



Switch Engine™ v33.2.x Feature Support Matrix

Detailed Overview of Supported Features and Protocols

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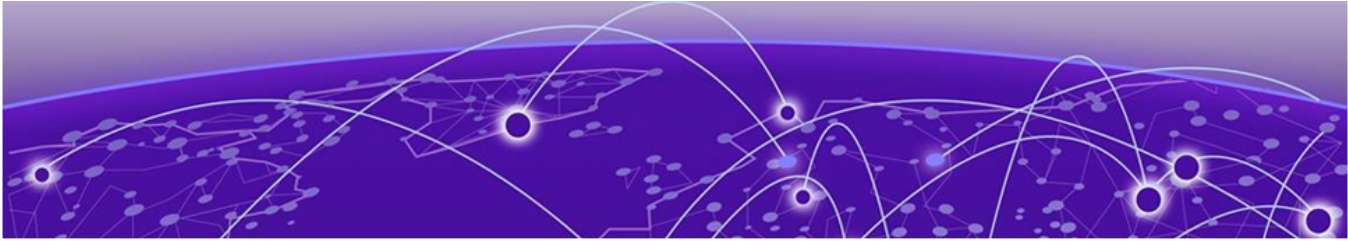
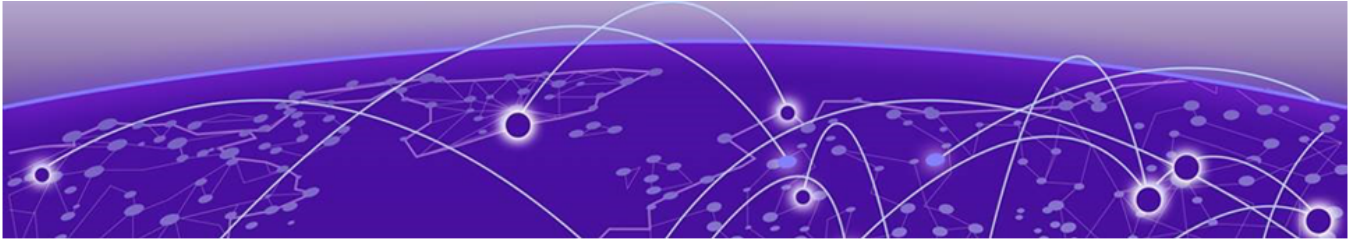


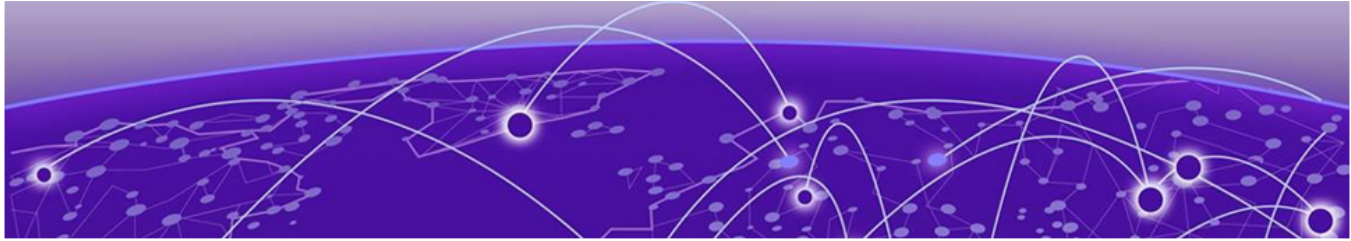
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Abstract

The Switch Engine™ v33.2.x Feature Support Matrix provides a detailed overview of the supported features and protocols across various product series, including 4120, 4220, 5320, 5420, 5520, 5720, 7520, and 7720 series. It lists features alphabetically, covering key functionalities such as Access Control Lists, Ethernet Audio Video Bridging, Auto-Discovery, Bidirectional Forwarding Detection, and Border Gateway Protocol. Each entry specifies the product series and the release version where the feature was introduced, offering a comprehensive overview of the capabilities supported by the Switch Engine platform.



Preface

Read the following topics to learn about:

- The meanings of text formats used in this document.
- Where you can find additional information and help.
- How to reach us with questions and comments.

Text Conventions

Unless otherwise noted, information in this document applies to all supported environments for the products in question. Exceptions, like command keywords associated with a specific software version, are identified in the text.

