Extreme NetIron Features and Standards Support Matrix

Supporting NetIron OS 06.1.00 and previous releases

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Document conventions

The document conventions describe text formatting conventions, command syntax conventions, and important notice formats used in Extreme technical documentation.

Notes, cautions, and warnings

Notes, cautions, and warning statements may be used in this document. They are listed in the order of increasing severity of potential hazards.

NOTE
A Note provides a tip, guidance, or advice, emphasizes important information, or provides a reference to related information.

ATTENTION
An Attention statement indicates a stronger note, for example, to alert you when traffic might be interrupted or the device might reboot.

CAUTION
A Caution statement alerts you to situations that can be potentially hazardous to you or cause damage to hardware, firmware, software, or data.

DANGER
A Danger statement indicates conditions or situations that can be potentially lethal or extremely hazardous to you. Safety labels are also attached directly to products to warn of these conditions or situations.

Text formatting conventions

Text formatting conventions such as boldface, italic, or Courier font may be used to highlight specific words or phrases.

Format	Description
bold text	Identifies command names.
	Identifies keywords and operands.
	Identifies the names of GUI elements.
	Identifies text to enter in the GUI.
italic text	Identifies emphasis.
	Identifies variables.
	Identifies document titles.
`Courier font`	Identifies CLI output.

Format	Description
	Identifies command syntax examples.

Command syntax conventions

Bold and italic text identify command syntax components. Delimiters and operators define groupings of parameters and their logical relationships.

Convention	Description
bold text	Identifies command names, keywords, and command options.
italic text	Identifies a variable.
[ ]	Syntax components displayed within square brackets are optional. Default responses to system prompts are enclosed in square brackets.
{ **x** | **y** | **z** }	A choice of required parameters is enclosed in curly brackets separated by vertical bars. You must select one of the options.
x | **y**	A vertical bar separates mutually exclusive elements.
< >	Nonprinting characters, for example, passwords, are enclosed in angle brackets.
...	Repeat the previous element, for example, *member*[*member*...].
\	Indicates a "soft" line break in command examples. If a backslash separates two lines of a command input, enter the entire command at the prompt without the backslash.

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 www.extremenetworks.com/support/documentation.

Document feedback

Quality is our first concern at Extreme, and we have made every effort to ensure the accuracy and completeness of this document. However, if you find an error or an omission, or you think that a topic needs further development, we want to hear from you.

You can provide feedback in two ways:

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

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

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Supported hardware and software

The hardware platforms in the following table are supported by this release of this guide.

TABLE 1 Supported devices

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

Supported software

For the complete list of supported features and the summary of enhancements and configuration notes for this release, refer to the *Extreme NetIron Release Notes*.

How command information is presented in this guide

Starting with Extreme NetIron 5.6.00, command syntax and parameter descriptions are removed from commands that are referenced in configuration tasks. To find the full description of a specific command, including all required and optional keywords and variables, refer to the *Extreme NetIron Command Reference* for your software release.

What's new in this document

This document describes the concepts and configuration of the Feature and Standards Matrix for NetIron.

On October 30, 2017, Extreme Networks, Inc. acquired the data center networking business from Brocade Communications Systems, Inc. This document has been updated to remove or replace references to Brocade Communications, Inc. with Extreme Networks., Inc., as appropriate.

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Configuration Fundamentals

Feature	XMR Series	MLX Series	CES 2000 Series BASE package	CES 2000 Series ME_PREM package	CES 2000 Series L3_PREM package	CER 2000 Series Base package	CER 2000 Series Advanced Services package
Interactivity mode prompt	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00
Designate Interface for Source Packets	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00
Command Alias	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00
Limit Broadcast, Multicast, or Unknown-Unicast rates	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00
CLI banners	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00
Terminal display	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00
Modify maximum table sizes for system parameters	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00
Verify image checksum	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00
Display Ethernet port data	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00
Display Ethernet port statistics	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00
Management VRF	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00
IPv4 Management VRF	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00
IPv6 Management VRF	05.5.00	05.5.00	No	No	No	No	No
Assign Port Name	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00
Modify Port Speeds	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00
Default Gigabit Negotiation Mode	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00
Flow Control	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00
Port Transition Hold Timer	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00
Port Flap Dampening	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00
10 GbE Interface Numbering	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00
Wait for all Cards	05.5.00	05.5.00	No	No	No	No	No
Port loop detection	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00
Auto negotiation speed limit	No	No	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00

Feature	XMR Series	MLX Series	CES 2000 Series BASE package	CES 2000 Series ME_PREM package	CES 2000 Series L3_PREM package	CER 2000 Series Base package	CER 2000 Series Advanced Services package
Add Management Interface for a user-defined VRF	05.6.00a	05.6.00a	05.6.00a	05.6.00a	05.6.00a	05.6.00a	05.6.00a
Show command output with terminal timestamp	05.9.00	05.9.00	05.9.00	05.9.00	05.9.00	05.9.00	05.9.00
MAC / IP Address Naming	05.9.00	05.9.00	05.9.00	05.9.00	05.9.00	05.9.00	05.9.00

CDP - Cisco Discovery Protocol

Feature	XMR Series	MLX Series	CES 2000 Series BASE package	CES 2000 Series ME_PREM package	CES 2000 Series L3_PREM package	CER 2000 Series Base package	CER 2000 Series Advanced Services package
[introduced]	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00
Displaying CDP Information	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00

FDP - Foundry Discovery Protocol

Feature	XMR Series	MLX Series	CES 2000 Series BASE package	CES 2000 Series ME_PREM package	CES 2000 Series L3_PREM package	CER 2000 Series Base package	CER 2000 Series Advanced Services package
Configurable CAM size for IPv4 and IPv6 multicast entries	05.5.00	05.5.00	No	No	No	No	No
HW aging	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00
Foundry Direct Routing	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00
CAM Partition Profiles	05.5.00	05.5.00	No	No	No	No	No
Supernet CAM Partition Sharing	05.5.00	05.5.00	No	No	No	No	No
CAM Overflow Logging	05.5.00	05.5.00	No	No	No	No	No
IPv6 Host CAM Enhancement	05.5.00	05.5.00	No	No	No	No	No
Enable FDP	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00
Read FDP	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00
Display FDP Information	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00

Licensing

Feature	XMR Series	MLX Series	CES 2000 Series BASE package	CES 2000 Series ME_PREM package	CES 2000 Series L3_PREM package	CER 2000 Series Base package	CER 2000 Series Advanced Services package
Software-based licensing	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00
Port based-licensing	05.5.00	05.5.00	No	No	No	No	No
License generation	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00
License query	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00
Delete a license	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00

LLDP - Link Layer Discovery Protocol

Feature	XMR Series	MLX Series	CES 2000 Series BASE package	CES 2000 Series ME_PREM package	CES 2000 Series L3_PREM package	CER 2000 Series Base package	CER 2000 Series Advanced Services package
[introduced]	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00

NETCONF - Network Configuration Protocol

Feature	XMR Series	MLX Series	CES 2000 Series BASE package	CES 2000 Series ME_PREM package	CES 2000 Series L3_PREM package	CER 2000 Series Base package	CER 2000 Series Advanced Services package
[introduced]	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00
Data models and mappings	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00

NTP - Network Time Protocol

Feature	XMR Series	MLX Series	CES 2000 Series BASE package	CES 2000 Series ME_PREM package	CES 2000 Series L3_PREM package	CER 2000 Series Base package	CER 2000 Series Advanced Services package
[introduced]	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00
Setting the system clock	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00
NTP in management VRF	06.1.00	06.1.00	06.1.00	06.1.00	06.1.00	06.1.00	06.1.00

SNMP - Simple Network Management Protocol

Feature	XMR Series	MLX Series	CES 2000 Series BASE package	CES 2000 Series ME_PREM package	CES 2000 Series L3_PREM package	CER 2000 Series Base package	CER 2000 Series Advanced Services package
SNMPv3	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00
User-Based Security Mode	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00
Community Strings to Authenticate SNMP Access	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00
New encryption code for passwords, authentication keys, and community strings	05.5.00	05.5.00	No	No	No	No	No
Defining an SNMP User Account	05.5.00	05.5.00	No	No	No	No	No
AES for SNMPv3	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00
Simple Network Management Protocol (SNMP) traps	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00
SNMP ifIndex	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00
SNMP scalability	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00
AES Encryption for SNMPv3	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00
SNMP Trap for Task Resource Utilization	05.8.00	05.8.00	05.8.00	05.8.00	05.8.00	05.8.00	05.8.00
SNMP enhancements	05.9.00	05.9.00	05.9.00	05.9.00	05.9.00	05.9.00	05.9.00

Software Upgrade

Feature	XMR Series	MLX Series	CES 2000 Series BASE package	CES 2000 Series ME_PREM package	CES 2000 Series L3_PREM package	CER 2000 Series Base package	CER 2000 Series Advanced Services package
Hitless Upgrade	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00
Simplified Upgrade	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00
LP Auto-upgrade	05.7.00	05.7.00	05.7.00	05.7.00	05.7.00	05.7.00	05.7.00

Monitoring

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Hardware Monitoring

netiron features *term*

Feature	XMR Series	MLX Series	CES 2000 Series BASE package	CES 2000 Series ME_PREM package	CES 2000 Series L3_PREM package	CER 2000 Series Base package	CER 2000 Series Advanced Services package
Optical Monitoring	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00
Optics Compatibility Checking	05.5.00	05.5.00	No	No	No	No	No
System low memory prevention and reporting	05.5.00	05.5.00	No	No	No	No	No
Switch Fabric Module (SFM) monitoring	05.5.00	05.5.00	No	No	No	No	No
Automatic switch fabric module shutdown	05.5.00	05.5.00	No	No	No	No	No
Switch Fabric Module (SFM) utilization monitoring	05.5.00	05.5.00	No	No	No	No	No
10 GbE WAN PHY Fault and Performance Management	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00
Display Network Processor Statistics	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00
Line module memory error monitoring	05.6.00	05.6.00	No	No	No	No	No
Data Integrity Protection for CER/CES - Phase 2	No	No	05.7.00	05.7.00	05.7.00	05.7.00	05.7.00
TM/NP Link Monitoring	05.7.00b	05.7.00b	No	No	No	No	No
100G-CFP2_ER Optics	No	05.9.00a[1]	No	No	No	No	No
DRBG Health Check on the LP & MP	05.9.00a	05.9.00a	05.9.00a	05.9.00a	05.9.00a	05.9.00a	05.9.00a
High CPU auto-detection on MP	06.0.00	06.0.00	No	No	No	No	No

[1] MLXe only

OAM - Operations, Administration, and Maintenance

Feature	XMR Series	MLX Series	CES 2000 Series BASE package	CES 2000 Series ME_PREM package	CES 2000 Series L3_PREM package	CER 2000 Series Base package	CER 2000 Series Advanced Services package
Real-time monitoring	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00
IEEE 802.1ag Connectivity Fault Management (CFM)	05.5.00	05.5.00	No	05.5.00	No	No	05.5.00
IEEE 802.1ag Connectivity Fault Management (CFM) for C-VLANs and S-VLANs within an ESI	No	No	No	05.5.00	No	No	05.5.00
IEEE 802.1ag Connectivity Fault Management (CFM) for B-VLANs	No	No	No	05.5.00	No	No	05.5.00
Support for Sub-second IEEE 802.1ag Timers	05.5.00	05.5.00	No	No	No	05.5.00	05.5.00
IEEE 802.1ag on VPLS Endpoints	05.5.00	05.5.00	No	05.5.00	No	No	05.5.00
IEEE 802.1ag over VLL	05.5.00	05.5.00	No	No	No	No	No
MPLS OAM - LSP trace route	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00
CFM handling for ISID	05.5.00	05.5.00	No	No	05.5.00	No	05.5.00
Delay measurement for ISID	05.5.00	05.5.00	No	No	05.5.00	No	05.5.00
IEEE 802.3ah EFM-OAM	05.5.00	05.5.00	No	05.5.00	No	No	05.5.00
Ping	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00
Ping within a VRF	05.5.00	05.5.00	No	No	No	No	No
Traceroute	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00
Traceroute within a VRF	05.5.00	05.5.00	No	No	No	No	No
Trace-l2 Protocol	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00
LSP Ping and Traceroute	05.5.00	05.5.00	No	05.5.00	No	No	05.5.00
Port Status TLV	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00
RDI handling	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00
Link MA	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00
Automatic CRC Error Monitoring	05.5.00	05.5.00	No	No	No	No	No
Link Fault Signaling	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00
IEEE 802.1ag CFM Over VLL for the CES/CER	No	No	No	05.6.00	No	No	05.6.00
IEEE 802.1ag CFM QinQ under VPLS VLAN with MEP	No	No	No	No	No	No	No
ITU-T Y.1731 Loss Measurement for the CES/CER	No	No	05.6.00	05.6.00	05.6.00	05.6.00	05.6.00
System Resource Histogram Enhancements for Memory Errors	05.6.00	05.6.00	No	No	No	No	No
Line Module Memory Error Monitoring	05.6.00	05.6.00	No	No	No	No	No
Headless router operation	05.6.00a	05.6.00a	05.6.00a	05.6.00a	05.6.00a	05.6.00a	05.6.00a
FE Access Error Detection	05.8.00	05.8.00	No	No	No	No	No
MEF CE 2.0 E-LAN for CES / CER	No	No	05.9.00	05.9.00	05.9.00	05.9.00	05.9.00

Port Mirroring

Feature	XMR Series	MLX Series	CES 2000 Series BASE package	CES 2000 Series ME_PREM package	CES 2000 Series L3_PREM package	CER 2000 Series Base package	CER 2000 Series Advanced Services package
Mirror Port and Monitor Ports	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00
ACL-based Inbound Mirroring	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00
CAM Sharing	05.5.00	05.5.00	No	No	No	No	No

RAS - Readiness, Availability, and Serviceability

Feature	XMR Series	MLX Series	CES 2000 Series BASE package	CES 2000 Series ME_PREM package	CES 2000 Series L3_PREM package	CER 2000 Series Base package	CER 2000 Series Advanced Services package
RAS - CPU Percentage History	05.8.00	05.8.00	05.8.00	05.8.00	05.8.00	05.8.00	05.8.00
RAS - Fabric Link Debugging	05.8.00	05.8.00	No	No	No	No	No

RMON - Remote Network Monitoring

Feature	XMR Series	MLX Series	CES 2000 Series BASE package	CES 2000 Series ME_PREM package	CES 2000 Series L3_PREM package	CER 2000 Series Base package	CER 2000 Series Advanced Services package
[introduced]	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00
Statistics (RMON Group 1)	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00
History (RMON Group 2)	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00
Alarms (RMON Group 3)	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00
Events (RMON Group 9)	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00

sFlow

Feature	XMR Series	MLX Series	CES 2000 Series BASE package	CES 2000 Series ME_PREM package	CES 2000 Series L3_PREM package	CER 2000 Series Base package	CER 2000 Series Advanced Services package
sFlow (RFC 3176)	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00
sFlow (v5 Support)	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00
sFlow Support on MPLS Layer 2/ Layer 3 VPN Endpoints	05.5.00	05.5.00	No	05.5.00	No	No	05.5.00

Feature	XMR Series	MLX Series	CES 2000 Series BASE package	CES 2000 Series ME_PREM package	CES 2000 Series L3_PREM package	CER 2000 Series Base package	CER 2000 Series Advanced Services package
sFlow Support on MPLS Uplinks	No	No	No	05.5.00	No	No	05.5.00
ACL-based sFlow	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00
AS path clean up timer	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00
sFlow Sampling for the Null ( ) Interface	05.5.00	05.5.00	No	No	No	No	No
sFlow sampling rate to be power of 2	05.9.00	05.9.00	No	No	No	No	No

Syslog

Feature	XMR Series	MLX Series	CES 2000 Series BASE package	CES 2000 Series ME_PREM package	CES 2000 Series L3_PREM package	CER 2000 Series Base package	CER 2000 Series Advanced Services package
Syslog Messages	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00
Real-Time Display of Syslog Messages	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00
BFD Syslog	05.5.00	05.5.00	No	05.5.00	05.5.00	05.5.00	05.5.00
Increased Syslog buffer	05.5.00	05.5.00	No	No	No	No	No
Time Stamps	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00
Option for **show log** Command	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00
Disabling Logging of a Message Level	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00
Interface Name in Syslog Messages	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00
TCP or UDP Port Numbers in Syslog Messages	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00
Logging all CLI Commands	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00
BFD Logging	05.5.00	05.5.00	No	05.5.00	05.5.00	05.5.00	05.5.00
Disabling Syslog for an event	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00
Data Integrity Protection Feature for CER/CES - Phase 2	No	No	05.7.00	05.7.00	05.7.00	05.7.00	05.7.00
CPU Monitoring Holdtime Threshold Syslog Notification	05.8.00	05.8.00	No	No	No	No	No
Transport Change for Syslog	05.8.00	05.8.00	05.8.00	05.8.00	05.8.00	05.8.00	05.8.00
ITC/IPC Queue Monitoring	05.9.00	05.9.00	No	No	No	No	No
Logging for denied IPv6 packets	05.9.00a	05.9.00a	05.9.00a	05.9.00a	05.9.00a	05.9.00a	05.9.00a

Sysmon

Feature	XMR Series	MLX Series	CES 2000 Series BASE package	CES 2000 Series ME_PREM package	CES 2000 Series L3_PREM package	CER 2000 Series Base package	CER 2000 Series Advanced Services package
Runtime Diagnostics: On-demand, scheduled test execution and LP specific testing	05.7.00	05.7.00	No	No	No	No	No
hSFM Auto-walk	05.7.00b	05.7.00b	No	No	No	No	No
LP high CPU monitoring and debug	05.9.00	05.9.00	No	No	No	No	No

Telemetry

Feature	XMR Series	MLX Series	CES 2000 Series BASE package	CES 2000 Series ME_PREM package	CES 2000 Series L3_PREM package	CER 2000 Series Base package	CER 2000 Series Advanced Services package
Telemetry Solutions	05.5.00	05.5.00	No	No	No	No	No
Telemetry for 4G/LTE Networks (Phase 2)	05.8.00	05.8.00	No	No	No	No	No

IP Multicast

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IGMP - Internet Group Management Protocol

Feature	XMR Series	MLX Series	CES 2000 Series BASE package	CES 2000 Series ME_PREM package	CES 2000 Series L3_PREM package	CER 2000 Series Base package	CER 2000 Series Advanced Services package
IGMP (V1 and V2)	05.5.00	05.5.00	No	05.5.00	05.5.00	05.5.00	05.5.00
IGMP (V1 and V2) Snooping	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00
IGMP v2 Fast-Leave	05.5.00	05.5.00	No	05.5.00	05.5.00	05.5.00	05.5.00
IGMP v3 Fast-Leave	05.5.00	05.5.00	No	05.5.00	05.5.00	05.5.00	05.5.00
IGMP v3	05.5.00	05.5.00	No	05.5.00	05.5.00	05.5.00	05.5.00
IGMP v3 Snooping	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00

