptom:	Management Module may unexpectedly reload with the following stack trace:- Possible Stack Trace (function call return address list) 0002b1d0: free_memory_pool(pc) 0002b1c8: free_memory_pool(lr) 0002b800: free_memory 00027e3c: dev_free_memory 00005024: xsyscall 202ad558: os_free 206a5528: fdp_reallocate_cache_entry_data 206a56c8: fdp_reallocate_cache_entry 206a5778: fdp_release_one_fdp_cache_entry 206a6058: fdp_process_one_incoming_message 206a6284: fdp_process_fdp_cdp_pdu 20a1fa90: itc_process_msgs_internal 20a1fdd0: itc_process_msgs 206ae930: snms_task 00005e18: sys_end_task		
Condition:	It is rarely observed when copying LP FPGA image with FDP/CDP enabled on a cluster configured MLX device		

Parent Defect ID:	NI-21219	**Issue ID:**	NI-21546
Severity:	S3 - Medium		
Product:	NetIron OS	**Technology Group:**	Layer 3 Routing/Network Layer
Reported in Release:	NI 06.0.00g	**Technology:**	BGP4 - IPv4 Border Gateway Protocol
Symptom:	The BGP default route originated and advertised to the peer, will not have the AS_PATH prepended as per the route-map applied		
Condition:	1. BGP is enabled on the device 2. There is a BGP peering exists with the neighbor 3. A route-map "xxxx" is defined to prepend the AS_PATH to the default route 3. "default-originate route-map xxxx" command configured for the neighbor		

Parent Defect ID:	NI-21223	**Issue ID:**	NI-21547
Severity:	S3 - Medium		
Product:	NetIron OS	**Technology Group:**	Monitoring
Reported in Release:	NI 06.3.00b	**Technology:**	OAM - Operations, Admin & Maintenance
Symptom:	10G port is initialized as 1G port speed		
Condition:	1. Any port in 20x10G module with no optic installed 2. Loopback system configured on the port		
Workaround:	Configure the port speed manually		

Parent Defect ID:	NI-21317	**Issue ID:**	NI-21548
Severity:	S3 - Medium		
Product:	NetIron OS	**Technology Group:**	Layer 3 Routing/Network Layer
Reported in Release:	NI 06.0.00f	**Technology:**	Static Routing (IPv4)
Symptom:	May observe duplicate route entry messages on LP console like below:- kbp_duplicate_entry_IP[0] idx : 0x0019ddbc tbl_id : 128 pfx : 0.0.0.0/0		
Condition:	Frequent route update and live traffic on device with IPv4 static default NULL0 route configured		

Parent Defect ID:	NI-21313	**Issue ID:**	NI-21549
Severity:	S2 - High		
Product:	NetIron OS	**Technology Group:**	Monitoring
Reported in Release:	NI 06.0.00d	**Technology:**	OAM - Operations, Admin & Maintenance
Symptom:	100G Links may observe sub second flaps		
Condition:	Presence of Rev 2 CFP2 ER4 optic		

Parent Defect ID:	NI-21357	**Issue ID:**	NI-21550
Severity:	S2 - High		
Product:	NetIron OS	**Technology Group:**	Security
Reported in Release:	NI 06.0.00j	**Technology:**	IPsec - IP Security
Symptom:	High LP CPU may be observed with IPSEC data traffic		
Condition:	1. Route to tunnel destination changes 2. IPSEC data traffic received with MTU size greater than default value 1431		

Parent Defect ID:	NI-21370	**Issue ID:**	NI-21551
Severity:	S3 - Medium		
Product:	NetIron OS	**Technology Group:**	Monitoring
Reported in Release:	NI 05.8.00ec	**Technology:**	OAM - Operations, Admin & Maintenance
Symptom:	Management Module may unexpectedly reload with the following stack trace: Possible Stack Trace (function call return address list) 0002e2cc: assert_double_free_small_memory(pc) 0002e2c4: assert_double_free_small_memory(lr) 0002e4cc: free_memory_pool 0002eafc: free_memory 0002b0e0: dev_free_global 00005024: xsyscall 20a87fc0: FreeEvent 20ae7304: scp_event_callback 20b148d0: itc_process_msgs_internal 20b14a24: itc_process_msgs 20adf8a0: scp_task 00005e18: sys_end_task		
Condition:	It is observed rarely on a MLX device, during removal of delay-link-event configuration.		