When a feature, function, or operation pertains to a specific hardware product, the product name is used. When features, functions, and operations are the same across an entire product family, such as Extreme Networks switches or SLX routers, the product is referred to as *the switch* or *the router*.

Table 1: Notes and warnings






| Icon | Notice type | Alerts you to... |
|---|-------------|---|
|  | Tip | Helpful tips and notices for using the product |
|  | Note | Useful information or instructions |
|  | Important | Important features or instructions |
|  | Caution | Risk of personal injury, system damage, or loss of data |
|  | Warning | Risk of severe personal injury |

Table 2: Text

| Convention | Description |
|--|---|
| screen displays | This typeface indicates command syntax, or represents information as it is displayed on the screen. |
| The words <i>enter</i> and <i>type</i> | When you see the word <i>enter</i> in this guide, you must type something, and then press the Return or Enter key. Do not press the Return or Enter key when an instruction simply says <i>type</i> . |
| Key names | Key names are written in boldface, for example Ctrl or Esc . If you must press two or more keys simultaneously, the key names are linked with a plus sign (+). Example: Press Ctrl+Alt+Del |
| Words in italicized type | Italics emphasize a point or denote new terms at the place where they are defined in the text. Italics are also used when referring to publication titles. |
| NEW! | New information. In a PDF, this is searchable text. |

Table 3: Command syntax

| Convention | Description |
|------------------------------------|--|
| bold text | Bold text indicates command names, keywords, and command options. |
| <i>italic text</i> | Italic text indicates variable content. |
| [] | 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, such as passwords, are enclosed in angle brackets. |
| ... | Repeat the previous element, for example, <i>member [member...]</i> . |
| \ | In command examples, the backslash indicates a “soft” line break. When a backslash separates two lines of a command input, enter the entire command at the prompt without the backslash. |

Related Publications

Switch Engine Publications

-
-
-
-
-
- *ExtremeXOS Quick Guide*
- *Extreme Hardware/Software Compatibility and Recommendation Matrices*
- *Extreme Optics Compatibility*
-
- *ACL Solutions Guide*
- *ExtremeXOS and Switch Engine SNMP Traps Reference*

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- Content errors, or confusing or conflicting information.
- Improvements that would help you find relevant information.
- Broken links or usability issues.

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[Extreme Portal](#)

Search the GTAC (Global Technical Assistance Center) knowledge base; manage support cases and service contracts; download software; and obtain product licensing, training, and certifications.

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A forum for Extreme Networks customers to connect with one another, answer questions, and share ideas and feedback. This community is monitored by Extreme Networks employees, but is not intended to replace specific guidance from GTAC.

Call GTAC

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

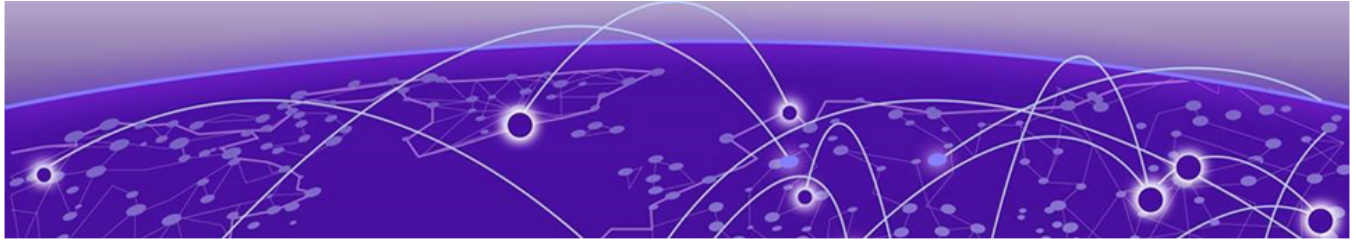
- Your Extreme Networks service contract number, or serial numbers for all involved Extreme Networks products
- A description of the failure
- A description of any actions already taken to resolve the problem
- A description of your network environment (such as layout, cable type, other relevant environmental 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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1. Go to [The Hub](#).
2. In the list of categories, expand the **Product Announcements** list.
3. Select a product for which you would like to receive notifications.
4. Select **Subscribe**.
5. To select additional products, return to the **Product Announcements** list and repeat steps 3 and 4.

You can modify your product selections or unsubscribe at any time.



About this Document

[Purpose of this Document](#) on page 9

The topics in this section discuss the purpose of this document, the conventions used, ways to provide feedback, additional help, and information regarding other Extreme Networks publications.

