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Brocade MLX Series and NetIron Family

Documentation Updates

Supporting Multi-Service IronWare R05.5.xx

BROCADE

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Document History

Title	Publication number	Summary of changes	Date
<i>Brocade MLX Series and NetIron Family Documentation Updates</i>	53-1003096-01	New document.	11 October 2013
<i>Brocade MLX Series and NetIron Family Documentation Updates</i>	53-1003096-02	Added defect correction in the Hardware Installation chapter.	18 November 2013

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How this document is organized

This document contains updates to the Multi-Service IronWare R05.5.xx product manuals. These updates include document fixes and changes covering new features. [Table 1](#) below list the most recently released Multi-Service IronWare R05.5.xx product manuals.

TABLE 1 Documentation supporting Multi-Service IronWare R05.5.xx

Publication Title	Fabric OS Release	Page Number	Publication Date
<i>Multi-Service IronWare Administration Configuration Guide</i>	R05.5.00c and later	Updates on page 1 .	July 2013
<i>Multi-Service IronWare Multiprotocol Label Switch (MPLS) Configuration Guide</i>	R05.5.00c and later	Updates on page 1 .	July 2013
<i>Multi-Service IronWare IP Multicast Configuration Guide</i>	R05.5.00c and later	Updates on page 1 .	July 2013
<i>Multi-Service IronWare Routing Configuration Guide</i>	R05.5.00c and later	Updates on page 1 .	July 2013
<i>Multi-Service IronWare Software Defined Networking (SDN) Configuration Guide</i>	R05.5.00c and later	Updates on page 1 .	July 2013
<i>Multi-Service IronWare Security Configuration Guide</i>	R05.5.00c and later	Updates on page 1 .	July 2013
<i>Multi-Service IronWare Switching Configuration Guide</i>		Updates on page 1 .	July 2013
<i>Multi-Service IronWare QoS and Traffic Management Configuration Guide</i>		Updates on page 1 .	July 2013
<i>Brocade MLXe Series Hardware Installation Guide</i>	R05.5.00c and later	Updates on page 15	September 2013
<i>Brocade MLX Series and NetIron XMR Hardware Installation Guide</i>	R05.5.00c and later	Updates on page 15	September 2013
<i>Brocade NetIron CES Series and NetIron CER Series Hardware Installation Guide</i>	R05.5.00c and later	Updates on page 15	September 2013
<i>Multi-Service IronWare Software Upgrade Guide</i>	R05.5.00c and later	No Updates	July 2013
<i>Brocade MLX Series and NetIron XMR Diagnostics Guide</i>	R05.5.00c and later	No Updates	July 2013
<i>Unified IP MIB Reference</i>	R05.5.00c and later	Updates on page 11	July 2013
<i>Brocade MLX Series and NetIron XMR YANG Guide</i>	R05.5.00c and later	No Updates	July 2013

Brocade resources

For the latest documentation, go to <http://www.brocade.com/ethernetproducts>

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Provide the title and version number of the document and as much detail as possible about your comment, including the topic heading and page number and your suggestions for improvement.

Documentation Updates for the Brocade MLX Series and NetIron Family Configuration Guide

In this chapter

The updates in this chapter are for the following Configuration guides.

- Administration Configuration Guide - publication number 53-1002818-02
- Switching Configuration Guide - publication number 53-1002820-02
- Routing Configuration guide - publication number 53-1002821-02
- Multiprotocol Label Switch (MPLS) Configuration Guide - publication number 53-1002824-02
- IP Multicast Configuration Guide - publication number 563-1002823-02
- Security Configuration Guide - publication number 53-1002818-02
- QoS and Traffic Management Configuration Guide - publication number 53-1002822-02
- Software Defined Networking Guide - publication number 53-1002825-01

The following features were added or modified as part of the 5.5.00d release.