Parent Defect ID:	NI-21436	**Issue ID:**	NI-21554
Severity:	S3 - Medium		
Product:	NetIron OS	**Technology Group:**	Monitoring
Reported in Release:	NI 06.3.00ba	**Technology:**	OAM - Operations, Admin & Maintenance
Symptom:	10G port may come as 1G		
Condition:	1. On 20x10G module with no optic installed 2. Loopback system configured on a disabled interface		
Workaround:	have the interface enabled before applying loopback system configuration		

Parent Defect ID:	NI-21581	**Issue ID:**	NI-21582
Severity:	S2 - High		
Product:	NetIron OS	**Technology Group:**	Layer 3 Routing/Network Layer
Reported in Release:	NI 06.2.00d	**Technology:**	IPv6 Addressing
Symptom:	Intermittent traffic drop may be observed sometimes		
Condition:	Removing and reconfiguring IPV6 address on a VE interface that receives continuous traffic.		

Parent Defect ID:	NI-21352	**Issue ID:**	NI-21586
Severity:	S3 - Medium		
Product:	NetIron OS	**Technology Group:**	Layer 3 Routing/Network Layer
Reported in Release:	NI 06.0.00f	**Technology:**	BGP4 - IPv4 Border Gateway Protocol
Symptom:	Management Module may unexpectedly reload with the following stack trace:- 20f6c5a0: bgp_clear_out_policy_soft_outbound_callback(pc) 21044e2c: bgp_tree_partial_traverse(lr) 21044e2c: bgp_tree_partial_traverse 20f6cad0: bgp_clear_out_policy_soft_outbound 20f6c400: bgp_clear_one_neighbor_number_soft_outbound 20fd34c0: bgp_timer 20fd2aa0: bgp_timeout_func 20ba3ac0: itc_process_msgs_internal 20ba3f6c: itc_process_msgs 210275d8: bgp_task 00005e18: sys_end_task		
Condition:	It is observed rarely while adding new BGP peers to the router and executing the BGP soft clear command like below:- clear ip bgp neighbor x.x.x.x soft-outbound		

Parent Defect ID:	NI-19279	**Issue ID:**	NI-21587
Severity:	S3 - Medium		
Product:	NetIron OS	**Technology Group:**	Layer 3 Routing/Network Layer
Reported in Release:	NI 05.7.00e	**Technology:**	OSPFv3 - IPv6 Open Shortest Path First
Symptom:	Management Module may unexpectedly reload with the following stack trace:- 21112da8: ospf6_listnode_delete_count(pc) 21112f40: ospf6_lsdb_remove(lr) 21112f40: ospf6_lsdb_remove 21113644: ospf6_lsdb_install 2111f0f4: ospf6_dbex_receive_lsa 2111f80c: ospf6_ls_upd 2112069c: ospf6_message_process 21104644: ospf6_router_receive_packet_callback 20a55c34: itc_process_msgs_internal 20a55f6c: itc_process_msgs 21103e0c: ospf6_task 00005e18: sys_end_task		
Condition:	OSPFv3 Cost changes on a scaled network		

Parent Defect ID:	NI-17371	**Issue ID:**	NI-21600
Severity:	S3 - Medium		
Product:	NetIron OS	**Technology Group:**	Layer 3 Routing/Network Layer
Reported in Release:	NI 06.0.00f	**Technology:**	IPv6 Addressing
Symptom:	IPv6 neighborship may not be established		
Condition:	When IPv6 neighbor solicitation request is received from the peer with source address same as configured interface IPV6 address		

Parent Defect ID:	NI-9624	**Issue ID:**	NI-21601
Severity:	S2 - High		
Product:	NetIron OS	**Technology Group:**	Layer 3 Routing/Network Layer
Reported in Release:	NI 06.0.00e	**Technology:**	OSPF - IPv4 Open Shortest Path First
Symptom:	Management Module may unexpectedly reload with the following stack trace:- 210ea558: ospf_free_route_entry(pc) 210e97c4: ospf_delete_dspt_asbr_entry_callback(lr) 210e97c4: ospf_delete_dspt_asbr_entry_callback 2033fff4: ip4_delete_entire_trie 210e9830: ospf_clear_dspt_asbr_routing_table 210e52d8: ospf_dspt_clear_whole_table 22077304: ospf_lsp_shortcut_destroy 2109ccc8: ospf_disable_operation_of_ospf_protocol 210fbaf8: restart_ospf 210fbb58: clear_ospf_all 210c36fc: cu_clear_ospf_all_callback 20ba069c: itc_process_msgs_internal 20ba0b48: itc_process_msgs 210ba678: ospf_task 00005e18: sys_end_task		
Condition:	It is observed rarely on a MLX/XMR device, 1. With high scale of routes in a MCT, VRF and OSPF configured device 2. On restarting the OSPF process ex: clear ip ospf vrf vrf-name all		