Purpose of this Document

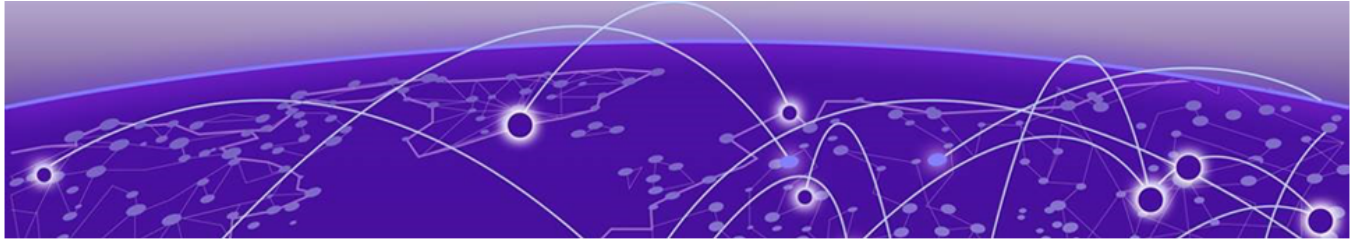
This document provides information on features in Extreme Networks Switch Engine™. Features are listed alphabetically with associated protocols and standards, such as RFCs and IEEE. This release of Switch Engine runs on the following product families:

- 4120
- 4220
- 5320 Series
- 5420 Series
- 5520 Series
- 5720 Series
- 7520 Series
- 7720 Series



Note

Prior to Switch Engine 31.6, 5520 Series and 5420 Series platforms ran EXOS. EXOS support ends for these platforms with EXOS 31.6.



Features A to C

Table 4: Access Control Lists (ACL)

| Feature | Product | Release introduced |
|--|-------------|--------------------|
| Layer 2/3/4 ACLs | 5320 Series | Switch Engine 31.6 |
| | 5420 Series | EXOS 31.3 |
| | 5520 Series | EXOS 31.1 |
| | 5720 Series | Switch Engine 32.1 |
| | 7520 Series | Switch Engine 32.4 |
| | 7720 Series | Switch Engine 32.4 |
| RPF (Unicast Reverse Path Forwarding) Control via ACLs | 5320 Series | Switch Engine 31.6 |
| | 5420 Series | EXOS 31.3 |
| | 5520 Series | EXOS 31.1 |
| | 5720 Series | Switch Engine 32.1 |
| | 7520 Series | Switch Engine 32.4 |
| | 7720 Series | Switch Engine 32.4 |
| Wire-speed ACLs | 5320 Series | Switch Engine 31.6 |
| | 5420 Series | EXOS 31.3 |
| | 5520 Series | EXOS 31.1 |
| | 5720 Series | Switch Engine 32.1 |
| | 7520 Series | Switch Engine 32.4 |
| | 7720 Series | Switch Engine 32.4 |

Table 4: Access Control Lists (ACL) (continued)

| Feature | Product | Release introduced |
|-------------------------------|-------------|--------------------|
| Rate Limiting/Shaping by ACLs | 5320 Series | Switch Engine 31.6 |
| | 5420 Series | EXOS 31.3 |
| | 5520 Series | EXOS 31.1 |
| | 5720 Series | Switch Engine 32.1 |
| | 7520 Series | Switch Engine 32.4 |
| | 7720 Series | Switch Engine 32.4 |

Table 5: Ethernet Audio Video Bridging (AVB)

| Feature | Product | Release introduced |
|--------------------------|-------------|----------------------|
| IEEE 802.1 AVB standards | 5320 Series | Switch Engine 31.6 |
| | 5420 Series | EXOS 31.3 |
| | 5520 Series | EXOS 31.1 |
| | 5720 Series | Switch Engine 32.2 |
| | 7520 Series | Switch Engine 33.1.1 |
| | 7720 Series | Not supported |

Table 6: Auto-Discovery on Universal platforms

| Feature | Product | Release introduced |
|---------------------------------------|-------------|--------------------|
| Auto-Discovery on Universal platforms | 5320 Series | Switch Engine 31.6 |
| | 5420 Series | EXOS 31.3 |
| | 5520 Series | EXOS 31.1 |
| | 5720 Series | Switch Engine 32.1 |
| | 7520 Series | Not supported |
| | 7720 Series | Not supported |