- [“IPv6 ND Router Advertisement Control”](#) on page 2
- [“MSTP”](#) on page 2
- [“MSTP support for PBB”](#) on page 3
- [“VRRP and VRRP-E VRIDs”](#) on page 3
- [“Data Integrity Protection for Metro”](#) on page 3
- [“Configuring FDP”](#) on page 6
- [“Enabling interception of CDP packets globally”](#) on page 7
- [“Configuring VPLS endpoint over FDP/CDP interface”](#) on page 8
- [“Configuring VLL endpoint over FDP/CDP enabled interface”](#) on page 9

IPv6 ND Router Advertisement Control

IPv6 ND Router Advertisement Control allows for disabling sending out router advertisements at the interface level. The **no ipv6 nd suppress-ra** command at the interface level allows the user to disable and enable the sending of the ND Router Advertisement on an interface. By default, the sending of ND Router Advertisement (RA) is enabled on all interfaces, except for the tunnel and loopback interfaces, providing that the IPv6 Unicast Routing is enabled and the interfaces are active for IPv6.

The IPv6 ND Router Advertisement Control gives the ability to quickly turn off the sending of IPv6 ND Router Advertisement message on an IPv6 enabled interfaces.

By default,

- The ND Router Advertisement is enabled.
- Interface is enabled to send ND Router Advertisements.
- The **ipv6 nd suppress-ra** and **ipv6 nd send-ra** interface commands, when configured, override the system and VRF global **ipv6 nd global-suppress-ra** command.

Users sometimes require the ability to quickly turn off the sending of IPv6 ND Router Advertisement message on an IPv6 enabled interfaces. This is achieved by providing the following additional configuration command at interface level:

```
Brocade(config-if-e10000-1/1)#no ipv6 nd suppress-ra
```

The **ipv6 nd send-ra** command is a new interface level command added as part of this enhancement. This allows the user to configure the sending of RA messages on some selected interfaces when the **ipv6 nd global-suppress-ra** command is set to disable the sending of RA messages on all other interfaces.

Syntax: [no]ipv6 nd suppress-ra

MSTP

The following updates apply to the “MSTP support for PBB” in the STP chapter of the Switching guide.

The following limitation has been removed:

- Under MSTP topic, we need to create another section at the last as below

The following section has been added:

High availability

MSTP supports MP switchover and hitless software upgrade. When an MSTP root bridge undergoes MP switchover and hitless upgrade, there will be no break in transmission of the MSTP BPDU during reboot of the line cards. Due to this, there will be no re-convergence of the topology and no disruption in traffic.

MSTP PBB with multi region feature also supports MP switchover and hitless software upgrade. There will be no traffic disruption during a hitless upgrade.

MSTP support for PBB

The following configuration consideration has been added.

MSTP should not be configured for:

- topology groups having L2 member vlans
- member vlans configured in a topology group. A

If a topology group is configured with a master vlan running MSTP, layer 2 (L2) VLANs should not be configured as members until MSTP is disabled on the master VLAN of this topology group. Such configurations via CLI are blocked.

VRRP and VRRP-E VRIDs

The following configuration consideration has been added to the VRRP chapter.

NOTE

With VRRP or VRRP-E the maximum numbers of VRIDs per logical interface is 12.

Data Integrity Protection for Metro

The following section is an update to the Data Integrity Protection section of Chapter 3 in the NetIron 5.4.00 Configuration Guide.

1 Data Integrity Protection for Metro

TABLE 1 Feature support table

Features supported	Brocade NetIron XMR Series	Brocade MLX Series	Brocade NetIron CES 2000 Series BASE package	Brocade NetIron CES 2000Series ME_PREM package	Brocade NetIron CES 2000 Series L3_PREM package	Brocade NetIron CER 2000 Series BASE package	Brocade NetIron CER 2000 Series Advanced Services package
Data Integrity Protection for Metro - Phase 2	No	No	Yes	Yes	Yes	Yes	Yes

Data Integrity Protection for Metro for Phase 2 introduces the ability to monitor low level memory corruption events occurring at the external Control Static Random Access Memory (CSRAM) in both Brocade NetIron CER and Brocade NetIron CES. Additionally, monitoring of the Longest Prefix Match (LPM) Memories are included as part of this feature.