Parent Defect ID:	NI-21614	**Issue ID:**	NI-21615
Severity:	S3 - Medium		
Product:	NetIron OS	**Technology Group:**	Layer 3 Routing/Network Layer
Reported in Release:	NI 06.0.00hb	**Technology:**	BGP4 - IPv4 Border Gateway Protocol
Symptom:	Line card module may reload unexpectedly with the following stack trace: 20ed7218: ip_check_if_all_children_keys_are_in_cam(pc) 20f30418: ip_add_entry_in_routing_table_trie(lr) 20f2fe68: ip_add_entry_in_routing_table_trie 20f32f90: ip_search_and_traverse_trie 20f335d4: ip4_search_and_traverse_trie 20e0a708: ip_route_checksum 20ed0900: tree_veri_func 20ed1838: tree_veri_func_unicast 20bd61b4: process_dy_veri_packet 20c1ce8c: ipc_multi_module_handler 20c1f400: ipc_process_messages 20c1fbdc: ipc_receive_packet 20036ee8: ge_process_ipc_data_msg 207f528c: lp_ipc_task 00040158: sys_end_task		
Condition:	It is observed rarely on a MLX device during route sync-up in the presence of VRF routes with BGP		

Parent Defect ID:	NI-21619	**Issue ID:**	NI-21620
Severity:	S3 - Medium		
Product:	NetIron OS	**Technology Group:**	Layer 3 Routing/Network Layer
Reported in Release:	NI 06.3.00	**Technology:**	BGP4 - IPv4 Border Gateway Protocol
Symptom:	unreachable BGP route count may not be correct in show CLI output.		
Condition:	In the presence of BGP filtered route (denying via prefix-list) with unresolvable Next Hop.		

Parent Defect ID:	NI-8935	**Issue ID:**	NI-21671
Severity:	S2 - High		
Product:	NetIron OS	**Technology Group:**	SDN
Reported in Release:	NI 05.8.00e	**Technology:**	OpenFlow
Symptom:	Sometimes Open flow rules may not get installed		
Condition:	On receiving the update action within a second, while processing the same Open flow rule with same priority and priority should be less that the existing flow		
Workaround:	NA		

Closed with code changes NI6.3.00a1

This section lists software defects with Critical, High, and Medium Technical Severity closed with a code change as of August 2019 in NetIron OS 6.3.00a1.

Parent Defect ID:	NI-21342	**Issue ID:**	NI-21342
Severity:	S2 - High		
Product:	NetIron OS	**Technology Group:**	Security
Reported in Release:	NI 06.3.00a1	**Technology:**	IPsec - IP Security
Symptom:	The certficate signing request (CSR) generated by MLXe has digest calculated using SHA1 instead of using SHA256 or SHA384.		
Condition:	When user issue pki enroll command to enroll for X509v3 certficate.		

Parent Defect ID:	NI-21405	**Issue ID:**	NI-21405
Severity:	S3 - Medium		
Product:	NetIron OS	**Technology Group:**	Security
Reported in Release:	NI 06.3.00a1	**Technology:**	IPsec - IP Security
Symptom:	Sometime when MLXe is configured as a Responder only for IKEv2, IPsec tunnel will not be established when X509v3 certificates are used for peer authentication.		
Condition:	MLXe configured as a Responder Only for IKEv2 and X509v3 certficates are used for peer authentication.		
Workaround:	Stop and restart IPsec tunnel establishment from the remote peer who is initiator or make MLXe as a initiator.		

Parent Defect ID:	NI-21424	**Issue ID:**	NI-21424
Severity:	S3 - Medium		
Product:	NetIron OS	**Technology Group:**	Security
Reported in Release:	NI 06.3.00a1	**Technology:**	IPsec - IP Security
Symptom:	Sometime IPsec Tunnel can be established with a remote peer that has sent invalid X509v3 certificate in case where the remote client has in last 10 minutes sent a valid X509v3 certficate.		
Condition:	Establishment of IPsec tunnel by remote peer with a valid X509v3 certificate followed by teardown of the IPsec tunnel and then re-establishment of same IPsec tunnel by same remote peer with an invalid X509v3 certficate within 10 minutes of previous successfull IPsec tunnel setup with the valid X509v3 certficate.		
Workaround:	Issue " clear ikev2 sa" before IPsec tunnel is re-established.		

Parent Defect ID:	NI-21426	**Issue ID:**	NI-21426
Severity:	S2 - High		
Product:	NetIron OS	**Technology Group:**	Layer 3 Routing/Network Layer
Reported in Release:	NI 06.3.00a1	**Technology:**	ARP - Address Resolution Protocol
Symptom:	IPv6 Traffic is dropped when a lag which is member of a VE interface goes down due to IPv6 Neighbor Discovery Table entries are not updated to point to an alternative outgoing physical port which is up and member of same VE interface.		
Condition:	Lag which is member of VE and currently selected outgoing physical port of a IPv6 neighbor discovery entries must go down and another physical port of VE which is up is selected as a the new outgoing physical port for the ND6 entries.		
Workaround:	Issue " clear ipv6 neighbor ve <ve interface number>"		