IPv4 Multicast Routing

Feature	XMR Series	MLX Series	CES 2000 Series BASE package	CES 2000 Series ME_PREM package	CES 2000 Series L3_PREM package	CER 2000 Series Base package	CER 2000 Series Advanced Services package
PMRI	05.5.00	05.5.00	No	05.5.00	05.5.00	05.5.00	05.5.00
Multicast traceroute	05.5.00	05.5.00	No	05.5.00	05.5.00	05.5.00	05.5.00
Multicast over Multi-VRF	05.5.00	05.5.00	No	05.5.00	05.5.00	05.5.00	05.5.00
IP Multicast Boundaries	05.5.00	05.5.00	No	05.5.00	05.5.00	05.5.00	05.5.00
Multicast ECMP Routing for 32 Paths	05.5.00	05.5.00	No	No	No	No	No
Unicast ECMP Routing for 32 Paths	05.5.00	05.5.00	No	No	No	No	No
Static Multicast Routes	05.5.00	05.5.00	No	05.5.00	05.5.00	05.5.00	05.5.00
Concurrent Support for Multicast Routing and Snooping	05.5.00	05.5.00	No	05.5.00	05.5.00	05.5.00	05.5.00
Allow multicast address as source IP addresses	05.9.00	05.9.00	No	No	No	No	No

IPv6 Multicast Routing

Feature	XMR Series	MLX Series	CES 2000 Series BASE package	CES 2000 Series ME_PREM package	CES 2000 Series L3_PREM package	CER 2000 Series Base package	CER 2000 Series Advanced Services package
Multicast IPv6 Support	05.5.00	05.5.00	No	05.5.00	05.5.00	05.5.00	05.5.00
IPv6 PMRI	05.5.00	05.5.00	No	05.5.00	05.5.00	05.5.00	05.5.00
VRF Support for IPv6 Multicast	05.5.00	05.5.00	No	No	No	No	No

IPv4 Multicast VLAN Traffic Reduction

Feature	XMR Series	MLX Series	CES 2000 Series BASE package	CES 2000 Series ME_PREM package	CES 2000 Series L3_PREM package	CER 2000 Series Base package	CER 2000 Series Advanced Services package
Configuring Layer 3 multicast filter for the hardware	05.7.00	05.7.00	No	No	No	No	No
Displaying multicast filter for the hardware	05.7.00	05.7.00	No	No	No	No	No

IPv6 Multicast VLAN Traffic Reduction

Feature	XMR Series	MLX Series	CES 2000 Series BASE package	CES 2000 Series ME_PREM package	CES 2000 Series L3_PREM package	CER 2000 Series Base package	CER 2000 Series Advanced Services package
PIM and MLD Snooping for IPv6	05.5.00	05.5.00	No	05.5.00	05.5.00	05.5.00	05.5.00

MLD - Multicast Listener Discovery

Feature	XMR Series	MLX Series	CES 2000 Series BASE package	CES 2000 Series ME_PREM package	CES 2000 Series L3_PREM package	CER 2000 Series Base package	CER 2000 Series Advanced Services package
[introduced]	05.5.00	05.5.00	No	05.5.00	05.5.00	05.5.00	05.5.00

MSDP - Multicast Source Discovery Protocol

Feature	XMR Series	MLX Series	CES 2000 Series BASE package	CES 2000 Series ME_PREM package	CES 2000 Series L3_PREM package	CER 2000 Series Base package	CER 2000 Series Advanced Services package
[introduced]	05.5.00	05.5.00	No	05.5.00	05.5.00	05.5.00	05.5.00
Modifying the TTL threshold	05.5.00	05.5.00	No	05.5.00	05.5.00	05.5.00	05.5.00
MSDP Anycast RP	05.5.00	05.5.00	No	05.5.00	05.5.00	05.5.00	05.5.00
MSDP Mesh Groups	05.5.00	05.5.00	No	05.5.00	05.5.00	05.5.00	05.5.00

PIM - Protocol Independent Multicast

Feature	XMR Series	MLX Series	CES 2000 Series BASE package	CES 2000 Series ME_PREM package	CES 2000 Series L3_PREM package	CER 2000 Series Base package	CER 2000 Series Advanced Services package
Multicast over GRE Tunnel	05.5.00	05.5.00	No	No	No	No	No
Multicast Routing PIM	05.5.00	05.5.00	No	05.5.00	05.5.00	05.5.00	05.5.00
PIM-SSM	05.5.00	05.5.00	No	05.5.00	05.5.00	05.5.00	05.5.00
PIM Dense	05.5.00	05.5.00	No	05.5.00	05.5.00	05.5.00	05.5.00
PIM Sparse	05.5.00	05.5.00	No	05.5.00	05.5.00	05.5.00	05.5.00
PIM Multinet	05.5.00	05.5.00	No	05.5.00	05.5.00	05.5.00	05.5.00
PIM Anycast RP	05.5.00	05.5.00	No	05.5.00	05.5.00	05.5.00	05.5.00
Optimization of Multicast Replication and Platform Independence	05.5.00	05.5.00	No	05.5.00	05.5.00	05.5.00	05.5.00
Modifying the Prune Wait Timer	05.5.00	05.5.00	No	05.5.00	05.5.00	05.5.00	05.5.00
Configuring PIM-SM (*,g) Forwarding	05.5.00	05.5.00	No	05.5.00	05.5.00	05.5.00	05.5.00
PIM Neighbor Filters	05.5.00	05.5.00	No	No	05.5.00	05.5.00	05.5.00

PIM6 - IPv6 Protocol-Independent Multicast

Feature	XMR Series	MLX Series	CES 2000 Series BASE package	CES 2000 Series ME_PREM package	CES 2000 Series L3_PREM package	CER 2000 Series Base package	CER 2000 Series Advanced Services package
IPv6 PIM-SSM	05.5.00	05.5.00	No	05.5.00	05.5.00	05.5.00	05.5.00
IPv6 PIM Sparse	05.5.00	05.5.00	No	05.5.00	05.5.00	05.5.00	05.5.00
IPv6 PIM Anycast RP	05.5.00	05.5.00	No	05.5.00	05.5.00	05.5.00	05.5.00

Layer 2 Switching

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BPDU Guard - Bridge Protocol Data Unit Guard

Feature	XMR Series	MLX Series	CES 2000 Series BASE package	CES 2000 Series ME_PREM package	CES 2000 Series L3_PREM package	CER 2000 Series Base package	CER 2000 Series Advanced Services package
[introduced]	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00

ERP - Ethernet Ring Protocol

Feature	XMR Series	MLX Series	CES 2000 Series BASE package	CES 2000 Series ME_PREM package	CES 2000 Series L3_PREM package	CER 2000 Series Base package	CER 2000 Series Advanced Services package
Signal fail	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00
Manual switch	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00
Forced switch	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00
Dual-end blocking	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00
Non-revertive mode	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00
Interconnected ring	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00
ERP PBB	No	No	No	05.5.00	05.5.00	No	05.5.00
ERP over PBB VPLS VLAN	05.5.00	05.5.00	No	No	No	No	No
ERP support for PBB	05.5.00	05.5.00	No	No	No	No	No
FDB flush optimization	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00
G.8032 ERPS Protection and Recovery Optimization	05.5.00	05.5.00	No	No	No	No	No

LAG - Link Aggregation Group

Feature	XMR Series	MLX Series	CES 2000 Series BASE package	CES 2000 Series ME_PREM package	CES 2000 Series L3_PREM package	CER 2000 Series Base package	CER 2000 Series Advanced Services package
40 GbE and 100 GbE LAG Scalability	05.6.00	05.6.00	No	No	No	No	No
Symmetric Load balancing for LAGs	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00
LACP Trunk Threshold Enhancements	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00
LAG name update for existing LAG	05.9.00	05.9.00	05.9.00	05.9.00	05.9.00	05.9.00	05.9.00
LAG load balancing using only source or destination IP address	05.9.00	05.9.00	No	No	No	No	No
Loop detection frames in LACP_BLOCKED	05.9.00	05.9.00	05.9.00	05.9.00	05.9.00	05.9.00	05.9.00

MCT - Multi-Chassis Trunking

Feature	XMR Series	MLX Series	CES 2000 Series BASE package	CES 2000 Series ME_PREM package	CES 2000 Series L3_PREM package	CER 2000 Series Base package	CER 2000 Series Advanced Services package
[introduced]	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00
Cluster operation features	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00
Dynamic Layer 3 Routing Over MCT	05.5.00	05.5.00	No	05.5.00	05.5.00	05.5.00	05.5.00
IPv6 VRRP and VRRP-E for MCT	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00
MCT for VRRP or VRRP-E	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00
MCT L2VPN support	05.5.00	05.5.00	No	05.5.00	05.5.00	No	05.5.00
MCT for VPLS	05.5.00	05.5.00	No	05.5.00	05.5.00	No	05.5.00
MCT for VLL	05.5.00	05.5.00	No	05.5.00	05.5.00	No	05.5.00
MCT Snooping	05.5.00	05.5.00	No	05.5.00	05.5.00	No	05.5.00
PIM over MCT	05.5.00	05.5.00	No	05.5.00	05.5.00	No	05.5.00
MCT Client Scalability Enhancement	05.6.00	05.6.00	05.6.00	05.6.00	05.6.00	05.6.00	05.6.00
PIM-SM Intermediate Router Support on MCT CCEP Client Ports	05.8.00	05.8.00	No	05.8.00	No	No	05.8.00

MRP - Metro Ring Protocol

Feature	XMR Series	MLX Series	CES 2000 Series BASE package	CES 2000 Series ME_PREM package	CES 2000 Series L3_PREM package	CER 2000 Series Base package	CER 2000 Series Advanced Services package
MRP Phase 1	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00
MRP Phase 2	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00
Foundry MRP Alarm RHP	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00
MRP and MRP-II support under an ESI with support for B-VLANs, S-VLANs and C-VLANs	No	No	No	05.5.00	No	No	05.5.00
Foundry MRP Diagnostics	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00
Topology change notification	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00

QnQ - IEEE 802.1Q

Feature	XMR Series	MLX Series	CES 2000 Series BASE package	CES 2000 Series ME_PREM package	CES 2000 Series L3_PREM package	CER 2000 Series Base package	CER 2000 Series Advanced Services package
802.1 QnQ Tagging	05.5.00	05.5.00	No	05.5.00	No	No	05.5.00
802.1q Tag-type Translation	05.5.00	05.5.00	No	No	No	No	No
Extended counters for QnQ end points	No	05.9.00	No	No	No	No	No

RFN - Remote Fault Notification

Feature	XMR Series	MLX Series	CES 2000 Series BASE package	CES 2000 Series ME_PREM package	CES 2000 Series L3_PREM package	CER 2000 Series Base package	CER 2000 Series Advanced Services package
10 GbE Port Local Fault	05.5.00	05.5.00	No	No	No	No	No
LFS or RFN Counters for 10GbE LAN PHY	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00

RPF - Reverse Path Forwarding

Feature	XMR Series	MLX Series	CES 2000 Series BASE package	CES 2000 Series ME_PREM package	CES 2000 Series L3_PREM package	CER 2000 Series Base package	CER 2000 Series Advanced Services package
[introduced]	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00
RPF Support for IP over MPLS Routes	05.5.00	05.5.00	No	No	No	No	No
Suppressing RPF for Packets using inbound ACLs	05.5.00	05.5.00	No	No	No	No	No
Excluding Packets that Match the Routers Default Route	05.5.00	05.5.00	No	No	No	No	No

UDLD - Uni-Direction Link Detection

Feature	XMR Series	MLX Series	CES 2000 Series BASE package	CES 2000 Series ME_PREM package	CES 2000 Series L3_PREM package	CER 2000 Series Base package	CER 2000 Series Advanced Services package
[introduced]	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00
UDLD for Tagged Ports	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00
Management Module Switchover	05.5.00	05.5.00	No	No	No	No	No
Default Active Chassis Slot	05.5.00	05.5.00	No	No	No	No	No
Synchronization Between Active and Standby Management Modules	05.5.00	05.5.00	No	No	No	No	No
Manually Switching Over to the Standby Management Module	05.5.00	05.5.00	No	No	No	No	No
Monitoring Management Module Redundancy	05.5.00	05.5.00	No	No	No	No	No
Flash Memory and Auxiliary Flash File Management	05.5.00	05.5.00	No	No	No	No	No
Option to delete old file first upon image download if MP Flash full	05.5.00	05.5.00	No	No	No	No	No
Enhanced Syslog for Module State Changes	05.5.00	05.5.00	No	No	No	No	No

VLAN - Virtual LAN

Feature	XMR Series	MLX Series	CES 2000 Series BASE package	CES 2000 Series ME_PREM package	CES 2000 Series L3_PREM package	CER 2000 Series Base package	CER 2000 Series Advanced Services package
VLAN Tagging	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00

Feature	XMR Series	MLX Series	CES 2000 Series BASE package	CES 2000 Series ME_PREM package	CES 2000 Series L3_PREM package	CER 2000 Series Base package	CER 2000 Series Advanced Services package
Port-Based VLANs	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00
Protocol-Based VLANs	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00
Virtual Routing Interfaces	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00
Integrated Switch Routing (ISR)	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00
VLAN Groups	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00
VLAN Translation	05.5.00	05.5.00	No	05.5.00	No	No	05.5.00
Super Aggregated VLANs	05.5.00	05.5.00	No	No	No	No	No
Assigning a VLAN Priority	05.5.00	05.5.00	No	No	No	No	No
Allocating Memory for More VLANs or Virtual Routing Interfaces	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00
Uplink Ports Within a Port-Based VLAN	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00
Hardware Flooding for Layer 2 Multicast and Broadcast Packets	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00
Unknown Unicast Flooding on VLAN Ports	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00
VLAN CPU Protection	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00
VLAN Accounting	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00
Extended VLAN counters	No	05.5.00	No	No	No	No	No
Multi-port static MAC address	05.5.00	05.5.00	No	No	No	No	No
Transparent VLAN Flooding	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00
Multiport Static MAC Addresses for the CES/CER	No	No	05.6.00	05.6.00	05.6.00	05.6.00	05.6.00
Setting IP VPN Packets	05.5.00	05.5.00	No	No	No	No	No
Topology Groups	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00
Master VLAN and Member VLANs	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00
Master VLANs and Customer VLANs in Foundry MRP	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00
Control Ports and Free Ports	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00
Dual tag support for VPLS VLANs	05.5.00	05.5.00	No	No	No	No	No
Adding VPLS VLANs to Topology Groups	05.5.00	05.5.00	No	05.5.00	No	No	05.5.00
Topology group support within an ESI	No	No	No	05.5.00	No	No	05.5.00
Topology group across ESIs	No	No	No	05.5.00	No	No	05.5.00
TVF and PBR to TVF LAG Load Balancing	05.6.00	05.6.00	No	No	No	No	No
VLAN CPU Protection (Global Connect)	05.9.00a	05.9.00a	05.9.00a	05.9.00a	05.9.00a	05.9.00a	05.9.00a

VRP - VLAN Registration Protocol (includes GVRP, MMRP, MVRP)

Feature	XMR Series	MLX Series	CES 2000 Series BASE package	CES 2000 Series ME_PREM package	CES 2000 Series L3_PREM package	CER 2000 Series Base package	CER 2000 Series Advanced Services package
Multiple MAC Registration Protocol (MMRP)	05.5.00	05.5.00	No	05.5.00	No	No	05.5.00
Multiple VLAN Registration Protocol (MVRP)	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00

VSRP - Virtual Switch Redundancy Protocol

Feature	XMR Series	MLX Series	CES 2000 Series BASE package	CES 2000 Series ME_PREM package	CES 2000 Series L3_PREM package	CER 2000 Series Base package	CER 2000 Series Advanced Services package
[introduced]	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00
VSRP 2	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00
Layer 2 Redundancy	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00
Layer 3 VSRP	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00
MAC Address Failover on VSRP-Aware Devices	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00
VSRP Fast Start	05.5.00	05.5.00	No	No	No	No	No
VSRP Slow Start	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00
VSRP and Foundry MRP Signaling	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00

xSTP - Spanning Tree Protocols

Feature	XMR Series	MLX Series	CES 2000 Series BASE package	CES 2000 Series ME_PREM package	CES 2000 Series L3_PREM package	CER 2000 Series Base package	CER 2000 Series Advanced Services package
IEEE 802.1D Spanning Tree Protocol (STP)	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00
STP per VLAN	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00
STP Fast Forwarding	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00
STP Enable or Disable per Port or VLAN	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00
Root Guard	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00

Feature	XMR Series	MLX Series	CES 2000 Series BASE package	CES 2000 Series ME_PREM package	CES 2000 Series L3_PREM package	CER 2000 Series Base package	CER 2000 Series Advanced Services package
IEEE Single Spanning Tree Protocol (SSTP)	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00
SuperSpan	05.5.00	05.5.00	No	No	No	No	No
PVST or PVST+ Compatibility	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00
802.1s Multiple Spanning Tree Protocol (MSTP)	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00
MSTP support for PBB	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00
STP support under an ESI with support for B-VLANs, S-VLANs and C-VLANs	No	No	No	05.5.00	No	No	05.5.00
Rapid Spanning Tree Protocol (RSTP)	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00
Edge Ports	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00
Point-to-Point Ports	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00
Convergence in a Simple Topology	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00
Convergence in a Complex RSTP Topology	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00
Compatibility of RSTP with 802.1D	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00
RSTP support under an ESI with support for B-VLANs, S-VLANs, and C-VLANs	No	No	No	05.5.00	No	No	05.5.00
RSTP support for PB and PBB	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00
256 RSTP instances	05.9.00	05.9.00	05.9.00	No	No	No	No

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ARP - Address Resolution Protocol

Feature	XMR Series	MLX Series	CES 2000 Series BASE package	CES 2000 Series ME_PREM package	CES 2000 Series L3_PREM package	CER 2000 Series Base package	CER 2000 Series Advanced Services package
ARP Inspection	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00
Disabling Gratuitous ARP Requests for Local Proxy ARP	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00
Dynamic ARP Inspection (DAI)	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00
Multiport static ARP	05.5.00	05.5.00	No	No	No	No	No
Multiport Static ARP for the CES/CER	No	No	05.6.00	05.6.00	05.6.00	05.6.00	05.6.00