Table 7: Bidirectional Forwarding Detection (BFD)

| Feature | Product | Release introduced |
|-------------------------------|-------------|--------------------|
| draft-ietf-bfd-mib-14 BFD MIB | 5320 Series | Switch Engine 31.6 |
| | 5420 Series | EXOS 31.3 |
| | 5520 Series | EXOS 31.1 |
| | 5720 Series | Switch Engine 32.1 |
| | 7520 Series | Switch Engine 32.4 |
| | 7720 Series | Switch Engine 32.4 |

Table 7: Bidirectional Forwarding Detection (BFD) (continued)

| Feature | Product | Release introduced |
|---|-------------|--------------------|
| draft-ietf-bfd-tc-mib-02 Definitions of Textual Conventions (TCs) for BFD Management | 5320 Series | Switch Engine 31.6 |
| | 5420 Series | EXOS 31.3 |
| | 5520 Series | EXOS 31.1 |
| | 5720 Series | Switch Engine 32.1 |
| | 7520 Series | Switch Engine 32.4 |
| | 7720 Series | Switch Engine 32.4 |

Table 8: Border Gateway Protocol (BGP)

| Feature | Product | Release introduced |
|--|-------------|--------------------|
| Draft-ietf-idr-bgp4- mibv2-02.txt – Enhanced BGP-4 MIB | 5320 Series | Switch Engine 31.6 |
| | 5420 Series | EXOS 31.3 |
| | 5520 Series | EXOS 31.1 |
| | 5720 Series | Switch Engine 32.1 |
| | 7520 Series | Switch Engine 32.4 |
| | 7720 Series | Switch Engine 32.4 |
| RFC 1745 BGP4/IDRP for IP- OSPF Interaction | 5320 Series | Switch Engine 31.6 |
| | 5420 Series | EXOS 31.3 |
| | 5520 Series | EXOS 31.1 |
| | 5720 Series | Switch Engine 32.1 |
| | 7520 Series | Switch Engine 32.4 |
| | 7720 Series | Switch Engine 32.4 |
| RFC 1997 BGP Communities Attribute | 5320 Series | Switch Engine 31.6 |
| | 5420 Series | EXOS 31.3 |
| | 5520 Series | EXOS 31.1 |
| | 5720 Series | Switch Engine 32.1 |
| | 7520 Series | Switch Engine 32.4 |
| | 7720 Series | Switch Engine 32.4 |
| RFC 2439 BGP Route Flap Damping | 5320 Series | Switch Engine 31.6 |
| | 5420 Series | EXOS 31.3 |
| | 5520 Series | EXOS 31.1 |
| | 5720 Series | Switch Engine 32.1 |
| | 7520 Series | Switch Engine 32.4 |
| | 7720 Series | Switch Engine 32.4 |

Table 8: Border Gateway Protocol (BGP) (continued)

| Feature | Product | Release introduced |
|--|-------------|--------------------|
| RFC 2545 Use of BGP-4 Multiprotocol Extensions for IPv6 Inter-Domain Routing | 5320 Series | Switch Engine 31.6 |
| | 5420 Series | EXOS 31.3 |
| | 5520 Series | EXOS 31.1 |
| | 5720 Series | Switch Engine 32.1 |
| | 7520 Series | Switch Engine 32.4 |
| | 7720 Series | Switch Engine 32.4 |
| RFC 2858 Multiprotocol Extensions for BGP-4 (Obsoletes RFC 2283) | 5320 Series | Switch Engine 31.6 |
| | 5420 Series | EXOS 31.3 |
| | 5520 Series | EXOS 31.1 |
| | 5720 Series | Switch Engine 32.1 |
| | 7520 Series | Switch Engine 32.4 |
| | 7720 Series | Switch Engine 32.4 |
| RFC 2918 Route Refresh Capability for BGP-4 | 5320 Series | Switch Engine 31.6 |
| | 5420 Series | EXOS 31.3 |
| | 5520 Series | EXOS 31.1 |
| | 5720 Series | Switch Engine 32.1 |
| | 7520 Series | Switch Engine 32.4 |
| | 7720 Series | Switch Engine 32.4 |
| RFC 3107 Carrying Label Information in BGP-4 | 5320 Series | Switch Engine 31.6 |
| | 5420 Series | EXOS 31.3 |
| | 5520 Series | EXOS 31.1 |
| | 5720 Series | Switch Engine 32.1 |
| | 7520 Series | Switch Engine 32.4 |
| | 7720 Series | Switch Engine 32.4 |
| RFC 4271 A Border Gateway Protocol 4 (BGP-4) (Obsoletes RFC 1771) | 5320 Series | Switch Engine 31.6 |
| | 5420 Series | EXOS 31.3 |
| | 5520 Series | EXOS 31.1 |
| | 5720 Series | Switch Engine 32.1 |
| | 7520 Series | Switch Engine 32.4 |
| | 7720 Series | Switch Engine 32.4 |