There are a total of four LPM memories in total (LPM-0 to LPM-3). Brocade NetIron CER devices uses LPM-0 to LPM-2, which are on external memory chip. Brocade NetIron CES devices use LPM-3 only, which is internal. Brocade NetIron CES devices do not have external LPM memories.

Rolling windows are maintained for each of the monitor points. When any of the monitor points cross their configured thresholds SYSLOGs and traps are generated.

The CSRAM is used to store control tables and data structures in both Brocade NetIron CER and Brocade NetIron CES devices for extended capacity. The tables reside in an external DDR II/II + SRAM with a 36-bit data bus and are accessed by various engines in PPCR. The following are some tables/data structures stored in CSRAM.

- FDB Table and FDB Hash Table (MAC Table)
- DIT Data Structures (Down Stream Table)
- External INLIF Table (Interface Attributes)
- Ingress Policy Action Table
- Egress Policy Action Table
- IP/MPLS Next Hop Table
- TTI Engine Action Table

Brocade NetIron CER devices have three LPM Memories. The memories are 19-bit DDR II SRAMs. These memories hold the following data structures:

- IP Prefix Trees (for IP forwarding)
- MPLS Interfaces (for MPLS LSR switching)

Data Integrity Protection for Metro for Phase 2 extends the already existing Data Protection feature for Ingress and Egress data buffers to include the CSRAM and the LPM memories. Rolling windows are maintained for each of the monitor points. When any of the monitor points cross their configured threshold, SYSLOGs and traps are generated accordingly.

Configuring Data Integrity Protection for Metro

1. Configure the Global Rolling Window Time Frame.
2. Configure the threshold parameters for CSRAM and/or LPM memories.

Configuration commands

The following configuration commands are introduced to configure various parameters.

The **system np control-ram-threshold** command configures the CSRAM error reporting threshold.

```
Brocade(config)# system np control-ram-threshold 20
```

Syntax: **[no] system np control-ram-threshold** *threshold*

The threshold range is 0 - 120 events. The default is 10 events. A value of 0 disables the monitoring.

The **[no]** option resets the threshold to default.

The **system np lpm-ram-threshold** command configures the LPM error reporting threshold.

```
Brocade(config)# system np control-ram-threshold 20
```

Syntax: **[no] system np lpm-ram-threshold** *threshold*

The threshold range is 0 - 120 events. The default is 10 events. A value of 0 disables the monitoring.

The **[no]** option resets the threshold to default.

Show commands

The following show commands have been added to the feature.

show np control-ram-errors

The **show np control-ram-errors** command displays the Control RAM error event counter.

```
CSRAM
Ports          Current Cumulative
1/1 - 1/24     0         3
2/1 - 2/2     0         0
```

show np lpm-ram-errors

The **show np lpm-ram-errors** command displays the LPM RAM error event counter.

```
Ports          LPM 0          LPM 1          LPM 2
Current Cumulative Current Cumulative Current Cumulative
1/1 - 1/24     0         3         0         3         0         3
2/1 - 2/2     0         3         0         3         0         3
```

Syslog messages

The following are examples of Syslog messages that may be displayed.

```
NP CSRAM has 4 error events, exceeding configured threshold for interfaces 1/1 to 1/24.
```

```
NP LPM 1 has 4 error events, exceeding configured threshold for interfaces 1/1 to 1/24.
```

RPF

Configuration considerations for RPF

The following configuration consideration has changed.

The item stating Brocade MLX series and Brocade NetIron XMR devices do not support uRPF for VE interfaces is incorrect. The following configuration consideration replaces the incorrect information.

- RPF can only be configured at the physical port level. It should not be configured on virtual interfaces on the Brocade MLX series and Brocade NetIron XMR.
- Brocade MLX series and Brocade NetIron XMR devices support uRPF for VE interfaces, but they must be configured at the physical port level.

Keep-alive VLAN

The following configuration consideration has been added.

NOTE

A port in keep-alive-vlan cannot be assigned to another VLAN.

Configuring FDP

The following section describes how to enable FDP and how to change the FDP update and hold timers.