BFD - BiDirectional Forwarding Detection

Feature	XMR Series	MLX Series	CES 2000 Series BASE package	CES 2000 Series ME_PREM package	CES 2000 Series L3_PREM package	CER 2000 Series Base package	CER 2000 Series Advanced Services package
[introduced]	05.5.00	05.5.00	No	05.5.00	05.5.00	05.5.00	05.5.00
BFD for IPv4 IS-IS	05.5.00	05.5.00	No	05.5.00	05.5.00	05.5.00	05.5.00
BFD for IPv6 IS-IS	05.5.00	05.5.00	No	No	No	No	No
BFD for OSPFv2	05.5.00	05.5.00	No	05.5.00	05.5.00	05.5.00	05.5.00
BFD for OSPFv3	05.5.00	05.5.00	No	No	No	No	No
BFD for BGP4	05.5.00	05.5.00	No	No	05.5.00	05.5.00	05.5.00
BFD for BGP4+	05.5.00	05.5.00	No	No	05.5.00	05.5.00	05.5.00
Configuring BFD for RSVP-TE LSPs	05.5.00	05.5.00	No	No	No	No	No
IP router alert option	05.5.00	05.5.00	No	No	No	No	No
MPLS BFD	05.5.00	05.5.00	No	No	No	No	No
BFD Hardware Assist for the CES/CER	No	No	No	05.6.00	05.6.00	05.6.00	05.6.00
BFD Holdover for OSPF and IS-IS	05.6.00	05.6.00	No	05.6.00	05.6.00	05.6.00	05.6.00
BFD for Static Routes	05.6.00	05.6.00	05.6.00	05.6.00	05.6.00	05.6.00	05.6.00
BFD for RSVP-TE LSPs for the CES/CER	No	No	No	05.6.00	No	No	05.6.00
BFD for OSPFv3 for the CES/CER	05.6.00	05.6.00	No	05.6.00	05.6.00	05.6.00	05.6.00

BGP4 - IPv4 Border Gateway Protocol

Feature	XMR Series	MLX Series	CES 2000 Series BASE package	CES 2000 Series ME_PREM package	CES 2000 Series L3_PREM package	CER 2000 Series Base package	CER 2000 Series Advanced Services package
[introduced]	05.5.00	05.5.00	No	No	05.5.00	05.5.00	05.5.00
BGP4 Restart	05.5.00	05.5.00	No	No	05.5.00	05.5.00	05.5.00
BGP4 Restart Helper Mode	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00
Redistributing IBGP Routes	05.5.00	05.5.00	No	No	05.5.00	05.5.00	05.5.00
Client-to-Client Routes	05.5.00	05.5.00	No	No	05.5.00	05.5.00	05.5.00
Route Flap Dampening	05.5.00	05.5.00	No	No	05.5.00	05.5.00	05.5.00
Originating the Default Route	05.5.00	05.5.00	No	No	05.5.00	05.5.00	05.5.00
Multipath Load Sharing	05.5.00	05.5.00	No	No	05.5.00	05.5.00	05.5.00
Using the IP Default Route as a Valid Next Hop for a BGP4 Route	05.5.00	05.5.00	No	No	05.5.00	05.5.00	05.5.00
Next-Hop Recursion	05.5.00	05.5.00	No	No	05.5.00	05.5.00	05.5.00
Next-Hop Update Timer	05.5.00	05.5.00	No	No	05.5.00	05.5.00	05.5.00

Feature	XMR Series	MLX Series	CES 2000 Series BASE package	CES 2000 Series ME_PREM package	CES 2000 Series L3_PREM package	CER 2000 Series Base package	CER 2000 Series Advanced Services package
Generalized TTL Security Mechanism Support	05.5.00	05.5.00	No	No	05.5.00	05.5.00	05.5.00
Enhanced per-neighbor debug statements and new per-neighbor BGP4 debug filters	05.5.00	05.5.00	No	No	No	No	No
BGP4 Peer Notification During a Management Module Switchover	05.5.00	05.5.00	No	No	No	No	No
Auto Shutdown of BGP4 Neighbors on Initial Configuration	05.5.00	05.5.00	No	No	05.5.00	05.5.00	05.5.00
New encryption code for passwords, authentication keys, and community strings	05.5.00	05.5.00	No	No	No	No	No
BGP4 MD5 Authentication	05.5.00	05.5.00	No	No	05.5.00	05.5.00	05.5.00
Route redistribution to other protocols	05.5.00	05.5.00	No	No	05.5.00	05.5.00	05.5.00
BGP4 Peer Group	05.5.00	05.5.00	No	No	05.5.00	05.5.00	05.5.00
BGP4 Route Reflectors	05.5.00	05.5.00	No	No	05.5.00	05.5.00	05.5.00
BGP4 Neighbor Local-AS	05.5.00	05.5.00	No	No	05.5.00	05.5.00	05.5.00
BGP4 Local-AS for VRF	05.5.00	05.5.00	No	No	05.5.00	No	No
BGP4 Processing Optimization for Administratively Down Peers	05.5.00	05.5.00	No	No	05.5.00	5.5	5.5
BGP4 Outbound Policy Processing Optimization	05.5.00	05.5.00	No	No	05.5.00	5.5	5.5
Requiring the First AS to be the Neighbor's AS	05.5.00	05.5.00	05.5.00	No	05.5.00	5.5	5.5
Four-byte AS Numbers (AS4)	05.5.00	05.5.00	05.5.00	No	05.5.00	5.5	5.5
BGP4 AS4 Confederation Error Checking	05.5.00	05.5.00	No	No	No	No	No
RTM Scalability Enhancement	05.5.00	05.5.00	No	No	No	No	No
Route Map Continue Clause	05.5.00	05.5.00	05.5.00	No	05.5.00	05.5.00	05.5.00
Static BGP4 Networks	05.5.00	05.5.00	05.5.00	No	05.5.00	05.5.00	05.5.00
Limiting Advertisement of a Static BGP4 Network	05.5.00	05.5.00	No	No	05.5.00	05.5.00	05.5.00
Use IGP cost instead of BGP MED value	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00
Accessing the Address Family Configuration Level Under BGP	05.5.00	05.5.00	No	No	05.5.00	05.5.00	05.5.00
Backward Compatibility for Existing BGP4 and IPv4 IS-IS	05.5.00	05.5.00	No	No	05.5.00	05.5.00	05.5.00
Global BGP4 Commands and BGP4 Unicast Route Commands	05.5.00	05.5.00	No	No	05.5.00	05.5.00	05.5.00
BGP Add-Path	06.0.00	06.0.00	06.0.00	06.0.00	06.0.00	06.0.00	06.0.00
BGP best external	06.0.00	06.0.00	06.0.00	06.0.00	06.0.00	06.0.00	06.0.00

BGP4+ - IPv6 Border Gateway Protocol

Feature	XMR Series	MLX Series	CES 2000 Series BASE package	CES 2000 Series ME_PREM package	CES 2000 Series L3_PREM package	CER 2000 Series Base package	CER 2000 Series Advanced Services package
Configuring BGP4+ Neighbors Using Global or Unique Link Local IPv6 Addresses	05.5.00	05.5.00	No	No	05.5.00	05.5.00	05.5.00
Importing Routes into BGP4+	05.5.00	05.5.00	No	No	05.5.00	05.5.00	05.5.00
Advertising the Default BGP4+ Route	05.5.00	05.5.00	No	No	05.5.00	05.5.00	05.5.00
Using the IP default route as a valid next-hop for a BGP4+ route	05.5.00	05.5.00	No	No	05.5.00	05.5.00	05.5.00
Enabling next-hop recursion	05.5.00	05.5.00	No	No	05.5.00	05.5.00	05.5.00
BGP4+ Graceful Restart	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00
BGP VPNv4 Support	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00
BGP VPNv6 Support	05.5.00	05.5.00	No	05.5.00	05.5.00	No	05.5.00
BGP VRF4 and VRF6 Support	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00
BGP Add-Path	06.0.00	06.0.00	06.0.00	06.0.00	06.0.00	06.0.00	06.0.00
BGP best external	06.0.00	06.0.00	06.0.00	06.0.00	06.0.00	06.0.00	06.0.00

DHCP - Dynamic Host Configuration Protocol

Feature	XMR Series	MLX Series	CES 2000 Series BASE package	CES 2000 Series ME_PREM package	CES 2000 Series L3_PREM package	CER 2000 Series Base package	CER 2000 Series Advanced Services package
DHCP Snooping	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00
DHCP Relay Enhancement	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00
Configuring BootP/DHCP Forwarding Parameters	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00
DHCP Option 82 insertion	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00
Zero Touch Provisioning	No	No	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00
DHCPv6	05.5.00	05.5.00	No	05.5.00	05.5.00	05.5.00	05.5.00
DHCPv6 Relay Agent Prefix Delegation Notification	05.5.00	05.5.00	No	05.5.00	05.5.00	05.5.00	05.5.00
Client link layer address option in DHCPv6	05.9.00	05.9.00	No	05.9.00	05.9.00	05.9.00	05.9.00

DNS - Domain Name System

Feature	XMR Series	MLX Series	CES 2000 Series BASE package	CES 2000 Series ME_PREM package	CES 2000 Series L3_PREM package	CER 2000 Series Base package	CER 2000 Series Advanced Services package
DNS queries of IPv4 DNS Servers	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00
DNS queries of IPv6 DNS Servers	05.5.00	05.5.00	No	No	No	No	No
IPv6 Domain Name System (DNS) Resolver	05.5.00	05.5.00	No	05.5.00	05.5.00	05.5.00	05.5.00
IPv6 Router Advertisement Options for DNS Configuration	05.5.00	05.5.00	No	No	05.5.00	05.5.00	05.5.00
DNS Queries of IPv4 and IPv6 DNS Servers	05.5.00	05.5.00	No	05.5.00	05.5.00	05.5.00	05.5.00

GRE - Generic Routing Encapsulation

Feature	XMR Series	MLX Series	CES 2000 Series BASE package	CES 2000 Series ME_PREM package	CES 2000 Series L3_PREM package	CER 2000 Series Base package	CER 2000 Series Advanced Services package
GRE IP Tunnel	05.5.00	05.5.00	No	05.5.00	05.5.00	05.5.00	05.5.00
New minimum GRE keep alive	05.5.00	05.5.00	No	05.5.00	05.5.00	05.5.00	05.5.00
Statistics for GRE and Manual IPv6 Tunnels	05.5.00	05.5.00	No	No	No	No	No
VRF Support for GRE Tunnel	05.8.00	05.8.00	No	No	No	No	No
GRE tunnel bypassing ACL	06.0.00	06.0.00	No	No	No	No	No
GRE tunnel to hand off to MPLS	06.0.00	06.0.00	No	No	No	No	No
IPv6 over IPv4 GRE	06.0.00	06.0.00	No	No	No	No	No

GTP - GPRS Tunneling Protocol

Feature	XMR Series	MLX Series	CES 2000 Series BASE package	CES 2000 Series ME_PREM package	CES 2000 Series L3_PREM package	CER 2000 Series Base package	CER 2000 Series Advanced Services package
IPv6 Over IPv4 Tunnels in Hardware	05.5.00	05.5.00	No	No	No	No	No
GPRS Tunneling Protocol Filtering and Load-balancing	05.7.00	05.7.00	No	No	No	No	No

ICMP-Internet Control Message Protocol

Feature	XMR Series	MLX Series	CES 2000 Series BASE package	CES 2000 Series ME_PREM package	CES 2000 Series L3_PREM package	CER 2000 Series Base package	CER 2000 Series Advanced Services package
IPv6 ICMP	05.5.00	05.5.00	No	05.5.00	05.5.00	05.5.00	05.5.00

IP Addressing

Feature	XMR Series	MLX Series	CES 2000 Series BASE package	CES 2000 Series ME_PREM package	CES 2000 Series L3_PREM package	CER 2000 Series Base package	CER 2000 Series Advanced Services package
ICMP Error Message Rate Increase	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00
Restart Global Timers	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00
Restart helper-mode	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00
IRDP	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00
UDP Broadcast and IP Helper	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00
Jumbo Frames for MTU	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00
Displaying the IP Route Table	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00
Assigning an IP Address to a Port	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00
TCP MSS Adjustment	05.7.00	05.7.00	No	No	No	No	No

IPv6 Addressing

Feature	XMR Series	MLX Series	CES 2000 Series BASE package	CES 2000 Series ME_PREM package	CES 2000 Series L3_PREM package	CER 2000 Series Base package	CER 2000 Series Advanced Services package
[introduced]	05.5.00	05.5.00	No	05.5.00	05.5.00	05.5.00	05.5.00
IPv6 Address Unicast	05.5.00	05.5.00	No	05.5.00	05.5.00	05.5.00	05.5.00
IPv6 Address Multicast	05.5.00	05.5.00	No	05.5.00	05.5.00	05.5.00	05.5.00
IPv6 Address Anycast	05.5.00	05.5.00	No	05.5.00	05.5.00	05.5.00	05.5.00
IPv6 Stateless auto-configuration	05.5.00	05.5.00	No	05.5.00	05.5.00	05.5.00	05.5.00
IPv6 Address in the Configuration	05.5.00	05.5.00	No	05.5.00	05.5.00	05.5.00	05.5.00
IPv6 Prefix List	05.5.00	05.5.00	No	05.5.00	05.5.00	05.5.00	05.5.00
Displaying Prefix List Information	05.5.00	05.5.00	No	05.5.00	05.5.00	05.5.00	05.5.00
ND6 IPv6 Prefix Suppress	05.6.00	05.6.00	No	05.6.00	05.6.00	05.6.00	05.6.00

Feature	XMR Series	MLX Series	CES 2000 Series BASE package	CES 2000 Series ME_PREM package	CES 2000 Series L3_PREM package	CER 2000 Series Base package	CER 2000 Series Advanced Services package
IPv6 Routing	05.5.00	05.5.00	No	05.5.00	05.5.00	05.5.00	05.5.00
IPv6 Anycast Addresses	05.5.00	05.5.00	No	No	No	No	No
IPv6 Host Support	05.5.00	05.5.00	No	05.5.00	05.5.00	05.5.00	05.5.00
IPv6 Non-stop routing and graceful restart	05.5.00	05.5.00	05.5.00	No	No	No	No
Restricting SNMP Access to an IPv6 Node	05.5.00	05.5.00	No	05.5.00	05.5.00	05.5.00	05.5.00
ECMP Load Sharing for IPv6	05.5.00	05.5.00	No	05.5.00	05.5.00	05.5.00	05.5.00
IPv6 Neighbor Discovery	05.5.00	05.5.00	No	05.5.00	05.5.00	05.5.00	05.5.00
IPv6 Source Routing Security	05.5.00	05.5.00	No	05.5.00	05.5.00	05.5.00	05.5.00
IPv6 MTU	05.5.00	05.5.00	No	05.5.00	05.5.00	05.5.00	05.5.00
Static Neighbor Entries	05.5.00	05.5.00	No	05.5.00	05.5.00	05.5.00	05.5.00
Limiting the Number of Hops an IPv6 Packet Can Traverse	05.5.00	05.5.00	No	05.5.00	05.5.00	05.5.00	05.5.00
IPv6 Non-Stop Routing (NSR) Support	05.5.00	05.5.00	No	No	No	No	No
Displaying IPv6 Traffic Statistics	05.5.00	05.5.00	No	No	No	No	No
Displaying the IPv6 Route Table	05.5.00	05.5.00	No	05.5.00	05.5.00	05.5.00	05.5.00
Rate Limit for IPv6 Subnet Traffic	05.5.00	05.5.00	No	No	No	No	No
127-Bit IPv6 Interface Addresses	05.6.00	05.6.00	05.6.00	05.6.00	05.6.00	05.6.00	05.6.00
IPv6 Enhancements - IPv6 ND Proxy	05.9.00	05.9.00	05.9.00	05.9.00	05.9.00	05.9.00	05.9.00
IPv6 Enhancements - Source IP option in IPv6 Traceroute	05.9.00	05.9.00	05.9.00	05.9.00	05.9.00	05.9.00	05.9.00
IPv6 ACL .1p match	06.0.00	06.0.00	06.0.00	06.0.00	06.0.00	06.0.00	06.0.00
IPv6 for VE over VPLS	06.0.00	06.0.00	No	No	No	No	No

IS-IS - IPv4 Intermediate System to Intermediate System

Feature	XMR Series	MLX Series	CES 2000 Series BASE package	CES 2000 Series ME_PREM package	CES 2000 Series L3_PREM package	CER 2000 Series Base package	CER 2000 Series Advanced Services package
[introduced]	05.5.00	05.5.00	No	05.5.00	05.5.00	05.5.00	05.5.00
Level 1 Routing	05.5.00	05.5.00	No	05.5.00	05.5.00	05.5.00	05.5.00
Level 2 Routing	05.5.00	05.5.00	No	05.5.00	05.5.00	05.5.00	05.5.00
Restart helper-mode	05.5.00	05.5.00	No	05.5.00	05.5.00	05.5.00	05.5.00
Broadcast Pseudonode	05.5.00	05.5.00	No	05.5.00	05.5.00	05.5.00	05.5.00
Three-Way Handshake for Point-to-Point Adjacencies	05.5.00	05.5.00	No	05.5.00	05.5.00	05.5.00	05.5.00

Feature	XMR Series	MLX Series	CES 2000 Series BASE package	CES 2000 Series ME_PREM package	CES 2000 Series L3_PREM package	CER 2000 Series Base package	CER 2000 Series Advanced Services package
IS-IS PSPF Exponential back-off	05.5.00	05.5.00	No	05.5.00	05.5.00	05.5.00	05.5.00
New encryption code for passwords, authentication keys, and community strings	05.5.00	05.5.00	No	No	No	No	No
IS-IS Flooding	05.5.00	05.5.00	No	05.5.00	05.5.00	05.5.00	05.5.00
IS-IS Point-to-Point over Ethernet	05.5.00	05.5.00	No	05.5.00	05.5.00	05.5.00	05.5.00
IS-IS over a GRE IP Tunnel	05.5.00	05.5.00	No	No	No	No	No
Formation of Adjacencies	05.5.00	05.5.00	No	05.5.00	05.5.00	05.5.00	05.5.00
IS-IS Blackhole Avoidance (Setting the Overload Bit)	05.5.00	05.5.00	No	05.5.00	05.5.00	05.5.00	05.5.00
Priority for Designated IS Election	05.5.00	05.5.00	No	05.5.00	05.5.00	05.5.00	05.5.00
Limiting Access to Adjacencies with a Neighbor	05.5.00	05.5.00	No	05.5.00	05.5.00	05.5.00	05.5.00
Changing the IS-IS Level on an Interface	05.5.00	05.5.00	No	05.5.00	05.5.00	05.5.00	05.5.00
Disabling and Enabling Hello Padding on an Interface	05.5.00	05.5.00	No	05.5.00	05.5.00	05.5.00	05.5.00
Displaying IPv4 IS-IS Information	05.5.00	05.5.00	No	05.5.00	05.5.00	05.5.00	05.5.00
IS-IS SPF Scaling	05.5.00	05.5.00	No	No	No	No	No
IS-IS Graceful Restart "Helper Mode"	05.6.00	05.6.00	No	05.6.00	05.6.00	05.6.00	05.6.00
IS-IS interface metric enhancement	05.7.00	05.7.00	No	05.7.00	05.7.00	05.7.00	05.7.00
IS-IS reverse metric	05.7.00	05.7.00	No	05.7.00	05.7.00	05.7.00	05.7.00
Override IS-IS Overload Bit as Part of RSVP IGP Sync (Phase 2)	05.8.00	05.8.00	No	05.8.00	No	No	05.8.00