Table 8: Border Gateway Protocol (BGP) (continued)

| Feature | Product | Release introduced |
|---|-------------|--------------------|
| RFC 4273 Definitions of Managed Objects for the Fourth Version of the Border Gateway Protocol (BGP-4) using SMIv2 | 5320 Series | Switch Engine 31.6 |
| | 5420 Series | EXOS 31.3 |
| | 5520 Series | EXOS 31.1 |
| | 5720 Series | Switch Engine 32.1 |
| | 7520 Series | Switch Engine 32.4 |
| | 7720 Series | Switch Engine 32.4 |
| RFC 4360 BGP Extended Communities Attribute | 5320 Series | Switch Engine 31.6 |
| | 5420 Series | EXOS 31.3 |
| | 5520 Series | EXOS 31.1 |
| | 5720 Series | Switch Engine 32.1 |
| | 7520 Series | Switch Engine 32.4 |
| | 7720 Series | Switch Engine 32.4 |
| RFC 4456 BGP Route Reflection: An alternative to full mesh internal BGP (Obsoletes RFC 1966) | 5320 Series | Switch Engine 31.6 |
| | 5420 Series | EXOS 31.3 |
| | 5520 Series | EXOS 31.1 |
| | 5720 Series | Switch Engine 32.1 |
| | 7520 Series | Switch Engine 32.4 |
| | 7720 Series | Switch Engine 32.4 |
| RFC 4486 Subcodes for BGP Cease Notification message | 5320 Series | Switch Engine 31.6 |
| | 5420 Series | EXOS 31.3 |
| | 5520 Series | EXOS 31.1 |
| | 5720 Series | Switch Engine 32.1 |
| | 7520 Series | Switch Engine 32.4 |
| | 7720 Series | Switch Engine 32.4 |
| RFC 4724 Graceful Restart Mechanism for BGP | 5320 Series | Switch Engine 31.6 |
| | 5420 Series | EXOS 31.3 |
| | 5520 Series | EXOS 31.1 |
| | 5720 Series | Switch Engine 32.1 |
| | 7520 Series | Switch Engine 32.4 |
| | 7720 Series | Switch Engine 32.4 |

Table 8: Border Gateway Protocol (BGP) (continued)

| Feature | Product | Release introduced |
|--|-------------|--------------------|
| RFC 4760 Multiprotocol extensions for BGP-4 | 5320 Series | Switch Engine 31.6 |
| | 5420 Series | EXOS 31.3 |
| | 5520 Series | EXOS 31.1 |
| | 5720 Series | Switch Engine 32.1 |
| | 7520 Series | Switch Engine 32.4 |
| | 7720 Series | Switch Engine 32.4 |
| RFC 5065 Autonomous System Confederations for BGP | 5320 Series | Switch Engine 31.6 |
| | 5420 Series | EXOS 31.3 |
| | 5520 Series | EXOS 31.1 |
| | 5720 Series | Switch Engine 32.1 |
| | 7520 Series | Switch Engine 32.4 |
| | 7720 Series | Switch Engine 32.4 |
| RFC 5396 Textual Representation of Autonomous System (AS) Attributes | 5320 Series | Switch Engine 31.6 |
| | 5420 Series | EXOS 31.3 |
| | 5520 Series | EXOS 31.1 |
| | 5720 Series | Switch Engine 32.1 |
| | 7520 Series | Switch Engine 32.4 |
| | 7720 Series | Switch Engine 32.4 |
| RFC 5492 Capabilities Advertisement with BGP-4 | 5320 Series | Switch Engine 31.6 |
| | 5420 Series | EXOS 31.3 |
| | 5520 Series | EXOS 31.1 |
| | 5720 Series | Switch Engine 32.1 |
| | 7520 Series | Switch Engine 32.4 |
| | 7720 Series | Switch Engine 32.4 |
| RFC 6793 BGP Support for Four-octet AS Number Space | 5320 Series | Switch Engine 31.6 |
| | 5420 Series | EXOS 31.3 |
| | 5520 Series | EXOS 31.1 |
| | 5720 Series | Switch Engine 32.1 |
| | 7520 Series | Switch Engine 32.4 |
| | 7720 Series | Switch Engine 32.4 |