Enabling FDP globally

To enable a Brocade device to globally send FDP packets, enter the following command at the global CONFIG level of the CLI.

```
Brocade(config)# fdp run
```

The feature is disabled by default.

NOTE

If FDP is globally enabled on a Brocade device, all the interfaces by default, will have FDP enabled on it. In this case, the **show run** command will not display any running information about the FDP configuration in its output.

Enabling FDP at the interface level

You can enable FDP at the interface level by entering the following commands.

```
Brocade(config)# int e2/1
Brocade(config-if-e10000-2/1)# fdp enable
```

Syntax: [no] fdp enable

By default, the feature is enabled on an interface once FDP is enabled on the device. It is not enabled globally.

NOTE

To remove an interface from the global configuration, run the **no fdp enable** command in the interface mode explicitly. In this case, the **show run** displays the running configuration information for the specific interface at that instance.

NOTE

By removing FDP from the configuration, the **no fdp enable** stays in the configuration of the VPLS endpoint, which cannot be removed.

NOTE

FDP is not supported on VPLS/VLL endpoints.

Enabling interception of CDP packets globally

To enable the device to intercept and display CDP packets, enter the following command at the global CONFIG level of the CLI.

```
Brocade(config)# cdp run
```

Syntax: [no] cdp run

The feature is disabled by default.

NOTE

If CDP is globally on a Brocade device, all of the interfaces, by default, will have CDP enabled on it. In this case, the **show run** will not display any running information about CDP configuration in its output.

Enabling interception of CDP packets on an interface

You can disable and enable CDP at the interface level.

You can enter the following commands.

```
Brocade(config)# int e2/1
```

1 Configuring VPLS endpoint over FDP/CDP interface

```
Brocade(config-if-e10000-2/1)# cdp enable
```

Syntax: [no] cdp enable

By default, the feature is enabled on an interface on CDP is enabled on the device.

NOTE

To remove an interface from the global CDP configuration, run the **no cdp enable** command in the interface mode explicitly. In this case, the **show run** displays the running configuration information for the specific interface at that instance.

NOTE

By removing FDP from the configuration, the **no cdp enable** stays in the configuration of the VPLS endpoint, which cannot be removed.

NOTE

CDP is not supported on VPLS/VLL endpoints.

Configuring VPLS endpoint over FDP/CDP interface

Configuring VPLS endpoint over a FDP/CDP enabled interface will implicitly disable the FDP/CDP configuration on that specific interface for that instance, considering FDP/CDP is enabled globally. In this case, the **show run** command will display the running configuration information as shown below.

The following examples explains the **show run** output for different instances:

- The **show run** output when the VPLS endpoint is configured over a globally enabled FDP/CDP interface:

```
Brocade(config-mpls-vpls-svlan-vlan-100)# tag eth 4/3 eth 4/5 eth 4/7
FDP/CDP is disabled on port 4/3
FDP/CDP is disabled on port 4/5
FDP/CDP is disabled on port 4/7
```

- The **show run** output when the VPLS endpoint is configured over a globally enabled FDP/CDP interface:

```
Brocade(config-mpls-vpls-svlan-vlan-100)# tag eth 4/3 eth 4/5 eth 4/7
FDP/CDP is disabled on port 4/3
FDP/CDP is disabled on port 4/5
FDP/CDP is disabled on port 4/7
```

- The **show run** output when the VPLS output is removed over a globally enabled FDP/CDP interface:

```
FDP/CDP is enabled on port 4/3
FDP/CDP is enabled on port 4/5
FDP/CDP is enabled on port 4/7
```

- The **show run** output when the VPLS endpoint is removed over a globally enabled FDP/CDP interface:

```
FDP/CDP is enabled on port 4/3
FDP/CDP is enabled on port 4/5
FDP/CDP is enabled on port 4/7
```


NOTE

If an VPLS endpoint is configured over a globally enabled FDP/CDP interface, the show run will not display FDP/CDP information for that specific interface until the VPLS endpoint is deleted. On deleting the VPLS endpoints, the previous FDP/CDP configuration is retained over that specific interface and the show run displays the FDP/CDP information again for that interface.