IS-IS - IPv6 Intermediate System to Intermediate System

Feature	XMR Series	MLX Series	CES 2000 Series BASE package	CES 2000 Series ME_PREM package	CES 2000 Series L3_PREM package	CER 2000 Series Base package	CER 2000 Series Advanced Services package
[introduced]	05.5.00	05.5.00	No	05.5.00	05.5.00	05.5.00	05.5.00
Redistributing BGP4+ Routes into IPv6 IS-IS	05.5.00	05.5.00	No	05.5.00	05.5.00	05.5.00	05.5.00
Redistributing RIPng Routes into IPv6 IS-IS	05.5.00	05.5.00	No	05.5.00	05.5.00	05.5.00	05.5.00
Redistributing OSPFv3 Routes into IPv6 IS-IS	05.5.00	05.5.00	No	05.5.00	05.5.00	05.5.00	05.5.00
Redistributing Static IPv6 Routes into IPv6 IS-IS	05.5.00	05.5.00	No	05.5.00	05.5.00	05.5.00	05.5.00

Feature	XMR Series	MLX Series	CES 2000 Series BASE package	CES 2000 Series ME_PREM package	CES 2000 Series L3_PREM package	CER 2000 Series Base package	CER 2000 Series Advanced Services package
Redistributing IPv6 routes learned from directly connected networks	05.5.00	05.5.00	No	05.5.00	05.5.00	05.5.00	05.5.00
Non-stop routing (NSR) support	05.5.00	05.5.00	No	No	No	No	No
IPv6 Protocol-Support Consistency Checks	05.5.00	05.5.00	No	05.5.00	05.5.00	05.5.00	05.5.00
IS-IS Multi-Topology	05.5.00	05.5.00	No	05.5.00	05.5.00	05.5.00	05.5.00
Provide Global option to change IS-IS interface metric for all IS-IS interfaces	05.7.00	05.7.00	05.7.00	05.7.00	05.7.00	05.7.00	05.7.00
IS-IS Support for Reverse Metric on TLVs	05.7.00	05.7.00	05.7.00	05.7.00	05.7.00	05.7.00	05.7.00

MBGP - Multiprotocol Border Gateway Protocol

Feature	XMR Series	MLX Series	CES 2000 Series BASE package	CES 2000 Series ME_PREM package	CES 2000 Series L3_PREM package	CER 2000 Series Base package	CER 2000 Series Advanced Services package
[introduced]	05.5.00	05.5.00	No	No	05.5.00	05.5.00	05.5.00
Advertising Routes from the Local AS to MBGP	05.5.00	05.5.00	No	No	05.5.00	05.5.00	05.5.00
MBGP Network Prefix to Advertise	05.5.00	05.5.00	No	No	05.5.00	05.5.00	05.5.00
Redistribution of Directly-Connected Multicast Routes into MBGP	05.5.00	05.5.00	No	No	05.5.00	05.5.00	05.5.00
Static IP Multicast Routes for MBGP	05.5.00	05.5.00	No	No	05.5.00	05.5.00	05.5.00
Aggregating Routes Advertised to BGP4 Neighbors	05.5.00	05.5.00	No	No	05.5.00	05.5.00	05.5.00
Displaying MBGP Information	05.5.00	05.5.00	No	No	05.5.00	05.5.00	05.5.00
Clearing MBGP Information	05.5.00	05.5.00	No	No	05.5.00	05.5.00	05.5.00
IPv6 Support for MBGP	05.5.00	05.5.00	No	No	05.5.00	05.5.00	05.5.00
VRF Support for MBGP	05.5.00	05.5.00	No	No	05.5.00	05.5.00	05.5.00
IPv4 Multicast for MBGP	05.5.00	05.5.00	No	05.5.00	05.5.00	05.5.00	05.5.00
IPv6 Multicast for MBGP	05.5.00	05.5.00	No	No	05.5.00	05.5.00	05.5.00

Multi-VRF

Feature	XMR Series	MLX Series	CES 2000 Series BASE package	CES 2000 Series ME_PREM package	CES 2000 Series L3_PREM package	CER 2000 Series Base package	CER 2000 Series Advanced Services package
Multi-VRF IPv4	05.5.00	05.5.00	No	05.5.00	05.5.00	05.5.00	05.5.00

Feature	XMR Series	MLX Series	CES 2000 Series BASE package	CES 2000 Series ME_PREM package	CES 2000 Series L3_PREM package	CER 2000 Series Base package	CER 2000 Series Advanced Services package
Multi-VRF IPv6	05.5.00	05.5.00	No	No	05.5.00	No	05.5.00
Multi-VRF for IPv4 Unicast - Static routing	05.5.00	05.5.00	No	05.5.00	05.5.00	05.5.00	05.5.00
Multi-VRF for IPv4 Unicast - RIP	05.5.00	05.5.00	No	05.5.00	05.5.00	05.5.00	05.5.00
Multi-VRF for IPv4 Unicast - OSPF	05.5.00	05.5.00	No	05.5.00	05.5.00	05.5.00	05.5.00
Multi-VRF for IPv4 Unicast - BGP	05.5.00	05.5.00	No	No	05.5.00	05.5.00	05.5.00
Multi-VRF for IBGP	05.5.00	05.5.00	No	No	05.5.00	05.5.00	05.5.00
IPv4 VRF Support	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00
Configuring a Static IP Route between VRFs	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00
Inter-VRF Routing IPv4	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00
Inter-VRF Routing IPv6	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00
VRF Support for VE over VPLS	05.8.00	05.8.00	No	No	No	No	No
VRF Scaling	No	05.8.00	No	No	No	No	No

OSPF - IPv4 Open Shortest Path First

Feature	XMR Series	MLX Series	CES 2000 Series BASE package	CES 2000 Series ME_PREM package	CES 2000 Series L3_PREM package	CER 2000 Series Base package	CER 2000 Series Advanced Services package
[introduced]	05.5.00	05.5.00	No	05.5.00	05.5.00	05.5.00	05.5.00
OSPF Graceful Restart	05.5.00	05.5.00	No	No	No	No	No
OSPF Graceful Restart helper-mode	05.5.00	05.5.00	No	05.5.00	05.5.00	05.5.00	05.5.00
OSPF Dynamic Metric Calculation for LAGs/VE	05.5.00	05.5.00	No	05.5.00	05.5.00	05.5.00	05.5.00
OSPF Point-to-Point Links	05.5.00	05.5.00	No	05.5.00	05.5.00	05.5.00	05.5.00
OSPF Non-Broadcast	05.5.00	05.5.00	No	05.5.00	05.5.00	05.5.00	05.5.00
Router LSAs (Type 1)	05.5.00	05.5.00	No	05.5.00	05.5.00	05.5.00	05.5.00
Network LSAs (Type 2)	05.5.00	05.5.00	No	05.5.00	05.5.00	05.5.00	05.5.00
OSPF Type 3 Inter-area Summary-LSA Filter	05.5.00	05.5.00	No	No	05.5.00	05.5.00	05.5.00
Inter-area prefix LSAs for ABRs (Type 3)	05.5.00	05.5.00	No	05.5.00	05.5.00	05.5.00	05.5.00
Inter-area router LSAs for ASBRs (Type 4)	05.5.00	05.5.00	No	05.5.00	05.5.00	05.5.00	05.5.00
Autonomous system external LSAs (Type 5)	05.5.00	05.5.00	No	05.5.00	05.5.00	05.5.00	05.5.00
Link LSAs (Type 8)	05.5.00	05.5.00	No	05.5.00	05.5.00	05.5.00	05.5.00
Intra-area prefix LSAs (Type 9)	05.5.00	05.5.00	No	05.5.00	05.5.00	05.5.00	05.5.00
OSPF Distribute List	05.5.00	05.5.00	No	05.5.00	05.5.00	05.5.00	05.5.00

Feature	XMR Series	MLX Series	CES 2000 Series BASE package	CES 2000 Series ME_PREM package	CES 2000 Series L3_PREM package	CER 2000 Series Base package	CER 2000 Series Advanced Services package
OSPF Administrative Distance Control Using Route Maps	05.5.00	05.5.00	No	05.5.00	05.5.00	05.5.00	05.5.00
OSPF Non-stop routing (NSR)	05.5.00	05.5.00	No	No	No	No	No
OSPFv3 Virtual-Link Enhancement: Dynamic Tunnel Calculation	05.5.00	05.5.00	No	05.5.00	05.5.00	05.5.00	05.5.00
New encryption code for passwords, authentication keys, and community strings	05.5.00	05.5.00	No	No	No	No	No
Support for the **show ip ospf interface** command with interface filters	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00
OSPF VRF-Lite for CE routers	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00
OSPFv2 interfaces to passive state globally	05.5.00	05.5.00	No	05.5.00	05.5.00	05.5.00	05.5.00

OSPFv3 - IPv6 Open Shortest Path First

Feature	XMR Series	MLX Series	CES 2000 Series BASE package	CES 2000 Series ME_PREM package	CES 2000 Series L3_PREM package	CER 2000 Series Base package	CER 2000 Series Advanced Services package
[introduced]	05.5.00	05.5.00	No	05.5.00	05.5.00	05.5.00	05.5.00
Link-State Advertisement Router LSAs (Type 1)	05.5.00	05.5.00	No	05.5.00	05.5.00	05.5.00	05.5.00
Link-State Advertisement Network LSAs (Type 2)	05.5.00	05.5.00	No	05.5.00	05.5.00	05.5.00	05.5.00
Link-State Advertisement Inter-area prefix LSAs for ABRs (Type 3)	05.5.00	05.5.00	No	05.5.00	05.5.00	05.5.00	05.5.00
Link-State Advertisement Inter-area router LSAs for ASBRs (Type 4)	05.5.00	05.5.00	No	05.5.00	05.5.00	05.5.00	05.5.00
Link-State Advertisement Autonomous system external LSAs (Type 5)	05.5.00	05.5.00	No	05.5.00	05.5.00	05.5.00	05.5.00
Link-State Advertisement Link LSAs (Type 8)	05.5.00	05.5.00	No	05.5.00	05.5.00	05.5.00	05.5.00
Link-State Advertisement	05.5.00	05.5.00	No	05.5.00	05.5.00	05.5.00	05.5.00
Intra-area prefix LSAs (Type 9)	05.5.00	05.5.00	No	05.5.00	05.5.00	05.5.00	05.5.00
IPsec for OSPFv3	05.5.00	05.5.00	No	05.5.00	05.5.00	05.5.00	05.5.00
New encryption code for passwords, authentication keys, and community strings	05.5.00	05.5.00	No	05.5.00	05.5.00	05.5.00	05.5.00
Redistributing Routes into OSPFv3	05.5.00	05.5.00	No	05.5.00	05.5.00	05.5.00	05.5.00
Filtering OSPFv3 Routes	05.5.00	05.5.00	No	05.5.00	05.5.00	05.5.00	05.5.00

Feature	XMR Series	MLX Series	CES 2000 Series BASE package	CES 2000 Series ME_PREM package	CES 2000 Series L3_PREM package	CER 2000 Series Base package	CER 2000 Series Advanced Services package
Default Route Origination	05.5.00	05.5.00	No	05.5.00	05.5.00	05.5.00	05.5.00
Shortest Path First Timers	05.5.00	05.5.00	No	05.5.00	05.5.00	05.5.00	05.5.00
Event Logging	05.5.00	05.5.00	No	05.5.00	05.5.00	05.5.00	05.5.00
OSPFv3 interfaces to passive state globally	05.5.00	05.5.00	No	05.5.00	05.5.00	05.5.00	05.5.00
OSPFv3 GR Helper mode	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00
OSPFv3 NSR Helper Support	05.5.00	05.5.00	No	No	No	No	No

RIP - IPv4 Routing Information Protocol

Feature	XMR Series	MLX Series	CES 2000 Series BASE package	CES 2000 Series ME_PREM package	CES 2000 Series L3_PREM package	CER 2000 Series Base package	CER 2000 Series Advanced Services package
RIP V1	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00
RIP V1 compatible with V2	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00
RIP Version 2 (the default)	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00
Administrative Distances	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00
Redistribution	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00
Route Learning and Advertising Parameters	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00
Changing the Route Loop Prevention Method	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00
Suppressing RIP Route Advertisement on a VRRP or VRRP-E Backup Interface	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00
RIP Timers	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00
RIP Filters	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00

RIPng - IPv6 Routing Information Protocol

Feature	XMR Series	MLX Series	CES 2000 Series BASE package	CES 2000 Series ME_PREM package	CES 2000 Series L3_PREM package	CER 2000 Series Base package	CER 2000 Series Advanced Services package
[introduced]	05.5.00	05.5.00	No	05.5.00	05.5.00	05.5.00	05.5.00
RIPng Timers	05.5.00	05.5.00	No	05.5.00	05.5.00	05.5.00	05.5.00

Feature	XMR Series	MLX Series	CES 2000 Series BASE package	CES 2000 Series ME_PREM package	CES 2000 Series L3_PREM package	CER 2000 Series Base package	CER 2000 Series Advanced Services package
Default Route Learning and Advertising	05.5.00	05.5.00	No	05.5.00	05.5.00	05.5.00	05.5.00
Redistributing Routes Into RIPng	05.5.00	05.5.00	No	05.5.00	05.5.00	05.5.00	05.5.00
Controlling Distribution of Routes through RIPng	05.5.00	05.5.00	No	05.5.00	05.5.00	05.5.00	05.5.00
Distribution of Routes through RIPng	05.5.00	05.5.00	No	05.5.00	05.5.00	05.5.00	05.5.00
Poison Reverse Parameters	05.5.00	05.5.00	No	05.5.00	05.5.00	05.5.00	05.5.00

Static Routing (IPv4)

Feature	XMR Series	MLX Series	CES 2000 Series BASE package	CES 2000 Series ME_PREM package	CES 2000 Series L3_PREM package	CER 2000 Series Base package	CER 2000 Series Advanced Services package
MAC age time	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00
Static ARP entries	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00
Naming a Static IP Route	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00
Dropping Traffic Sent to the Null ( ) Interface in Hardware	05.5.00	05.5.00	No	No	No	No	No
CAM Default Route Aggregation	05.5.00	05.5.00	No	No	No	No	No
Static route to an LSP Tunnel Interface	05.5.00	05.5.00	No	No	No	No	No

Static Routing (IPv6)

Feature	XMR Series	MLX Series	CES 2000 Series BASE package	CES 2000 Series ME_PREM package	CES 2000 Series L3_PREM package	CER 2000 Series Base package	CER 2000 Series Advanced Services package
Static IPv6 Route	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00
IPv6 Static Multicast Route	05.5.00	05.5.00	No	No	No	No	No
Static IPv6 ND on VE without physical port	05.7.00	05.7.00	No	05.7.00	05.7.00	05.7.00	05.7.00

VRRPv2 - Virtual Router Redundancy Protocol Version 2

Feature	XMR Series	MLX Series	CES 2000 Series BASE package	CES 2000 Series ME_PREM package	CES 2000 Series L3_PREM package	CER 2000 Series Base package	CER 2000 Series Advanced Services package
Standard VRRP	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00
VRRP Extended (VRRP-E)	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00
VRRP v2 Authentication	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00
VRRP-E MD5 Authentication	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00
VRRP and VRRP-E password display	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00
VRRP alongside RIP	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00
VRRP alongside OSPF	05.5.00	05.5.00	No	05.5.00	05.5.00	05.5.00	05.5.00
VRRP alongside BGP4	05.5.00	05.5.00	No	05.5.00	05.5.00	05.5.00	05.5.00
VRRP Track Port	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00
VRRP Track Priority	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00
VRRP Backup Preempt	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00
VRRP Master Router Abdication and Reinstatement	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00
VRRP-E Slow Start	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00
VRRP-E Scale Timer	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00
VRRP-E Extension for Server Virtualization	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00
Virtual MAC address per VRID	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00
VRRP-E multiple virtual IP addresses	05.8.00	05.8.00	05.8.00	05.8.00	05.8.00	05.8.00	05.8.00
VRRP-E scaling using logical groups	05.8.00	05.8.00	05.8.00	05.8.00	05.8.00	05.8.00	05.8.00

VRRPv3 - Virtual Router Redundancy Protocol Version 3

Feature	XMR Series	MLX Series	CES 2000 Series BASE package	CES 2000 Series ME_PREM package	CES 2000 Series L3_PREM package	CER 2000 Series Base package	CER 2000 Series Advanced Services package
VRRP v3 for IPv4 and IPv6	05.5.00	05.5.00	No	05.5.00	05.5.00	05.5.00	05.5.00
VRRP-E v6	05.5.00	05.5.00	No	05.5.00	05.5.00	05.5.00	05.5.00
Automatic generation of the virtual link-local address for VRRP for IPv6	05.9.00	05.9.00	05.9.00	05.9.00	05.9.00	05.9.00	05.9.00

Security

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802.1x Port-based Authentication

Feature	XMR Series	MLX Series	CES 2000 Series BASE package	CES 2000 Series ME_PREM package	CES 2000 Series L3_PREM package	CER 2000 Series Base package	CER 2000 Series Advanced Services package
802.1x Port Security and sFlow	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00
Dynamic VLAN Assignment for 802.1x Ports	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00
Strict Security Mode for Dynamic Filter Assignment	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00
Dynamically Applying Existing ACLs or MAC Address Filter	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00
Per-User IP ACLs or MAC Address Filters	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00
Periodic Re-Authentication	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00
Re-Authenticating a Port Manually	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00
Quiet Periods	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00
EAP-Request or Identity Frame Retransmissions	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00
Timeouts for Retransmission of Messages to the Authentication Server	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00
Timeout for Retransmission of EAP-Request Frames to the client	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00
Allowing Multiple 802.1x clients to Authenticate	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00
Authentication Method List for 802.1x	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00

Feature	XMR Series	MLX Series	CES 2000 Series BASE package	CES 2000 Series ME_PREM package	CES 2000 Series L3_PREM package	CER 2000 Series Base package	CER 2000 Series Advanced Services package
Multi-Device Port Authentication and 802.1x on the Same Interface	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00

AAA - Authentication, Authorization, and Accounting

Feature	XMR Series	MLX Series	CES 2000 Series BASE package	CES 2000 Series ME_PREM package	CES 2000 Series L3_PREM package	CER 2000 Series Base package	CER 2000 Series Advanced Services package
Restricting Remote Access to Management Functions	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00
AAA on the Console	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00
AAA Authentication-Method Lists	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00
Multi-Device Port Authentication	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00
Authentication-Failure Action	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00