Table 9: Bootstrap Protocol (BOOTP)

| Feature | Product | Release introduced |
|---------|-------------|--------------------|
| | 5320 Series | Switch Engine 31.6 |

Table 9: Bootstrap Protocol (BOOTP) (continued)

| Feature | Product | Release introduced |
|---|-------------|--------------------|
| RFC 951, 1542 BootP | 5420 Series | EXOS 31.3 |
| | 5520 Series | EXOS 31.1 |
| | 5720 Series | Switch Engine 32.1 |
| | 7520 Series | Switch Engine 32.4 |
| | 7720 Series | Switch Engine 32.4 |
| RFC 2131 BOOTP/DHCP relay agent and DHCP server | 5320 Series | Switch Engine 31.6 |
| | 5420 Series | EXOS 31.3 |
| | 5520 Series | EXOS 31.1 |
| | 5720 Series | Switch Engine 32.1 |
| | 7520 Series | Switch Engine 32.4 |
| RFC 951, 1542 BootP | 5320 Series | Switch Engine 31.6 |
| | 5420 Series | EXOS 31.3 |
| | 5520 Series | EXOS 31.1 |
| | 5720 Series | Switch Engine 32.1 |
| | 7520 Series | Switch Engine 32.4 |
| | 7720 Series | Switch Engine 32.4 |

Table 10: Cisco Discovery Protocol (CDP)

| Feature | Product | Release introduced |
|---------|-------------|--------------------|
| CDP v1 | 5320 Series | Switch Engine 31.6 |
| | 5420 Series | EXOS 31.3 |
| | 5520 Series | EXOS 31.1 |
| | 5720 Series | Switch Engine 32.1 |
| | 7520 Series | Switch Engine 32.4 |
| | 7720 Series | Switch Engine 32.4 |

Table 10: Cisco Discovery Protocol (CDP) (continued)

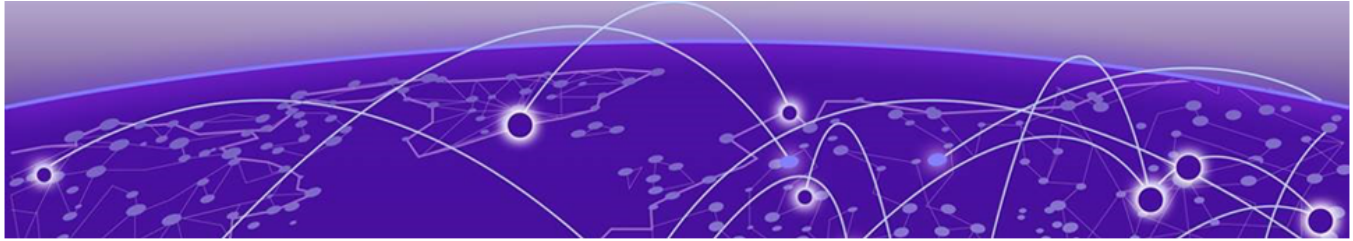
| Feature | Product | Release introduced |
|---------|-------------|--------------------|
| CDP v2 | 5320 Series | Switch Engine 31.6 |
| | 5420 Series | EXOS 31.3 |
| | 5520 Series | EXOS 31.1 |
| | 5720 Series | Switch Engine 32.1 |
| | 7520 Series | Switch Engine 32.4 |
| | 7720 Series | Switch Engine 32.4 |

Table 11: Configuration auto-save

| Feature | Product | Release introduced |
|-------------------------|-------------|--------------------|
| Configuration auto-save | 5320 Series | Switch Engine 31.6 |
| | 5420 Series | EXOS 31.3 |
| | 5520 Series | EXOS 31.1 |
| | 5720 Series | Switch Engine 32.1 |
| | 7520 Series | Switch Engine 32.4 |
| | 7720 Series | Switch Engine 32.4 |