NOTE

By removing the FDP/CDP from the configuration, the **no cdp enable** or **no fdp enable** stays in the configuration of the VPLS endpoint, both of which cannot be removed.

Configuring VLL endpoint over FDP/CDP enabled interface

Configuring VLL endpoint over an FDP/CDP enabled interface will implicitly disable the FDP/CDP configuration and also will be enable back implicitly when the VLL endpoint is deleted on that specific interface, considering the FDP/CDP is enabled globally.

Information messages will be displayed to notify the user as below in these cases:

For example, when VLL endpoint is created, the information messages are as below.

1. When only FDP is enabled globally

```
Brocade(config-mpls-vll-vll11-vlan-100)# tag eth 4/3 eth 4/5 eth 4/7
info- FDP is disabled on port 4/3
info- FDP is disabled on port 4/5
info- FDP is disabled on port 4/7
```

2. When only CDP is enabled globally

```
Brocade(config-mpls-vll-vll11-vlan-100)# tag eth 4/3 eth 4/5 eth 4/7
info- FDP is disabled on port 4/3
info- FDP is disabled on port 4/5
info- FDP is disabled on port 4/7
```

3. When both FDP/CDP are enabled globally

```
Brocade(config-mpls-vll-vll11-vlan-100)# tag eth 4/3 eth 4/5 eth 4/7
info- FDP is disabled on port 4/3
info- FDP is disabled on port 4/5
info- FDP is disabled on port 4/7
```

For example, when the VLL endpoint is deleted the information messages are displayed as below.

1. When only FDP is enabled globally

```
Brocade(config-mpls-vll-vll11-vlan -100)# no tag eth 4/3 eth 4/5 eth 4/7
info - FDP is enabled on port 4/3
info - FDP is enabled on port 4/5
info - FDP is enabled on port 4/7
```

2. When only CDP is enabled globally

```
Brocade(config-mpls-vll-vll11-vlan-100)# no tag eth 4/3 eth 4/5 eth 4/7
info - FDP is enabled on port 4/3
```

1 Configuring VLL endpoint over FDP/CDP enabled interface

```
info - FDP is enabled on port 4/5  
info - FDP is enabled on port 4/7
```

3. When both FDP/CDP are enabled globally

```
Brocade(config-mpls-vll-vll1-vlan-100)# no tag eth 4/3 eth 4/5 eth 4/7  
info - FDP/CDP is enabled on port 4/3  
info - FDP/CDP is enabled on port 4/5  
info - FDP/CDP is enabled on port 4/7
```

NOTE

If the VLL endpoint is configured over a globally enabled FDP/CDP interface, the show run command does not display the FDP/CDP information for that specific interface.

NOTE

By removing FDP/CDP from the configuration, the **no fdp enable** and **no cdp enable** stays in the configuration of the VPLS endpoints, which cannot be removed.

Documentation Updates for the Unified IP MIB Reference

In this chapter

The updates in this chapter are for the *Unified IP MIB Reference*, publication number 53-1002648-02, published June 2013.

- “Agent board table” on page 11

Agent board table

Updated snAgentBrdIndex (OID brcdIp.1.1.2.2.1.1.1) object index range from 1 through 42 in the snAgentBrdTable.

brcdNPCSRAMErrorTable (to query for NP CSRAM errors)

The brcdNPCSRAMErrorTable displays information of Network Processor (NP) Control Static Random Access Memory (CSRAM) MIB objects.

NOTE

The following MIB objects are supported on the Brocade NetIron CES and Brocade NetIron CER devices.