ACLs - Access Control Lists

Feature	XMR Series	MLX Series	CES 2000 Series BASE package	CES 2000 Series ME_PREM package	CES 2000 Series L3_PREM package	CER 2000 Series Base package	CER 2000 Series Advanced Services package
Automatic ACL Update on VLAN Ports	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00
Hardware Rule-Based ACLs	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00
Named ACLs	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00
Numbered ACLs	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00
Standard ACLs	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00
Extended ACLs	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00
Simultaneous per-VLAN rate limit and QoS	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00
Modifying ACLs	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00
Deleting ACL Entries	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00
ACL Duplication Check	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00
ACL Conflict Check	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00
Binding IPv4 Inbound ACLs to a Management Port	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00
ACL CAM sharing for Inbound ACLs	05.5.00	05.5.00	No	No	No	No	No
CAM sharing	05.5.00	05.5.00	No	No	No	No	No

Feature	XMR Series	MLX Series	CES 2000 Series BASE package	CES 2000 Series ME_PREM package	CES 2000 Series L3_PREM package	CER 2000 Series Base package	CER 2000 Series Advanced Services package
ACL Deny Logging	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00
ACL Accounting	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00
Ability to bind Layer 2 ACL and Layer 3 or Layer 4 ACL concurrently	No	No	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00
Layer 3 or Layer 4 ACLs and ACL-based QoS	No	No	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00
Receive ACL (RACL) Statistics	05.5.00	05.5.00	No	No	No	No	No
Disabling Outbound ACLs for Switching Traffic	05.5.00	05.5.00	No	No	No	No	No
Support for acl-frag-conservative	05.5.00	05.5.00	No	No	No	No	No
Support for "priority" keyword in ACLs	05.5.00	05.5.00	No	No	No	No	No
IP broadcast ACL	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00
IPv6 Access Control List	05.5.00	05.5.00	No	05.5.00	05.5.00	05.5.00	05.5.00
Filtering IPv6 Packets Based on DSCP Values	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00
Filtering IPv6 Packets Based on Routing Header Type	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00
Applying an IPv6 ACL to a Router Interface	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00
Adding a Comment to an IPv6 ACL Entry	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00
ACL CAM sharing for Inbound IPv6 ACLs	05.5.00	05.5.00	No	No	No	No	No
IPv6 Extended ACLs	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00
ACL CAM sharing	05.5.00	05.5.00	No	05.5.00	05.5.00	05.5.00	05.5.00
IPv6 ACL Accounting	05.5.00	05.5.00	No	05.5.00	05.5.00	05.5.00	05.5.00
Filtering Based on Ethertype	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00
Filtering Based on Ethertype IPv6	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00
Filtering and Priority Manipulation Based on 802.1p Priority	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00
Binding a Layer 2 ACL Table to an Interface	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00
VRF ACL	05.5.00	05.5.00	No	05.5.00	05.5.00	05.5.00	05.5.00
DSCP re-marking using outbound ACLs	No	No	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00
Using the Priority Option	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00
Using the Priority Force Option	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00
Using the Priority Mapping Option	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00
ACL Accounting	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00
ACL Editing	05.6.00	05.6.00	No	No	No	No	No
IPv6 Receive ACLs	05.6.00	05.6.00	No	No	No	No	No
IPv6 ACL Scaling Enhancement	05.6.00	05.6.00	No	No	No	No	No

Feature	XMR Series	MLX Series	CES 2000 Series BASE package	CES 2000 Series ME_PREM package	CES 2000 Series L3_PREM package	CER 2000 Series Base package	CER 2000 Series Advanced Services package
TCAM Error Detection and Recovery (Syslog Only)	No	05.7.00b	No	No	No	No	No
IPv6 ACL for SNMPv3 access	05.9.00a	05.9.00a	05.9.00a	05.9.00a	05.9.00a	05.9.00a	05.9.00a
IPv6 ACL deny logging	06.0.00	06.0.00	06.0.00	06.0.00	06.0.00	06.0.00	06.0.00
IPv6 ACL per SNMP server group	06.0.00	06.0.00	06.0.00	06.0.00	06.0.00	06.0.00	06.0.00
IPv6 ACL rate-limiting	06.1.00	06.1.00	06.1.00	06.1.00	06.1.00	06.1.00	06.1.00

DoS (Denial of Service) protection

Feature	XMR Series	MLX Series	CES 2000 Series BASE package	CES 2000 Series ME_PREM package	CES 2000 Series L3_PREM package	CER 2000 Series Base package	CER 2000 Series Advanced Services package
[introduced]	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00
Protection Against smurf Attacks	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00
Protection Against TCP SYN Attacks	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00
Protection Against TCP Reset Attacks	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00
Protection against UDP attacks	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00

HTTP/HTTPS

Feature	XMR Series	MLX Series	CES 2000 Series BASE package	CES 2000 Series ME_PREM package	CES 2000 Series L3_PREM package	CER 2000 Series Base package	CER 2000 Series Advanced Services package
Web Management Interface	05.5.00	05.5.00	No	No	No	No	No
SSL Security for the Web Management Interface	05.5.00	05.5.00	No	No	No	No	No
TLS 1.2 Security Support	05.8.00	05.8.00	05.8.00[2]	05.8.00[2]	05.8.00[2]	05.8.00[2]	05.8.00[2]

[2] In client mode only

IPsec - IP Security

Feature	XMR Series	MLX Series	CES 2000 Series BASE package	CES 2000 Series ME_PREM package	CES 2000 Series L3_PREM package	CER 2000 Series Base package	CER 2000 Series Advanced Services package
[introduced]	No	05.8.00[3]	No	No	No	No	No
BR-MLX-10GX4-IPSEC-M	No	05.8.00[3]	No	No	No	No	No
Internet Protocol Security (IPsec) phase 2	No	05.9.00[3]	No	No	No	No	No
IKE/PKI logging	05.9.00a	05.9.00a	05.9.00a	05.9.00a	05.9.00a	05.9.00a	05.9.00a
NAT support for IKE	05.9.00a	05.9.00a	05.9.00a	05.9.00a	05.9.00a	05.9.00a	05.9.00a
ECDSA 256 support for IKE v2 authentication	05.9.00a	05.9.00a	05.9.00a	05.9.00a	05.9.00a	05.9.00a	05.9.00a
OpenSSL Lib Vulnerability update	05.9.00a	05.9.00a	05.9.00a	05.9.00a	05.9.00a	05.9.00a	05.9.00a
PKI Enhancement for certificate X509	05.9.00a	05.9.00a	05.9.00a	05.9.00a	05.9.00a	05.9.00a	05.9.00a
L2 over IPsec	No	05.9.00[3]	No	No	No	No	No
Track IPsec tunnels for VRPP failover	No	05.9.00[3]	No	No	No	No	No
OpenFlow to IPSEC logical port	06.1.00	06.1.00	06.1.00	06.1.00	06.1.00	06.1.00	06.1.00

IP Source Guard

Feature	XMR Series	MLX Series	CES 2000 Series BASE package	CES 2000 Series ME_PREM package	CES 2000 Series L3_PREM package	CER 2000 Series Base package	CER 2000 Series Advanced Services package
IP Source Guard	05.5.00	05.5.00	No	No	No	No	No

MAC Port-based Authentication

Feature	XMR Series	MLX Series	CES 2000 Series BASE package	CES 2000 Series ME_PREM package	CES 2000 Series L3_PREM package	CER 2000 Series Base package	CER 2000 Series Advanced Services package
MAC Port Security	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00
Port Security Age Timer	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00
Denying Specific MAC Addresses	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00

[3] Supported only on MLX-E series

Feature	XMR Series	MLX Series	CES 2000 Series BASE package	CES 2000 Series ME_PREM package	CES 2000 Series L3_PREM package	CER 2000 Series Base package	CER 2000 Series Advanced Services package
Port Security MAC Violation Limit	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00

MACsec - Media Access Control security

Feature	XMR Series	MLX Series	CES 2000 Series BASE package	CES 2000 Series ME_PREM package	CES 2000 Series L3_PREM package	CER 2000 Series Base package	CER 2000 Series Advanced Services package
IEEE 802.1AE: Media Access Control Security (MACsec)	05.8.00	05.8.00	No	No	No	No	No
Authenticated MAC Addresses	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00
MAC Address Filters	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00
Authenticating Multiple MAC Addresses on an Interface	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00
Aging Time for Blocked MAC Addresses	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00

PBR - Policy-Based Routing

Feature	XMR Series	MLX Series	CES 2000 Series BASE package	CES 2000 Series ME_PREM package	CES 2000 Series L3_PREM package	CER 2000 Series Base package	CER 2000 Series Advanced Services package
[introduced]	05.5.00	05.5.00	No	05.5.00	05.5.00	05.5.00	05.5.00
Policy-based routing with the preserve VLAN option	05.5.00	05.5.00	No	No	No	No	No
Next Hop VLAN Flooding	05.5.00	05.5.00	No	No	No	No	No
Policy-Based Routing over a GRE Tunnel	05.5.00	05.5.00	No	05.5.00	05.5.00	05.5.00	05.5.00
Policy-Based Routing over a GRE interface	05.5.00	05.5.00	No	05.5.00	05.5.00	05.5.00	05.5.00
Setting the Output Interface to the Null Interface	05.5.00	05.5.00	No	05.5.00	05.5.00	05.5.00	05.5.00
Selectively Applying Normal Routing to Packets	05.5.00	05.5.00	No	05.5.00	05.5.00	05.5.00	05.5.00
Configure the Route Map	05.5.00	05.5.00	No	05.5.00	05.5.00	05.5.00	05.5.00
PBR Policy Scaling Enhancements	05.6.00	05.6.00	No	No	No	No	No
PBR VLAN Preservation for the MLXe 24-Port 10 GbE (DM) SFP+ Module	05.6.00	05.6.00	No	No	No	No	No

Feature	XMR Series	MLX Series	CES 2000 Series BASE package	CES 2000 Series ME_PREM package	CES 2000 Series L3_PREM package	CER 2000 Series Base package	CER 2000 Series Advanced Services package
802.1br and VNTAG header stripping header stripping	05.9.00b	05.9.00b	No	No	No	No	No
IPv6 Policy-Based Routing (PBR)	05.5.00	05.5.00	No	05.5.00	05.5.00	05.5.00	05.5.00
Policy-Based Routing (PBR) with Preserve VLAN option	05.5.00	05.5.00	No	No	No	No	No
SNMP support for Layer 2 PBR and byte offset for flexible ACL match	05.9.00a	05.9.00a	No	No	No	No	No
IPv6 PBR with MPLS, GRE as nexthop	06.1.00	06.1.00	06.1.00	06.1.00	06.1.00	06.1.00	06.1.00

RADIUS

Feature	XMR Series	MLX Series	CES 2000 Series BASE package	CES 2000 Series ME_PREM package	CES 2000 Series L3_PREM package	CER 2000 Series Base package	CER 2000 Series Advanced Services package
RADIUS Parameters	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00
RADIUS Security	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00
Designated interface as the source for all RADIUS packets	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00
Interactive multi-factor RADIUS security support (for example, for RSA SecurID)	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00
Encrypted RADIUS connection	05.9.00a	05.9.00a	05.9.00a	05.9.00a	05.9.00a	05.9.00a	05.9.00a
RADIUS over TCP/TLS	06.0.00	06.0.00	06.0.00	06.0.00	06.0.00	06.0.00	06.0.00

SSH - Secure Shell

Feature	XMR Series	MLX Series	CES 2000 Series BASE package	CES 2000 Series ME_PREM package	CES 2000 Series L3_PREM package	CER 2000 Series Base package	CER 2000 Series Advanced Services package
SSH Authentication Into Privileged EXEC Mode	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00
SSH server Transport Layer Protocol	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00
SSH server Authentication Protocol	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00
SSH server Connection Protocol	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00
SSH server Fingerprint Format	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00
SSH server Protocol Assigned Numbers	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00

Feature	XMR Series	MLX Series	CES 2000 Series BASE package	CES 2000 Series ME_PREM package	CES 2000 Series L3_PREM package	CER 2000 Series Base package	CER 2000 Series Advanced Services package
SCP for Copying code images	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00
SSH server Transport Layer Encryption Modes	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00
CP or SFTP or SSH server URI Format	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00
DSA challenge-response authentication	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00
RSA challenge-response authentication	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00
Outbound SSHv2	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00
3DES as the encryption algorithm	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00
AES as the encryption algorithm	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00
SHA 1 as the MAC algorithm	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00
AES Encryption for SSHv2	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00
DSA for SSHv2	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00
RSA for SSHv2	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00

TACACS & TACACS+

Feature	XMR Series	MLX Series	CES 2000 Series BASE package	CES 2000 Series ME_PREM package	CES 2000 Series L3_PREM package	CER 2000 Series Base package	CER 2000 Series Advanced Services package
[introduced]	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00
TACACS+ Validation of Reply Packets	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00

User Accounts & Passwords

Feature	XMR Series	MLX Series	CES 2000 Series BASE package	CES 2000 Series ME_PREM package	CES 2000 Series L3_PREM package	CER 2000 Series Base package	CER 2000 Series Advanced Services package
Setting Up Local User Accounts	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00
New encryption code for passwords, authentication keys, and community strings	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00
Password authentication	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00

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OpenFlow

Feature	XMR Series	MLX Series	CES 2000 Series BASE package	CES 2000 Series ME_PREM package	CES 2000 Series L3_PREM package	CER 2000 Series Base package	CER 2000 Series Advanced Services package
OpenFlow v1.0.0	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00
OpenFlow enabled on per-port basis (Hybrid switch mode)	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00
OpenFlow Layer 3 Hybrid Port Mode	05.5.00	05.5.00	No	No	No	No	No
Layer 2 OpenFlow match rules	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00
Layer 3 OpenFlow match rules	05.5.00	05.5.00	No	No	No	No	No
Match both source and destination MAC addresses	05.5.00	05.5.00	No	No	No	No	No
Support for passive mode on the device	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00
OpenFlow actions	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00
OpenFlow Hybrid Port Mode for VPLS Instances	05.6.00	05.6.00	No	No	No	No	No
OpenFlow Scaling Enhancement	05.6.00	05.6.00	05.6.00	05.6.00	05.6.00	05.6.00	05.6.00
OpenFlow Layer 2 and Layer 3 Matching	05.6.00	05.6.00	05.6.00	05.6.00	05.6.00	05.6.00	05.6.00
OpenFlow on individual LAG ports	05.7.00	05.7.00	No	No	No	No	No
OpenFlow 1.3	05.7.00	05.7.00	05.7.00 [4]	05.7.00[4]	05.7.00[4]	05.7.00[4]	05.7.00[4]
OpenFlow 1.3 (Phase 1) - Port Group Table (All)	05.7.00b	05.7.00b	05.7.00b	05.7.00b	05.7.00b	05.7.00b	05.7.00b
OpenFlow v1.3 (Phase 2)	05.8.00	05.8.00	05.8.00	05.8.00	05.8.00	05.8.00	05.8.00
OpenFlow v1.3 (Phase 3)	05.9.00	05.9.00	05.9.00 [5]	05.9.00[5]	05.9.00[5]	05.9.00[5]	05.9.00[5]
Single command to debug CAM entry	05.9.00	05.9.00	No	No	No	No	No
OpenFlow to MPLS LSP as logical port	No	06.0.00	No	No	No	No	No
OpenFlow traffic load-balancing across MPLS LSPs	06.1.00	06.1.00	06.1.00	06.1.00	06.1.00	06.1.00	06.1.00
Untagged matching support in OF	06.1.00	06.1.00	06.1.00	06.1.00	06.1.00	06.1.00	06.1.00

[4] Not all features are supported.
[5] Hybrid MPLS port not supported

MPLS

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BGP/MPLS VPN

Feature	XMR Series	MLX Series	CES 2000 Series BASE package	CES 2000 Series ME_PREM package	CES 2000 Series L3_PREM package	CER 2000 Series Base package	CER 2000 Series Advanced Services package
Defining a VRF Routing Instance	05.5.00	05.5.00	No	05.5.00	05.5.00	05.5.00	05.5.00
Generating Traps for VRFs	05.5.00	05.5.00	No	05.5.00	05.5.00	05.5.00	05.5.00
Route Distinguisher to a VRF	05.5.00	05.5.00	No	05.5.00	05.5.00	No	05.5.00
Automatic Route Filtering	05.5.00	05.5.00	No	05.5.00	05.5.00	No	05.5.00
Assigning a VRF Routing Instance to a LAG Interface	05.5.00	05.5.00	No	05.5.00	05.5.00	05.5.00	05.5.00
Cooperative Route Filtering	05.5.00	05.5.00	No	05.5.00	05.5.00	No	05.5.00
Importing and Exporting Route Maps in a VRF	05.5.00	05.5.00	No	05.5.00	05.5.00	No	05.5.00
Defining an External Community with a Route Map	05.5.00	05.5.00	No	05.5.00	05.5.00	No	05.5.00
VPNv4 Route Reflector	05.5.00	05.5.00	No	05.5.00	05.5.00	No	05.5.00
BGP VRF Load Sharing	05.5.00	05.5.00	No	05.5.00	05.5.00	No	05.5.00
ECMP forwarding for IP VPN	05.5.00	05.5.00	No	05.5.00	05.5.00	No	05.5.00
Autonomous System Number Override	05.5.00	05.5.00	No	05.5.00	05.5.00	No	05.5.00
Allow routes from a router with AS number used by the router	05.5.00	05.5.00	No	05.5.00	05.5.00	No	05.5.00
Defining an External Community	05.5.00	05.5.00	No	05.5.00	05.5.00	No	05.5.00
LSPs per VRF	05.5.00	05.5.00	No	05.5.00	05.5.00	No	05.5.00
OSPF Sham Links	05.5.00	05.5.00	No	05.5.00	05.5.00	No	05.5.00
OSPF on a PE Device to Redistribute BGP-VPNv4 Routes	05.5.00	05.5.00	No	05.5.00	05.5.00	No	05.5.00
Adding a Static ARP Entry for a VRF	05.5.00	05.5.00	No	05.5.00	05.5.00	05.5.00	05.5.00
Configuring an IP Static Interface Route Across VRFs	05.5.00	05.5.00	No	05.5.00	05.5.00	05.5.00	05.5.00
IP TTL to MPLS TTL Propagation in an IP VPN	05.5.00	05.5.00	No	05.5.00	05.5.00	No	05.5.00

Feature	XMR Series	MLX Series	CES 2000 Series BASE package	CES 2000 Series ME_PREM package	CES 2000 Series L3_PREM package	CER 2000 Series Base package	CER 2000 Series Advanced Services package
Static Route within the VRF Context	05.5.00	05.5.00	No	05.5.00	05.5.00	05.5.00	05.5.00
Backup Virtual Router for VRF Using VRRP-E	05.5.00	05.5.00	No	05.5.00	05.5.00	05.5.00	05.5.00
Ping and Traceroute for Layer 3 VPNs	05.5.00	05.5.00	No	05.5.00	05.5.00	No	05.5.00
Displaying BGP or MPLS VPNv4 Information	05.5.00	05.5.00	No	05.5.00	05.5.00	No	05.5.00

IP over MPLS

Feature	XMR Series	MLX Series	CES 2000 Series BASE package	CES 2000 Series ME_PREM package	CES 2000 Series L3_PREM package	CER 2000 Series Base package	CER 2000 Series Advanced Services package
IP over MPLS	05.5.00	05.5.00	No	05.5.00	No	No	05.5.00
BGP Shortcut with optional LSP metrics	05.5.00	05.5.00	No	05.5.00	05.5.00	No	05.5.00
BGP MPLS metric follow IGP	05.5.00	05.5.00	No	No	No	No	05.5.00
IS-IS Shortcuts	05.5.00	05.5.00	No	05.5.00	No	No	05.5.00
ECMP forwarding for IP over MPLS	05.5.00	05.5.00	No	No	No	No	No
LDP Route Injection	05.5.00	05.5.00	No	05.5.00	No	No	05.5.00
QoS Mapping Between IP Packets and MPLS	05.5.00	05.5.00	No	05.5.00	No	No	05.5.00
Using Traffic Engineered LSPs Within an AS	05.5.00	05.5.00	No	05.5.00	No	No	05.5.00
OSPF Shortcuts	05.5.00	05.5.00	No	05.5.00	No	No	05.5.00
BGP Shortcut Enhancement	05.5.00	05.5.00	No	No	05.5.00	No	05.5.00
IGP Ignore LSP Metric	05.5.00	05.5.00	No	05.5.00	No	No	05.5.00

IPv6 over MPLS

Feature	XMR Series	MLX Series	CES 2000 Series BASE package	CES 2000 Series ME_PREM package	CES 2000 Series L3_PREM package	CER 2000 Series Base package	CER 2000 Series Advanced Services package
IPv6 Provider Edge Router (6PE)	05.5.00	05.5.00	No	05.5.00	05.5.00	No	05.5.00

IPv6 over MPLS VPN

Feature	XMR Series	MLX Series	CES 2000 Series BASE package	CES 2000 Series ME_PREM package	CES 2000 Series L3_PREM package	CER 2000 Series Base package	CER 2000 Series Advanced Services package
IPv6 L3VPNs (6VPE)	05.5.00	05.5.00	No	No	05.5.00	No	05.5.00

LDP - Label Distribution Protocol

Feature	XMR Series	MLX Series	CES 2000 Series BASE package	CES 2000 Series ME_PREM package	CES 2000 Series L3_PREM package	CER 2000 Series Base package	CER 2000 Series Advanced Services package
[introduced]	05.5.00	05.5.00	No	05.5.00	No	No	05.5.00
Configurable LDP Identifier	05.5.00	05.5.00	No	05.5.00	No	No	05.5.00
LDP ECMP for transit LSR	05.5.00	05.5.00	No	No	No	No	No
LDP Hello Interval and Hold Timeout Values	05.5.00	05.5.00	No	05.5.00	No	No	05.5.00
LDP Message Authentication	05.5.00	05.5.00	No	05.5.00	No	No	05.5.00
New encryption code for passwords, authentication keys, and community strings	05.5.00	05.5.00	No	05.5.00	No	No	05.5.00
Option of FEC Type for Auto-discovered VPLS Peers	05.5.00	05.5.00	No	No	No	No	No
MPLS Signaling: LDP support	05.5.00	05.5.00	No	05.5.00	No	No	05.5.00
Resetting LDP neighbor	05.5.00	05.5.00	No	05.5.00	No	No	05.5.00
LDP graceful restart	05.5.00	05.5.00	No	No	No	No	05.5.00
LDP over RSVP (for transit LSR only)	05.5.00	05.5.00	No	05.5.00	05.5.00	05.5.00	05.5.00
MPLS over GRE tunnel	05.5.00	05.5.00	No	No	No	No	No
LDP Label Withdraw Delay	05.5.00	05.5.00	No	05.5.00	No	No	05.5.00
MPLS LAG Hashing Enhancements	05.5.00	05.5.00	No	No	No	No	No
Displaying the LDP version	05.5.00	05.5.00	No	05.5.00	No	No	05.5.00
Displaying Information about Specified LDP-Enabled Interfaces	05.5.00	05.5.00	No	05.5.00	No	No	05.5.00
Displaying LDP FEC information	05.5.00	05.5.00	No	05.5.00	No	No	05.5.00
Displaying information for a specified LDP FEC type	05.5.00	05.5.00	No	05.5.00	No	No	05.5.00
Displaying LDP FEC summary information	05.5.00	05.5.00	No	05.5.00	No	No	05.5.00
Displaying LDP FEC VC information	05.5.00	05.5.00	No	05.5.00	No	No	05.5.00
Displaying information for a specified LDP FEC VC	05.5.00	05.5.00	No	05.5.00	No	No	05.5.00
Displaying LDP Neighbor Connection Information	05.5.00	05.5.00	No	05.5.00	No	No	05.5.00

Feature	XMR Series	MLX Series	CES 2000 Series BASE package	CES 2000 Series ME_PREM package	CES 2000 Series L3_PREM package	CER 2000 Series Base package	CER 2000 Series Advanced Services package
Displaying the LDP Packet Statistics	05.5.00	05.5.00	No	05.5.00	No	No	05.5.00
Masking MPLS label information	05.5.00	05.5.00	No	No	No	No	No
LDP Outbound FEC Filtering	05.6.00	05.6.00	No	05.6.00	No	No	05.6.00
MPLS RAS enhancement for LDP	05.7.00	05.7.00	05.7.00	05.7.00	05.7.00	05.7.00	05.7.00
LDP shortcut through tunnels	06.0.00	06.0.00	No	No	06.0.00	No	06.0.00
Source IP of LDP session	06.1.00	06.1.00	06.1.00	06.1.00	06.1.00	06.1.00	06.1.00

MPLS Traffic Engineering

Feature	XMR Series	MLX Series	CES 2000 Series BASE package	CES 2000 Series ME_PREM package	CES 2000 Series L3_PREM package	CER 2000 Series Base package	CER 2000 Series Advanced Services package
[introduced]	05.5.00	05.5.00	No	05.5.00	No	No	05.5.00
OSPF-TE Link State Advertisements for MPLS Interfaces	05.5.00	05.5.00	No	05.5.00	No	No	05.5.00
MPLS Traffic Engineering - OSPF-TE	05.5.00	05.5.00	No	05.5.00	No	No	05.5.00
MPLS Traffic Engineering - IS-IS-TE	05.5.00	05.5.00	No	05.5.00	No	No	05.5.00
IS-IS Link State Protocol data units with TE Extensions for MPLS Interfaces	05.5.00	05.5.00	No	05.5.00	No	No	05.5.00
RSVP Message Authentication	05.5.00	05.5.00	No	05.5.00	No	No	05.5.00
MPLS over Virtual Ethernet Interfaces	05.5.00	05.5.00	No	05.5.00	No	No	05.5.00
MPLS Signaling: LDP and RSVP-TE support	05.5.00	05.5.00	No	05.5.00	No	No	05.5.00
RSVP soft preemption	05.5.00	05.5.00	No	05.5.00	No	No	05.5.00
Auto-bandwidth for RSVP LSPs	05.5.00	05.5.00	No	No	No	No	No
Dynamic Bypass LSP	05.5.00	05.5.00	No	05.5.00	05.5.00	No	05.5.00
New encryption code for passwords, authentication keys, and community strings	05.5.00	05.5.00	No	05.5.00	No	No	05.5.00
Traffic Engineering Database	05.5.00	05.5.00	No	05.5.00	No	No	05.5.00
MPLS Fast Reroute Using One-to-One Backup	05.5.00	05.5.00	No	05.5.00	No	No	05.5.00
FRR bypass LSPs	05.5.00	05.5.00	No	05.5.00	No	No	05.5.00
Adaptive bypass LSPs	05.5.00	05.5.00	No	05.5.00	5.5	No	05.5.00
Resetting LSPs	05.5.00	05.5.00	No	05.5.00	No	No	05.5.00
Adaptive LSPs: Timer-triggered LSP optimization	05.5.00	05.5.00	No	05.5.00	No	No	05.5.00
Hot-standby LSPs	05.5.00	05.5.00	No	05.5.00	No	No	05.5.00

Feature	XMR Series	MLX Series	CES 2000 Series BASE package	CES 2000 Series ME_PREM package	CES 2000 Series L3_PREM package	CER 2000 Series Base package	CER 2000 Series Advanced Services package
RSVP Message Authentication	05.5.00	05.5.00	No	05.5.00	No	No	05.5.00
Signaled LSPs	05.5.00	05.5.00	No	05.5.00	No	No	05.5.00
LSP Accounting	05.5.00	05.5.00	No	No	No	No	No
LSP accounting statistics for single-hop LSP routes	05.5.00	05.5.00	No	No	No	No	No
Static Transit LSPs	05.5.00	05.5.00	No	05.5.00	No	No	05.5.00
MPLS BFD	05.5.00	05.5.00	No	No	No	No	No
IP over MPLS Traceroute	05.5.00	05.5.00	No	05.5.00	05.5.00	No	05.5.00
Traps and Syslogs for LSPs	05.5.00	05.5.00	No	05.5.00	No	No	05.5.00
Show Command to Display TE path	05.5.00	05.5.00	No	05.5.00	No	No	05.5.00
Enhancements to MPLS path and route display	05.5.00	05.5.00	No	05.5.00	No	No	05.5.00
Display changes for MPLS show commands for long LSP and Path names	05.5.00	05.5.00	No	05.5.00	No	No	05.5.00
RSVP refresh reduction	05.5.00	05.5.00	No	05.5.00	No	No	05.5.00
RSVP reliable messaging	05.5.00	05.5.00	No	05.5.00	No	No	05.5.00
RSVP IGP Synchronization	05.5.00	05.5.00	No	05.5.00	No	No	05.5.00
MPLS traffic engineering flooding reduction	05.5.00	05.5.00	No	05.5.00	No	No	05.5.00
MPLS CSPF Scalability Optimization	05.5.00	05.5.00	No	05.5.00	No	No	05.5.00
P2MP RSVP LSPs	05.5.00	05.5.00	No	No	No	No	05.5.00
RSVP IGP Synchronization for Remote Links	05.5.00	05.5.00	No	05.5.00	No	No	05.5.00
Multicast IGP RPF Shortcuts	05.5.00	05.5.00	No	05.5.00	5.5	No	05.5.00
sFlow Support for MPLS LSR and LER Interfaces	05.6.00	05.6.00	05.6.00	05.6.00	05.6.00	05.6.00	05.6.00
RSVP TE Link Metric for CSPF Computation	05.6.00	05.6.00	No	05.6.00	No	No	05.6.00
RSVP Liberal Bypass LSP Selection	05.6.00	05.6.00	No	05.6.00	No	No	05.6.00
RSVP Global Configuration for Refresh Reduction and Reliable Messaging	05.6.00	05.6.00	No	05.6.00	No	No	05.6.00
IPv4 Static Route over RSVP LSP	05.6.00	05.6.00	No	No	No	No	05.6.00
Link Protection Request for RSVP Fast Reroute	05.6.00	05.6.00	No	05.6.00	No	No	05.6.00
Max LDP ECMP at the Ingress LER	05.6.00	05.6.00	No	No	No	No	No
Max VPLS LSP Load Balance Scale for LER	05.6.00	05.6.00	No	No	No	No	No
RSVP Hello Messages for Neighbor Failure Detection	05.6.00	05.6.00	No	05.6.00	No	No	05.6.00
RSVP Auto-Bandwidth with Absolute Threshold	05.6.00	05.6.00	No	No	No	No	No
Bypass Tunnel Stats	05.7.00	05.7.00	No	05.7.00	No	No	05.7.00

Feature	XMR Series	MLX Series	CES 2000 Series BASE package	CES 2000 Series ME_PREM package	CES 2000 Series L3_PREM package	CER 2000 Series Base package	CER 2000 Series Advanced Services package
Persistent LSP tunnel index	No	05.9.00	No	05.9.00	05.9.00	No	05.9.00
RSVP per session statistics	05.9.00	05.9.00	No	05.9.00	No	No	05.9.00
Patch Computing Element Communication Protocol (PCEP)	06.0.00	06.0.00	No	No	06.0.00	No	06.0.00

MPLS VLL - Virtual Leased Line

Feature	XMR Series	MLX Series	CES 2000 Series BASE package	CES 2000 Series ME_PREM package	CES 2000 Series L3_PREM package	CER 2000 Series Base package	CER 2000 Series Advanced Services package
[introduced]	05.5.00	05.5.00	No	05.5.00	No	No	05.5.00
MPLS VLL Packet Encoding	05.5.00	05.5.00	No	05.5.00	No	No	05.5.00
QoS for VLL Traffic	05.5.00	05.5.00	No	05.5.00	No	No	05.5.00
Tagged or Raw Mode for a VLL	05.5.00	05.5.00	No	05.5.00	No	No	05.5.00
Dual tag support for MPLS VLL	05.5.00	05.5.00	No	No	No	No	No
VLL MTU Enforcement	05.5.00	05.5.00	No	05.5.00	No	No	05.5.00
VLL MTU	05.5.00	05.5.00	No	05.5.00	No	No	05.5.00
Display changes to the **show mpls vll detail** command	05.5.00	05.5.00	No	05.5.00	05.5.00	No	05.5.00
Local VLL	05.5.00	05.5.00	No	05.5.00	No	No	05.5.00
VLAN Translation	05.5.00	05.5.00	No	05.5.00	05.5.00	No	05.5.00
VPLS and VLL support - Per VLL MTU	05.5.00	05.5.00	No	05.5.00	No	No	05.5.00
Dynamic LAG support for VLL endpoints	05.5.00	05.5.00	No	05.5.00	No	No	05.5.00
Dual-tags for VLL-local	05.5.00	05.5.00	No	No	No	No	No
MPLS Signaling: RSVP-TE support	05.5.00	05.5.00	No	05.5.00	No	No	05.5.00
Traps for VLLs	05.5.00	05.5.00	No	05.5.00	No	No	05.5.00
MPLS Local VLL Traps	05.5.00	05.5.00	No	05.5.00	No	No	05.5.00
Disabling Syslog Messages for MPLS VLL-Local and VLL	05.5.00	05.5.00	No	05.5.00	No	No	05.5.00
Extended Counters support for VLL and Local VLL	05.5.00	05.5.00	No	No	No	No	No
VLL mapping to specific LSPs	05.7.00	05.7.00	No	05.7.00	No	No	05.7.00

MPLS VPLS - Virtual Private LAN Services

Feature	XMR Series	MLX Series	CES 2000 Series BASE package	CES 2000 Series ME_PREM package	CES 2000 Series L3_PREM package	CER 2000 Series Base package	CER 2000 Series Advanced Services package
[introduced]	05.5.00	05.5.00	No	05.5.00	No	No	05.5.00
Per-VPLS MAC Table Limit	05.5.00	05.5.00	No	05.5.00	No	No	05.5.00
Maximum Number of MAC Entries for a VPLS instance	05.5.00	05.5.00	No	05.5.00	No	No	05.5.00
LSP to Reach a Peer within a VPLS instance	05.5.00	05.5.00	No	05.5.00	No	No	05.5.00
LSP Load Balancing for VPLS Traffic	05.5.00	05.5.00	No	No	No	No	No
Dual tag support for VPLS and Local VPLS	05.5.00	05.5.00	No	No	No	No	No
VPLS Broadcast, Multicast, Unknown-Unicast Packet Limiting	05.5.00	05.5.00	No	No	No	No	No
Flooding Layer 2 BPDUs in VPLS	05.5.00	05.5.00	No	05.5.00	No	No	05.5.00
VPLS Tagged mode	05.5.00	05.5.00	No	No	No	No	No
VPLS Raw Pass-Through Mode	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00
VPLS CPU Protection	05.5.00	05.5.00	No	No	No	No	No
VLAN Translation	05.5.00	05.5.00	No	05.5.00	No	No	05.5.00
VPLS MTUs	05.5.00	05.5.00	No	05.5.00	No	No	05.5.00
Dynamic LAG support for VPLS endpoints	05.5.00	05.5.00	No	05.5.00	No	No	05.5.00
VPLS MTU Enforcement	05.5.00	05.5.00	No	05.5.00	No	No	05.5.00
VPLS Local Switching	05.5.00	05.5.00	No	05.5.00	No	No	05.5.00
MPLS VPLS Traps	05.5.00	05.5.00	No	05.5.00	No	No	05.5.00
Disabling Syslog Messages for MPLS VPLS	05.5.00	05.5.00	No	05.5.00	No	No	05.5.00
Local VPLS	05.5.00	05.5.00	No	05.5.00	No	No	05.5.00
VC label allocation managed by MPLS	05.5.00	05.5.00	No	05.5.00	No	No	05.5.00
VPLS LDP	05.5.00	05.5.00	No	05.5.00	No	No	05.5.00
VPLS FID sharing	05.5.00	05.5.00	No	05.5.00	No	No	05.5.00
Extended Counters support for VPLS	05.5.00	05.5.00	No	No	No	No	No
VPLS VLL Raw Mode Interoperability Extensions	05.5.00	05.5.00	No	05.5.00	No	No	05.5.00
Configurable VPLS MAC Aging Timers	05.5.00	05.5.00	No	05.5.00	No	No	05.5.00
VPLS Flooding and Broadcast Optimization	05.6.00	05.6.00	No	No	No	No	No
IPv4 Routing over VPLS	05.5.00	05.5.00	No	No	05.5.00	No	05.5.00
VRRP and VRRP-E support for Routing over VPLS	05.5.00	05.5.00	No	No	No	No	No
ACL support for VE over VPLS	05.5.00	05.5.00	No	No	05.5.00	No	05.5.00

Feature	XMR Series	MLX Series	CES 2000 Series BASE package	CES 2000 Series ME_PREM package	CES 2000 Series L3_PREM package	CER 2000 Series Base package	CER 2000 Series Advanced Services package
VPLS Static MAC	05.7.00	05.7.00	No	05.7.00	No	No	05.7.00
MCT support for Routing over VPLS (Inter DC)	05.7.00	05.7.00	No	No	No	No	No
BGP-Based Auto-Discovery for VPLS	05.5.00	05.5.00	No	No	No	No	No

Traffic Management

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HQoS - Hierarchical QoS

Feature	XMR Series	MLX Series	CES 2000 Series BASE package	CES 2000 Series ME_PREM package	CES 2000 Series L3_PREM package	CER 2000 Series Base package	CER 2000 Series Advanced Services package
HQoS	05.5.00	05.5.00	No	No	No	No	No
PBB	05.5.00	05.5.00	No	No	No	No	No
Local VPLS	05.5.00	05.5.00	No	No	No	No	No
Hierarchical Levels	05.5.00	05.5.00	No	No	No	No	No
10GX8-M Module	05.5.00	05.5.00	No	No	No	No	No
10GX8-X Module	05.5.00	05.5.00	No	No	No	No	No
HQoS Support for VPLS and LAG Interfaces	05.5.00	05.5.00	No	No	No	No	No
WRED Queue Management for HQoS	05.5.00	05.5.00	No	No	No	No	No

QoS - Quality of Service

Feature	XMR Series	MLX Series	CES 2000 Series BASE package	CES 2000 Series ME_PREM package	CES 2000 Series L3_PREM package	CER 2000 Series Base package	CER 2000 Series Advanced Services package
QoS for IPv6 Traffic	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00
Internet Protocol Television (IPTV) multicast streams	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00	05.5.00
Configurable TM Buffer Thresholds	05.6.00	05.6.00	No	No	No	No	No
Prioritizing management traffic to achieve QoS value	05.7.00	05.7.00	05.7.00	05.7.00	05.7.00	05.7.00	05.7.00

Rate Limiting and Shaping

Feature	XMR Series	MLX Series	CES 2000 Series BASE package	CES 2000 Series ME_PREM package	CES 2000 Series L3_PREM package	CER 2000 Series Base package	CER 2000 Series Advanced Services package
IPv6 ACL-Based Rate Limiting	05.6.00	05.6.00	No	No	No	No	No
Layer 2 Service Defense (Broadcast, Multicast, Unknown unicast) Limiting	05.7.00	05.7.00	05.7.00	05.7.00	05.7.00	05.7.00	05.7.00
Layer 2 Service Defense ARP guard	05.7.00	05.7.00	05.7.00	05.7.00	05.7.00	05.7.00	05.7.00
Rate Limit for CPU Bound TTL=1 and IP Options Packets	05.8.00	05.8.00	No	No	No	No	No
Rate limit to include control packets	05.9.00	05.9.00	No	No	No	No	No

Traffic Queuing and Scheduling

Feature	XMR Series	MLX Series	CES 2000 Series BASE package	CES 2000 Series ME_PREM package	CES 2000 Series L3_PREM package	CER 2000 Series Base package	CER 2000 Series Advanced Services package
CE 2.0 MLXe Enhancement	05.9.00a	05.9.00a	05.9.00a	05.9.00a	05.9.00a	05.9.00a	05.9.00a

RFC Compliance

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The RFC tables provide a consolidated view of all RFCs supported on the NetIron platforms. Footnotes indicate exceptions.