Name, OID, and syntax	Access	Description
brcdNPCSRAMErrorTable brcdIp.1.14.2.1.1.4	None	The table contains information of various Network Processor (NP) CSRAM error event counters supported by the system. The objects in this table are refreshed every second, based on request. This table is only supported on CES/CER.
brcdNPCSRAMErrorSlotId brcdIp.1.14.2.1.1.4.1.1 Syntax: Unsigned32	None	Slot-ID of the module that uniquely identifies it in the system. The module must be a UP and physically present. This is an 1-based index.
brcdNPCSRAMErrorDeviceId brcdIp.1.14.2.1.1.4.1.2 Syntax: Unsigned32	None	The Network Processor device-ID. A number that uniquely identifies the NP within a module in the system. This is an 1-based index.
brcdNPCSRAMErrorDescription brcdIp.1.14.2.1.1.4.1.3 Syntax: DisplayString	Read-only	Details the range of ports serviced by the NP identified by brcdNPCSRAMErrorSlotId and brcdNPCSRAMErrorDeviceId objects.

2 brcdNPLPMRAMErrorTable (to query for NP LPM-RAM errors)

Name, OID, and syntax	Access	Description
brcdNPCSRAMErrorCurrentEvents brcdIp.1.14.2.1.1.4.1.4 Syntax: Counter32	Read-only	Counter for NP CSRAM errors recorded within a configured window.
brcdNPCSRAMErrorCumulativeEvents brcdIp.1.14.2.1.1.4.1.5 Syntax: Counter32	Read-only	Counter for total NP CSRAM errors recorded.

brcdNPLPMRAMErrorTable (to query for NP LPM-RAM errors)

NOTE

The following MIB objects are supported only on the Brocade NetIron CES and Brocade NetIron CER devices.

Name, OID, and syntax	Access	Description
brcdNPLPMRAMErrorTable brcdIp.1.14.2.1.1.5	None	A list of brcdNPLPMRAMError entries. The table contains information of various LPM RAM error event counters supported by the Network processor in the system. The objects in the table are refreshed every second, based on the request.
brcdNPLPMRAMErrorIndex brcdIp.1.14.2.1.1.5.1.1 Syntax: Unsigned32	None	This object uniquely identifies a LPM within a Network Processor. Brocade NetIron CER devices use LPM-0, LPM-1 and LPM-2 memories, whereas Brocade NetIron CES devices use LPM-3 memory. This is an 1-based index. Index value of 1 maps to LPM0, 2 maps to LPM1 and so on.
brcdNPLPMRAMErrorSlotId brcdIp.1.14.2.1.1.5.1.1 Syntax: Unsigned32	None	Slot-ID of the module that is uniquely identifies it in the system. The module must be a UP and physically present. This is an 1-based index.
brcdNPLPMRAMErrorDeviceId brcdIp.1.14.2.1.1.5.1.1 Syntax: Unsigned32	None	The Network Processor device-ID. A number that uniquely identifies the NP within a module in the system. This is an 1-based index.
brcdNPLPMRAMErrorName brcdIp.1.14.2.1.1.5.1.1 Syntax: DisplayString	Read-only	Details a string representing the LPM identified by brcdNPLPMRAMErrorIndex.
brcdNPLPMRAMErrorDescription brcdIp.1.14.2.1.1.5.1.1 Syntax: DisplayString	Read-only	Details the range of ports serviced by the NP identified by brcdNPLPMRAMErrorSlotId and brcdNPLPMRAMErrorDeviceId objects.
brcdNPLPMRAMErrorCurrentEvents brcdIp.1.14.2.1.1.5.1.1 Syntax: Counter32	Read-only	Counter for the error events recorded within a configured window in the LPM identified by brcdNPLPMRAMErrorIndex, brcdNPLPMRAMErrorSlotId, and brcdNPLPMRAMErrorDeviceId objects.
brcdNPLPMRAMErrorCumulativeEvents brcdIp.1.14.2.1.1.5.1.1 Syntax: Counter32	Read-only	Counter for the error events recorded within a configured window in the LPM identified by brcdNPLPMRAMErrorIndex, brcdNPLPMRAMErrorSlotId, and brcdNPLPMRAMErrorDeviceId objects.

Traps

The following new traps are added to report the CSRAM and LPMRAM errors on the Brocade NetIron CES and Brocade NetIron CER devices.