Border Gateway Protocol Version 4 (BGPv4)

RFC Number	RFC Name	MLX Series	XMR Series	CES 2000 Series	CER 2000 Series
RFC 1745	OSPF Interactions	05.6.00	05.6.00	05.6.00	05.6.00
RFC 1772	Application of BGP in the Internet	05.6.00	05.6.00	05.6.00	05.6.00
RFC 1997	Communities and Attributes	05.6.00	05.6.00	05.6.00	05.6.00
RFC 2385	BGP Session Protection via TCP MD5	05.6.00	05.6.00	05.6.00	05.6.00
RFC 2439	Route Flap Dampening	05.6.00	05.6.00	05.6.00	05.6.00
RFC 2918	Route Refresh Capability	05.6.00	05.6.00	05.6.00	05.6.00
RFC 4271	BGPv4	05.6.00	05.6.00	05.6.00	05.6.00
RFC 4273	Managed Objects for BGP	05.6.00	05.6.00	05.6.00	05.6.00
RFC 4456	Route Reflection	05.6.00	05.6.00	05.6.00	05.6.00
RFC 4486	Sub codes for BGP Cease Notification Message	05.6.00	05.6.00	05.6.00	05.6.00
RFC 4893	BGP Support for Four-octet AS Number Space	05.6.00	05.6.00	05.6.00	05.6.00
RFC 5065	BGP4 Confederations	05.6.00	05.6.00	05.6.00	05.6.00
RFC 5082	Generalized TTL Security Mechanism for eBGP Session Protection	05.8.00	05.8.00	05.8.00	05.8.00
RFC 5291	Outbound Route Filtering Capability for BGP-4	05.6.00	05.6.00	05.6.00	05.6.00
RFC 5396	Textual Representation of Autonomous System (AS) Numbers	05.6.00	05.6.00	05.6.00	05.6.00
RFC 5492	Capability Advertisement with BGP-4	05.8.00	05.8.00	05.8.00	05.8.00
RFC 5668	4-Octet AS specific BGP Extended Community	05.6.00	05.6.00	05.6.00	05.6.00

Open Shortest Path First (OSPF)

RFC Number	RFC Name	MLX Series	XMR Series	CES 2000 Series	CER 2000 Series
RFC 1584	Multicast Extensions to OSPF	05.6.00	05.6.00	05.6.00	05.6.00
RFC 1745	OSPF Interactions	05.6.00	05.6.00	05.6.00	05.6.00
RFC 1765	OSPF Database Overflow	05.6.00	05.6.00	05.6.00	05.6.00
RFC 2154	OSPF w/Digital Signatures (Password, MD-5)	05.6.00	05.6.00	05.6.00	05.6.00
RFC 2328	OSPF v2	05.6.00	05.6.00	05.6.00	05.6.00
RFC 2370	OSPF Opaque LSA Option	05.6.00	05.6.00	05.6.00	05.6.00
RFC 3101	OSPF NSSA	05.6.00	05.6.00	05.6.00	05.6.00
RFC 3137	OSPF Stub Router Advertisement	05.6.00	05.6.00	05.6.00	05.6.00
RFC 3623	Graceful OSPF Restart	05.6.00	05.6.00	05.6.00	05.6.00
RFC 4203	TE Extensions to OSPF v2	05.8.00	05.8.00	05.8.00	05.8.00
RFC 4222[6]	Prioritized Treatment of Specific OSPF Version 2	05.6.00	05.6.00	05.6.00	05.6.00
RFC 4750	OSPF v2 MIB	05.8.00	05.8.00	05.8.00	05.8.00
RFC 5250 [6]	OSPF Opaque LSA Option	05.6.00	05.6.00	05.6.00	05.6.00

Intermediate System to Intermediate System (IS-IS)

RFC Number	RFC Name	MLX Series	XMR Series	CES 2000 Series	CER 2000 Series
RFC 1142	OSI IS-IS Intra-domain Routing Protocol	05.6.00	05.6.00	05.6.00	05.6.00
RFC 1195	Routing in TCP/IP and Dual Environments	05.6.00	05.6.00	05.6.00	05.6.00
RFC 3277	IS-IS Blackhole Avoidance	05.6.00	05.6.00	05.6.00	05.6.00
RFC 5120	IS-IS Multi-Topology Support	05.6.00	05.6.00	05.6.00	05.6.00
RFC 5301	Dynamic Host Name Exchange	05.6.00	05.6.00	05.6.00	05.6.00
RFC 5302	Domain-wide Prefix Distribution	05.6.00	05.6.00	05.6.00	05.6.00
RFC 5303	Three-Way Handshake for IS-IS Point-to-Point	05.6.00	05.6.00	05.6.00	05.6.00
RFC 5304[7]	IS-IS Cryptographic Authentication (MD-5)	05.6.00	05.6.00	05.6.00	05.6.00
RFC 5306 [7]	Restart Signaling for ISIS	05.6.00	05.6.00	05.6.00	05.6.00
RFC 5309 [7]	Point-to-point operation over LAN in link state routing protocol	05.6.00	05.6.00	05.6.00	05.6.00

[6] Partially supported on MLX, XMR, CES and CER Series.
[7] Partially supported on MLX, XMR, CES and CER Series

IPv6 Core

RFC Number	RFC Name	MLX Series	XMR Series	CES 2000 Series	CER 2000 Series
RFC 1887	IPv6 unicast address allocation architecture	05.6.00	05.6.00	05.6.00	05.6.00
RFC 2463	IPv6 Path MTU Discovery	05.8.00	05.8.00	05.8.00	05.8.00
RFC 2375	IPv6 Multicast Address Assignments	05.6.00	05.6.00	05.6.00	05.6.00
RFC 2450	Proposed TLA and NLA Assignment Rules	05.6.00	05.6.00	05.6.00	05.6.00
RFC 2460	IPv6 Specification	05.6.00	05.6.00	05.6.00	05.6.00
RFC 2461	IPv6 Neighbor Discovery	05.6.00	05.6.00	05.6.00	05.6.00
RFC 2462	IPv6 Stateless Address Auto-configuration	05.6.00	05.6.00	05.6.00	05.6.00
RFC 2464	Transmission of IPv6 over Ethernet Networks	05.6.00	05.6.00	05.6.00	05.6.00
RFC 3701	IPv6 testing address allocation	05.8.00	05.8.00	05.8.00	05.8.00
RFC 2472	IP Version 6 over PPP Full	05.5.00	05.5.00	05.5.00	05.5.00
RFC 2474	Definition of the Differentiated Services Field (DS Field) in the IPv4 and IPv6 Headers	05.5.00	05.5.00	05.5.00	05.5.00
RFC 2526	Reserved IPv6 subnet any-cast address	05.5.00	05.5.00	05.5.00	05.5.00
RFC 2711	IPv6 Router Alert Option	05.5.00	05.5.00	05.5.00	05.5.00
RFC 2928	Initial IPv6 subTLA ID assignments	05.5.00	05.5.00	05.5.00	05.5.00
RFC 3587	IPv6 Global Unicast Address Format	05.5.00	05.5.00	05.5.00	05.5.00
RFC 4007	IPv6 Scooped Address Architecture	05.5.00	05.5.00	05.5.00	05.5.00
RFC 4193	Unique Local IPv6 Unicast Addresses	05.6.00	05.6.00	05.6.00	05.6.00
RFC 4291	IPv6 Addressing architecture	05.6.00	05.6.00	05.6.00	05.6.00
RFC 4301	IP Security Architecture	05.6.00	05.6.00	05.6.00	05.6.00
RFC 4303	Encapsulating Security Payload (ESP)	05.6.00	05.6.00	05.6.00	05.6.00
RFC 4305	ESP and AH cryptography	05.6.00	05.6.00	05.6.00	05.6.00
RFC 4884	ICMPv6	05.8.00	05.8.00	05.8.00	05.8.00
RFC 4552	Auth for OSPFv3 using AH/ESP	05.6.00	05.6.00	05.6.00	05.6.00
RFC 4835	Cryptographic Alg. Req. for ESP	05.6.00	05.6.00	05.6.00	05.6.00
RFC 4861	Neighbor Discovery for IP version 6 (IPv6)	05.6.00	05.6.00	05.6.00	05.6.00
RFC 4862	IPv6 Stateless Address Auto configuration	05.5.00	05.5.00	05.5.00	05.5.00

IPv6 Routing

RFC Number	RFC Name	MLX Series	XMR Series	CES 2000 Series	CER 2000 Series
RFC 2080	RIPng for IPv6	05.6.00	05.6.00	05.6.00	05.6.00
RFC 2472	IPv6 over PPP Full 2023	05.6.00	05.6.00	05.6.00	05.6.00
RFC 2545	Use of BGP-MP for IPv6	05.6.00	05.6.00	05.6.00	05.6.00
RFC 2740	OSPFv3 for IPv6 draft-ietf-isis-ipv6 Routing IPv6 with IS-IS	05.6.00	05.6.00	05.6.00	05.6.00
RFC 5095	Deprecation of Type 0 Routing Headers in IPv6	05.6.00	05.6.00	05.6.00	05.6.00
RFC 5308	Routing IPv6 with IS-IS	05.6.00	05.6.00	05.6.00	05.6.00

IPv6 Multicast

RFC Number	RFC Name	MLX Series	XMR Series	CES 2000 Series	CER 2000 Series
RFC 2362	PIM-SM	05.6.00	05.6.00	05.6.00	05.6.00
RFC 2710	Multicast Listener Discovery (MLD) for IPv6	05.6.00	05.6.00	05.6.00	05.6.00
RFC 3810	Multicast Listener Discovery Version 2 for IPv6	05.6.00	05.6.00	05.6.00	05.6.00
RFC 4601[8]	PIM-SM	05.6.00	05.6.00	05.6.00	05.6.00
RFC 4604	IGMPv3 & MLDv2 for SSM	05.6.00	05.6.00	05.6.00	05.6.00
RFC 6106	IPv6 Router Advertisement Options for DNS Configuration	05.6.00	05.6.00	05.6.00	05.6.00

IPv6 Transitioning

RFC Number	RFC Name	MLX Series	XMR Series	CES 2000 Series	CER 2000 Series
RFC 3056	Connection of IPv6 Domains via IPv4 Clouds	05.6.00	05.6.00	05.6.00	05.6.00
RFC 4213[9]	Transition Mechanisms for IPv6 Hosts and Routers	05.6.00	05.6.00	05.6.00	05.6.00
RFC 4798	6PE	05.6.00	05.6.00	05.6.00	05.6.00

IPv6 Management

RFC Number	RFC Name	MLX Series	XMR Series	CES 2000 Series	CER 2000 Series
RFC 4113	IPv6 UDP MIB	05.8.00	05.8.00	05.8.00	05.8.00
RFC 4293	IPv6 MIB for Textual Conventions, ICMPv6 Group, and for General Group	05.8.00	05.8.00	05.8.00	05.8.00
RFC 3315	DHCPv6	05.6.00	05.6.00	05.6.00	05.6.00
RFC 4022	IPv6 TCP MIB	05.6.00	05.6.00	05.6.00	05.6.00
RFC 4649	DHCP for IPv6 Relay Agent Remote-ID option	05.6.00	05.6.00	05.6.00	05.6.00

Security

RFC Number	RFC Name	MLX Series	XMR Series	CES 2000 Series	CER 2000 Series
RFC 7427	IKEv2	05.8.00[14]	05.8.00[14]	05.8.00[14]	05.8.00[14]

[8] Partially supported on MLX, XMR, CES and CER Series.
[9] Partially supported on MLX, XMR, CES and CER Series.
[14] Partially supported

RFC Number	RFC Name	MLX Series	XMR Series	CES 2000 Series	CER 2000 Series
RFC 6379	Suite B cryptographic suites for IPsec	05.8.00[14]	05.8.00[14]	05.8.00[14]	05.8.00[14]
RFC 5903	Elliptic curve groups modulo a Prime (ECP groups) for IKE and IKEv2	05.8.00[14]	05.8.00[14]	05.8.00[14]	05.8.00[14]
RFC 4868	Using HMAC-SHA-256, HMAC-SHA-384, and HMAC-SHA-512 with IPsec	05.8.00[14]	05.8.00[14]	05.8.00[14]	05.8.00[14]
RFC 4754	IKE and IKEv2 authentication using the Elliptic Curve Digital Signature Algorithm(ECDSA)	05.8.00[14]	05.8.00[14]	05.8.00[14]	05.8.00[14]
RFC 4106	The use of Galois and Counter Mode (GCM) in IPsec Encapsulating Security Payload (ESP)	05.8.00	05.8.00	05.8.00	05.8.00

Management

RFC Number	RFC Name	MLX Series	XMR Series	CES 2000 Series	CER 2000 Series
RFC 1155	Structure and Identification of Management Information	05.5.00	05.5.00	05.5.00	05.5.00
RFC 1157	SNMP v1	05.5.00	05.5.00	05.5.00	05.5.00
RFC 1212	Concise MIB Definitions	05.5.00	05.5.00	05.5.00	05.5.00
RFC 1213	MIB II	05.5.00	05.5.00	05.5.00	05.5.00
RFC 1215	Convention for Defining Traps for use with the SNMP	05.5.00	05.5.00	05.5.00	05.5.00
RFC 1445[11]	Administrative Model for SNMPv2	05.5.00	05.5.00	05.5.00	05.5.00
RFC 1492	TACACS+	05.5.00	05.5.00	05.5.00	05.5.00
RFC 1724	RIPv2 MIB	05.5.00	05.5.00	05.5.00	05.5.00
RFC 2011	SNMPv2 MIB for IP	05.5.00	05.5.00	05.5.00	05.5.00
RFC 4330[11]	SNTP	05.8.00	05.8.00	05.8.00	05.8.00
RFC 2616	HTTP	05.8.00	05.8.00	05.8.00	05.8.00
RFC 2273	SNMPv3 Applications	05.5.00	05.5.00	05.5.00	05.5.00
RFC 3748	PPP EAP	05.8.00	05.8.00	05.8.00	05.8.00
RFC 2578	Structure of Management Information SNMPv2	05.5.00	05.5.00	05.5.00	05.5.00
RFC 2579	Textual Conventions for SNMP v2	05.5.00	05.5.00	05.5.00	05.5.00
RFC 2580	Conformance Statements for SNMPv2	05.5.00	05.5.00	05.5.00	05.5.00
RFC 2665	Definitions of Managed Objects for the Ethernet-like Interface Types	05.5.00	05.5.00	05.5.00	05.5.00
RFC 4363	802.1Q and 802.1p Bridge MIB	05.8.00	05.8.00	05.8.00	05.8.00
RFC 2787	VRRP-MIB	05.5.00	05.5.00	05.5.00	05.5.00
RFC 2819	RMON Groups 1,2,3,9	05.5.00	05.5.00	05.5.00	05.5.00
RFC 2863	The Interfaces Group MIB	05.5.00	05.5.00	05.5.00	05.5.00

[14] Partially supported
[11] Partially supported on MLX,XMR, CES, and CER series.

RFC Number	RFC Name	MLX Series	XMR Series	CES 2000 Series	CER 2000 Series
RFC 2865	RADIUS	05.5.00	05.5.00	05.5.00	05.5.00
RFC 2866	RADIUS Accounting	05.5.00	05.5.00	05.5.00	05.5.00
RFC 2868[11]	RADIUS Attributes for Tunnel Protocol Support	05.5.00	05.5.00	05.5.00	05.5.00
RFC 2932	IP Multicast Route MIB	05.5.00	05.5.00	05.5.00	05.5.00
RFC 2933	IGMP MIB	05.5.00	05.5.00	05.5.00	05.5.00
RFC 2934	PIM MIB	05.5.00	05.5.00	05.5.00	05.5.00
RFC 3162[11]	Radius and IPv6	05.5.00	05.5.00	05.5.00	05.5.00
RFC 3164	Syslog	05.5.00	05.5.00	05.5.00	05.5.00
RFC 3176	sFlow	05.5.00	05.5.00	05.5.00	05.5.00
RFC 3315[11]	Dynamic Host Configuration Protocol for IPv6 (DHCPv6)	05.5.00	05.5.00	05.5.00	05.5.00
RFC 3410	SNMPv3	05.5.00	05.5.00	05.5.00	05.5.00
RFC 5343	Architecture for SNMP	05.8.00	05.8.00	05.8.00	05.8.00
RFC 3412	Message Processing and Dispatching for SNMPv3	05.5.00	05.5.00	05.5.00	05.5.00
RFC 3413[11]	SNMP Applications	05.5.00	05.5.00	05.5.00	05.5.00
RFC 3414	USM for SNMPv3	05.5.00	05.5.00	05.5.00	05.5.00
RFC 3415	View-based Access Control Model (VACM) for SNMPv3	05.5.00	05.5.00	05.5.00	05.5.00
RFC 3416	Protocol Operations for SNMPv2	05.5.00	05.5.00	05.5.00	05.5.00
RFC 3417	Transport Mappings	05.5.00	05.5.00	05.5.00	05.5.00
RFC 3418	MIB for SNMP	05.5.00	05.5.00	05.5.00	05.5.00
RFC 3579[11]	RADIUS Extensions	05.5.00	05.5.00	05.5.00	05.5.00
RFC 3584	Coexistence between Version 1, Version 2, and Version 3 of the Internet-standard Network Management	05.5.00	05.5.00	05.5.00	05.5.00
RFC 3592[11]	SDH/SONET MIB	05.5.00	05.5.00	05.5.00	05.5.00
RFC 3595	TC for IPv6 flow label	05.5.00	05.5.00	05.5.00	05.5.00
RFC 3635	Definitions of managed Objects for the Ethernet-like Interface Types	05.5.00	05.5.00	05.5.00	05.5.00
RFC 3812	MPLS TE Standard MIB	05.5.00	05.5.00	05.5.00	05.5.00
RFC 3826	AES encryption for SNMPv3	05.5.00	05.5.00	05.5.00	05.5.00
RFC 4022	MIB for TCP	05.8.00	05.8.00	05.8.00	05.8.00
RFC 4087[11]	IP Tunnel MIB	05.5.00	05.5.00	05.5.00	05.5.00
RFC 4113	MIB for UDP	05.5.00	05.5.00	05.5.00	05.5.00
RFC 4133	Entity MIB	05.5.00	05.5.00	05.5.00	05.5.00
RFC 4188	Definition of Managed Objects for Bridges MIB	05.5.00	05.5.00	05.5.00	05.5.00
RFC 4251	SSH Protocol Architecture	05.5.00	05.5.00	05.5.00	05.5.00
RFC 4253	SSH Transport Layer Protocol	05.5.00	05.5.00	05.5.00	05.5.00

[11] Partially supported on MLX,XMR, CES, and CER series.

RFC Number	RFC Name	MLX Series	XMR Series	CES 2000 Series	CER 2000 Series
RFC 4254	SSH Connection Protocol	05.5.00	05.5.00	05.5.00	05.5.00
RFC 4292	IP Forwarding Table MIB	05.5.00	05.5.00	05.5.00	05.5.00
RFC 4293	Management Information Base for IP	05.5.00	05.5.00	05.5.00	05.5.00
RFC 4363	Definitions of Managed Objects for Bridges with Traffic Classes, Multicast Filtering, and Virtual LAN Extensions	05.5.00	05.5.00	05.5.00	05.5.00
RFC 4444	Management Information Base for Intermediate System to Intermediate System (IS-IS)	05.5.00	05.5.00	05.5.00	05.5.00
RFC 4741[11]	NETCONF Configuration Protocol	05.5.00	05.5.00	05.5.00	05.5.00
RFC 4742	NETCONF Configuration Protocol Over Secure Shell	05.5.00	05.5.00	05.5.00	05.5.00
RFC 4807[11]	IPsec Security Policy Database Configuration MIB	05.5.00	05.5.00	05.5.00	05.5.00
RFC 5905[11]	NTP	05.5.00	05.5.00	05.5.00	05.5.00
RFC 5997	use of Status-server Packets in the Remote Authentication Dial In User Service (RADIUS) Protocol	05.5.00	05.5.00	05.5.00	05.5.00
RFC 854	TELNET	05.5.00	05.5.00	05.5.00	05.5.00

Multiprotocol Label Switching (MPLS)

RFC Number	RFC Name	MLX Series	XMR Series	CES 2000 Series	CER 2000 Series
RFC 2205	RSVP v1 Functional Specification	05.5.00	05.5.00	05.5.00	05.5.00
RFC 2209	RSVP v1 Message Processing Rules	05.6.00	05.6.00	05.6.00	05.6.00
RFC 2702	TE over MPLS	05.6.00	05.6.00	05.6.00	05.6.00
RFC 2961	RSVP Refresh Overhead Reduction Extensions	05.6.00	05.6.00	05.6.00	05.6.00
RFC 2961	RSVP Refresh Reduction	05.6.00	05.6.00	05.6.00	05.6.00
RFC 3031	MPLS Architecture	05.6.00	05.6.00	05.6.00	05.6.00
RFC 3032	MPLS Label Stack Encoding	05.6.00[12]	05.6.00[12]	05.6.00[12]	05.6.00[12]
RFC 3037	LDP Applicability	05.6.00	05.6.00	05.6.00	05.6.00
RFC 3097	RSVP Cryptographic Authentication	05.6.00	05.6.00	05.6.00	05.6.00
RFC 3209	RSVP-TE	05.6.00[12]	05.6.00[12]	05.6.00[12]	05.6.00[12]
RFC 3270	MPLS Support of Differentiated Services	05.6.00[12]	05.6.00[12]	05.6.00[12]	05.6.00[12]
RFC 3478	LDP Graceful Restart	05.6.00	05.6.00	05.6.00	05.6.00
RFC 3813	MPLS LSR MIB	05.6.00	05.6.00	05.6.00	05.6.00
RFC 4090	Fast Re-Route for RSVP-TE Extensions	05.6.00[12]	05.6.00[12]	05.6.00[12]	05.6.00[12]
RFC 4379	OAM	05.6.00[12]	05.6.00[12]	05.6.00[12]	05.6.00[12]

[11] Partially supported on MLX,XMR, CES, and CER series.
[12] Partially supported

RFC Number	RFC Name	MLX Series	XMR Series	CES 2000 Series	CER 2000 Series
RFC 4448	Encapsulation Methods for Transport of Ethernet over MPLS Networks	05.6.00	05.6.00	05.6.00	05.6.00
RFC 4461	Signaling Requirements for Point-to-Multipoint Traffic-Engineered MPLS Label Switched Paths (LSPs)	05.6.00	05.6.00	05.6.00	05.6.00
RFC 4875	Extensions to Resource Reservation Protocol - Traffic Engineering (RSVP-TE) for Point-to-Multipoint TE Label Switched Paths (LSPs)	05.6.00[12]	05.6.00[12]	05.6.00[12]	05.6.00[12]
RFC 5036	LDP Specification	05.6.00	05.6.00	05.6.00	05.6.00
RFC 5305	ISIS-TE	05.6.00	05.6.00	05.6.00	05.6.00
RFC 5443	LDP IGP Synchronization	05.6.00	05.6.00	05.6.00	05.6.00
RFC 5561	LDP Capabilities	05.6.00[12]	05.6.00[12]	05.6.00[12]	05.6.00[12]
RFC 5712	MPLS traffic Engineering Soft Preemption	05.6.00	05.6.00	05.6.00	05.6.00
RFC 5918	LDP "Typed Wildcard" FEC	05.6.00[12]	05.6.00[12]	05.6.00[12]	05.6.00[12]
RFC 5919	Signaling LDP Label Advertisement Completion	05.6.00[12]	05.6.00[12]	05.6.00[12]	05.6.00[12]

Routing Information Protocol (RIP)

RFC Number	RFC Name	MLX Series	XMR Series	CES 2000 Series	CER 2000 Series
RFC 1723	RIP v1	05.6.00	05.6.00	05.6.00	05.6.00
RFC 2453	RIP v2	05.8.00	05.8.00	05.8.00	05.8.00
RFC 2644	RIP Requirements	05.8.00	05.8.00	05.8.00	05.8.00

IP Multicast

RFC Number	RFC Name	MLX Series	XMR Series	CES 2000 Series	CER 2000 Series
RFC 1112	Host Extensions	05.6.00	05.6.00	05.6.00	05.6.00
RFC 1122	Host Requirements (IGMPv1)	05.6.00	05.6.00	05.6.00	05.6.00
RFC 2236	IGMP v2	05.6.00	05.6.00	05.6.00	05.6.00
RFC 2362	PIM-SM	05.6.00	05.6.00	05.6.00	05.6.00
RFC 3376	IGMP v3 (also includes IGMPv2)	05.6.00	05.6.00	05.6.00	05.6.00
RFC 3446	Anycast RP	05.6.00	05.6.00	05.6.00	05.6.00
RFC 3569	Overview of SSM	05.6.00	05.6.00	05.6.00	05.6.00
RFC 3618	MSDP	05.6.00	05.6.00	05.6.00	05.6.00
RFC 3973	PIM-DM	05.6.00	05.6.00	05.6.00	05.6.00

[12] Partially supported

RFC Number	RFC Name	MLX Series	XMR Series	CES 2000 Series	CER 2000 Series
RFC 4610	Anycast-RP Using PIM	05.6.00	05.6.00	05.6.00	05.6.00
RFC 4611	MSDP Deployment Scenarios	05.6.00	05.6.00	05.6.00	05.6.00
RFC 4760	BGP-MP	05.6.00	05.6.00	05.6.00	05.6.00
RFC 4601	PIM-SM for IPv4 Multicast	05.8.00	05.8.00	05.8.00	05.8.00

Layer 3 Virtual Private Network (VPN)

RFC Number	RFC Name	MLX Series	XMR Series	CES 2000 Series	CER 2000 Series
RFC 3107	Carrying Label Information in BGP-4	05.6.00	05.6.00	05.6.00	05.6.00
RFC 3815	Definitions of Managed Objects for the Multiprotocol Label Switching (MPLS), Label Distribution Protocol (LDP)	05.6.00	05.6.00	05.6.00	05.6.00
RFC 4360	BGP Extended Communities Attribute	05.6.00	05.6.00	05.6.00	05.6.00
RFC 4364	BGP/MPLS IP VPNs	05.6.00	05.6.00	05.6.00	05.6.00
RFC 4365	Applicability Statement for BGP/MPLS IP VPNs	05.6.00	05.6.00	05.6.00	05.6.00
RFC 4382	MPLS/BGP Layer 3 VPN MIB	05.6.00[13]	05.6.00[13]	05.6.00[13]	05.6.00[13]
RFC 4576	Using LSA Options Bit to Prevent Looping in BGP/MPLS IP VPNs (DN Bit)	05.6.00	05.6.00	05.6.00	05.6.00
RFC 4577	OSPF as the PE/CE Protocol in BGP/MPLS IP VPNs	05.6.00	05.6.00	05.6.00	05.6.00
RFC 4760	Multiprotocol Extensions for BGP-4	05.6.00	05.6.00	05.6.00	05.6.00

Layer 2 Virtual Private Network (VPN) and Pseudowire Emulation Edge to Edge (PWE 3)

RFC Number	RFC Name	MLX Series	XMR Series	CES 2000 Series	CER 2000 Series
RFC 3443	TTL Processing in MPLS Networks	05.6.00[14]	05.6.00[14]	05.6.00[14]	05.6.00[14]
RFC 4447	Pseudowire Setup and Maintenance using LDP	05.6.00[14]	05.6.00[14]	05.6.00[14]	05.6.00[14]
RFC 4448	Encapsulation Methods for Transport of Ethernet Frames Over IP/MPLS Networks	05.6.00	05.6.00	05.6.00	05.6.00
RFC 4761	Virtual Private LAN Service (VPLS) Using BGP for Auto-Discovery and Signaling	05.6.00	05.6.00	05.6.00	05.6.00
RFC 4762	Virtual Private LAN Service (VPLS) Using LDP Signaling	05.6.00[14]	05.6.00[14]	05.6.00[14]	05.6.00[14]

[13] Partially supported
[14] Partially supported

General Protocols

RFC Number	RFC Name	MLX Series	XMR Series	CES 2000 Series	CER 2000 Series
RFC 768	UDP	05.6.00	05.6.00	05.6.00	05.6.00
RFC 791	IP	05.6.00	05.6.00	05.6.00	05.6.00
RFC 792	ICMP	05.6.00	05.6.00	05.6.00	05.6.00
RFC 793	TCP	05.6.00	05.6.00	05.6.00	05.6.00
RFC 826	ARP	05.6.00	05.6.00	05.6.00	05.6.00
RFC 894	IP over Ethernet	05.6.00	05.6.00	05.6.00	05.6.00
RFC 903	RARP	05.6.00	05.6.00	05.6.00	05.6.00
RFC 906	TFTP	05.6.00	05.6.00	05.6.00	05.6.00
RFC 919	Broadcasting Internet datagrams	05.6.00	05.6.00	05.6.00	05.6.00
RFC 922[15]	Broadcasting Internet datagrams in the presence of subnets	05.6.00	05.6.00	05.6.00	05.6.00
RFC 950	Subnets	05.6.00	05.6.00	05.6.00	05.6.00
RFC 951	BootP	05.6.00	05.6.00	05.6.00	05.6.00
RFC 1027	Proxy ARP	05.6.00	05.6.00	05.6.00	05.6.00
RFC 1042	Standard for the Transmission of IP Datagrams over IEEE 802 Networks	05.6.00	05.6.00	05.6.00	05.6.00
RFC 1166	Internet Numbers	05.6.00	05.6.00	05.6.00	05.6.00
RFC 1191[15]	Path MTU Discovery	05.6.00	05.6.00	05.6.00	05.6.00
RFC 1256	IRDP	05.6.00	05.6.00	05.6.00	05.6.00
RFC 1332	PPP IPCP	05.6.00	05.6.00	05.6.00	05.6.00
RFC 1340	Assigned Numbers	05.6.00	05.6.00	05.6.00	05.6.00
RFC 1350	TFTP	05.8.00	05.8.00	05.8.00	05.8.00
RFC 1354	IP Forwarding Table MIB	05.6.00	05.6.00	05.6.00	05.6.00
RFC 1377	PPP OSI NLCP	05.6.00	05.6.00	05.6.00	05.6.00
RFC 1542	BootP Extensions	05.6.00	05.6.00	05.6.00	05.6.00
RFC 1591	DNS (client)	05.6.00	05.6.00	05.6.00	05.6.00
RFC 1661	PPP	05.6.00	05.6.00	05.6.00	05.6.00
RFC 1662	PPP in HDLC Framing	05.6.00	05.6.00	05.6.00	05.6.00
RFC 1812	General Routing	05.6.00	05.6.00	05.6.00	05.6.00
RFC 1858	Security Considerations for IP Fragment Filtering	05.6.00	05.6.00	05.6.00	05.6.00
RFC 2131	BootP/DHCP Helper	05.6.00	05.6.00	05.6.00	05.6.00
RFC 2474	DiffServ Definition	05.6.00	05.6.00	05.6.00	05.6.00
RFC 2475	DiffServ Architecture	05.6.00	05.6.00	05.6.00	05.6.00
RFC 2578	Structure of Management Information Version 2 (SMIv2)	05.6.00	05.6.00	05.6.00	05.6.00

[15] Partially supported on MLX,XMR, CES, and CER series.

RFC Number	RFC Name	MLX Series	XMR Series	CES 2000 Series	CER 2000 Series
RFC 2597	Assured Forwarding PHB Group	05.6.00	05.6.00	05.6.00	05.6.00
RFC 2615	PPP over Sonet/SDH	05.6.00	05.6.00	05.6.00	05.6.00
RFC 2697	Single Rate Three Color Marker	05.6.00	05.6.00	05.6.00	05.6.00
RFC 2698	Two Rate Three Color Marker	05.6.00	05.6.00	05.6.00	05.6.00
RFC 2784[15]	Generic Routing Encapsulation (GRE)	05.6.00	05.6.00	05.6.00	05.6.00
RFC 3021	Using 31-Bit Prefixes on IPv4 Point-to-Point Links	05.6.00	05.6.00	05.6.00	05.6.00
RFC 3246	An Expedited Forwarded PHB	05.6.00	05.6.00	05.6.00	05.6.00
RFC 3768	VRRP	05.6.00	05.6.00	05.6.00	05.6.00
RFC 4001	Textual Conventions for Internet Network Addresses	05.6.00	05.6.00	05.6.00	05.6.00
RFC 4459[15]	MTU and Fragmentation	05.6.00	05.6.00	05.6.00	05.6.00
RFC 4632	CIDR	05.8.00	05.8.00	05.8.00	05.8.00
RFC 4950	ICMP Extensions for MPLS	05.6.00	05.6.00	05.6.00	05.6.00
RFC 5171	UDLD	05.6.00	05.6.00	05.6.00	05.6.00

[15] Partially supported on MLX,XMR, CES, and CER series.

IEEE Standards

The following table provides a consolidated view of all IEEE Standards supported on the NetIron platforms.

IEEE Number	IEEE Standard Name	MLX Series	XMR Series	CES 2000 Series	CER 2000 Series
802.3	10Base-T	No	No	5.5	5.5
802.1ab	Link Layer Discovery Protocol	5.5	No	5.5	5.5
802.1ad	Provider Bridges; partial support: port-based and S-tagged service interface	5.5	No	5.5	5.5
802.1ae	MAC Security standard	5.5	No	No	No
802.1ag	Connectivity Fault Management (CFM)	5.5	No	5.5	5.5
802.1ah	Provider Backbone Bridging	5.5	No	5.5	5.5
802.1D	MAC Bridges	5.5	5.5	5.5	5.5
802.1Q	Virtual Bridged LANs	5.5	5.5	5.5	5.5
802.1s	Multiple Spanning Trees	5.5	5.5	5.5	5.5
802.1w	Rapid STP	5.5	5.5	5.5	5.5
802.1x	Port-based Network Access Control	No	No	5.5	5.5
802.3-2005	CSMA/CD Access Method and Physical Layer Specifications	5.5	5.5	No	No
802.3ab	1000BASE-T	5.5	5.5	5.5	5.5
802.3ad	Link Aggregation	5.5	5.5	5.5	5.5
802.3ae	10 Gigabit Ethernet	5.5	5.5	5.5	5.5
802.3ah	Ethernet in the First Mile	5.5	No	No	No
802.3ba	100 Gigabit Ethernet	5.5	No	No	No
802.3u	100BASE-TX, 100BASE-T4, 100BASE-FX Fast Ethernet at 100 Mbps with Auto-Negotiation5.5	5.5	No	5.5	5.5
802.3x	Flow Control	5.5	5.5	5.5	5.5
802.3z	1000BASE-X Gigabit Ethernet over fiber optic at 1 Gbps	5.5	No	No	No
802.3z	1000Base-SX/LX	No	No	5.5	5.5