Trap name and number	Object ID	Severity	Description
brcdNPCSRAMErrorThresholdExceeded brcdIp.1.14.2.0.3	brcdNPCSRAMErrorDescription, brcdNPCSRAMErrorCurrentEvents	Alerts	The SNMP trap that is generated when the Network Processor CSRAM error event count within a window exceeds the configured threshold. Sample syslog message: NP CSRAM has 4 error events, exceeding configured threshold for interfaces 1/1 to 1/24.
brcdNPLPMRAMErrorThresholdExceeded brcdIp.1.14.2.0.4	brcdNPLPMRAMErrorName, brcdNPLPMRAMErrorDescription, brcdNPLPMRAMErrorCurrentEvents	Alerts	The SNMP trap that is generated when the Network Processor LPMRAM error event count within a window exceeds the configured threshold. Sample syslog message: NP LPM 1 has 4 error events, exceeding configured threshold for interfaces 1/1 to 1/24.

2 brodNPLPMRAMErrorTable (to query for NP LPM-RAM errors)

Documentation Updates for the MLX Series and NetIron XMR Series Hardware Installation Guide

In this chapter

The updates in this chapter are for the *Brocade MLX Series and Brocade NetIron XMR Hardware Installation Guide*, publication number 53-1002424-03, published May 2012.

- Brocade NetIron CES and Brocade NetIron CER Devices Hardware Guide - publication number 53-0000080-03
- Brocade MLXe Series Hardware installation Guide - publication number 53-0000070-03
- Brocade MLX Series and Brocade NetIron XMR Hardware Installation Guide - publication guide 53-0000040-03

Switch fabric modules

The following table note is added to the “blinking” state of the switch fabric module LED in the Product Overview chapter of the Brocade MLX Series and Brocade NetIron XMR Hardware Installation Guide.

TABLE 1 Switch fabric module LEDs

LED	Position	State	Meaning
Active	Below Pwr LED	On (4-, 8-, and 16-slot routers only)	The switch fabric is on (active) and ready to switch user packets.
		On (32-slot routers only)	The switch fabric is on (active) and ready to switch user packets.
		Blinking (32-slot routers only)	The switch fabric is on (active) and being accessed by the Management Module CPU. This indicates normal operation. NOTE: On devices supporting software version R05.3.00 and earlier, when you insert an SFM or during powering on the device, the Active LED was off for a short duration, up to 15 seconds because the monitoring of the Fabric module is stopped for this duration. After this delay, the LED indicated the monitoring status. In version R05.4.00 and later, the Active LED reads the switch fabric continuously even during module insertion or powering on the device, and thus the Active LED blinks.
		Off for extended period	The switch fabric is not active and cannot switch user packets.

Cable specifications

The following caution has been added to Chapter 6 Connecting a Router to a Network Device.



CAUTION

Before plugging a cable to any port, be sure to discharge the voltage stored on the cable by touching the electrical contacts to ground surface.

Managing Routers and Modules

NOTE

Wait at least 10 seconds before issuing the **power-off** command and the **power-on** command.

Maintenance and Field Replacement

NOTE

Wait at least 10 seconds before issuing the **power-off** command and the **power-on** command.

Enabling and disabling management module CPU usage calculations

Removed the following note:

NOTE

When you are finished gathering statistics for debugging purposes, it is recommended that you disable the usage averaging calculations, which are CPU-intensive and can affect the performance of the management module.

Brocade MLX Series and NetIron XMR supplemental upgrade procedures

Upgrading MBRIDGE or MBRIDGE32 images on management modules

NOTE

Always use TELNET on the MLX-32 chassis (instead of SSH). PROM write operations consume substantial CPU cycles, starving other tasks such as SSH. The end result includes timeouts within affected tasks. TELNET does not have similar issues (i.e. hello exchanges) and hence is not impacted.

3 Brocade MLX Series and NetIron XMR supplemental upgrade procedures

Documentation Updates for the Brocade MLX Series and Brocade NetIron XMR Diagnostic Guide

In this chapter

The updates in this chapter are for the *Brocade MLX Series and Brocade NetIron XMR Diagnostic Guide*, publication number 53-1002828-01, published July 2013.

4 In this chapter