Table 12: CLEAR-Flow

| Feature | Product | Release introduced |
|--|-------------|----------------------|
| CLEAR-Flow, threshold-based alerts and actions | 4120 Series | Switch Engine 32.7.1 |
| | 4220 Series | Switch Engine 32.7.1 |
| | 5320 Series | Switch Engine 31.6 |
| | 5420 Series | EXOS 31.3 |
| | 5520 Series | EXOS 31.1 |
| | 5720 Series | Switch Engine 32.1 |
| | 7520 Series | Switch Engine 32.4 |
| | 7720 Series | Switch Engine 32.4 |



Features D to F

Table 13: Data Center

| Feature | Product | Release introduced |
|--|-------------|--------------------|
| Data Center Bridging eXchange (DCBX) (IEEE P802.1Qaz/D2.3) | 4120 | Switch Engine 32.7 |
| | 4220 | Switch Engine 32.7 |
| | 5320 Series | Switch Engine 31.6 |
| | 5420 Series | EXOS 31.3 |
| | 5520 Series | EXOS 31.1 |
| | 5720 Series | Switch Engine 32.1 |
| | 7520 Series | Switch Engine 32.4 |
| | 7720 Series | Switch Engine 32.4 |

Table 14: Direct Attach

| Feature | Product | Release introduced |
|-------------------------------|-------------|--------------------|
| Direct Attach (IEEE 802 VEPA) | 4120 | Not supported |
| | 4220 | Not supported |
| | 5320 Series | Switch Engine 31.6 |
| | 5420 Series | EXOS 31.3 |
| | 5520 Series | EXOS 31.1 |
| | 5720 Series | Switch Engine 32.1 |
| | 7520 Series | Switch Engine 32.4 |
| | 7720 Series | Switch Engine 32.4 |

Table 15: Ethernet Automatic Protection Switching (EAPS)

| Feature | Product | Release introduced |
|---------|---------|--------------------|
| | 4120 | Not supported |

Table 15: Ethernet Automatic Protection Switching (EAPS) (continued)

| Feature | Product | Release introduced |
|---------------------------------|--------------------|--------------------|
| EAPS MIB supports get functions | 4220 | Not supported |
| | 5320 Series | Switch Engine 31.6 |
| | 5420 Series | EXOS 31.3 |
| | 5520 Series | EXOS 31.1 |
| | 5720 Series | Switch Engine 32.1 |
| | 7520 Series | Switch Engine 32.4 |
| | 7720 Series | Switch Engine 32.4 |
| EAPS multiple rings | 4120 | Not supported |
| | 4220 | Not supported |
| | 5320 Series | Switch Engine 31.6 |
| | 5420 Series | EXOS 31.3 |
| | 5520 Series | EXOS 31.1 |
| | 5720 Series | Switch Engine 32.1 |
| | 7520 Series | Switch Engine 32.4 |
| EAPsv2 Shared ports | 4120 | Not supported |
| | 4220 | Not supported |
| | 5320 Series | Switch Engine 31.6 |
| | 5420 Series | EXOS 31.3 |
| | 5520 Series | EXOS 31.1 |
| | 5720 Series | Switch Engine 32.1 |
| | 7520 Series | Switch Engine 32.4 |
| 7720 Series | Switch Engine 32.4 | |

Table 15: Ethernet Automatic Protection Switching (EAPS) (continued)

| Feature | Product | Release introduced |
|---|-------------|--------------------|
| RFC 3619 Ethernet Automatic Protection Switching (EAPS) Version 1 | 4120 | Not supported |
| | 4220 | Not supported |
| | 5320 Series | Switch Engine 31.6 |
| | 5420 Series | EXOS 31.3 |
| | 5520 Series | EXOS 31.1 |
| | 5720 Series | Switch Engine 32.1 |
| | 7520 Series | Switch Engine 32.4 |
| | 7720 Series | Switch Engine 32.4 |

Table 16: Extreme Discover Protocol (EDP)

| Feature | Product | Release introduced |
|---------|-------------|--------------------|
| EDP | 4120 | Switch Engine 32.7 |
| | 4220 | Switch Engine 32.7 |
| | 5320 Series | Switch Engine 31.6 |
| | 5420 Series | EXOS 31.3 |
| | 5520 Series | EXOS 31.1 |
| | 5720 Series | Switch Engine 32.1 |
| | 7520 Series | Switch Engine 32.4 |
| | 7720 Series | Switch Engine 32.4 |

Table 17: Extreme Link State Monitoring (ELSM)

| Feature | Product | Release introduced |
|---------|---------|--------------------|
| | 4120 | Switch Engine 32.7 |

Table 17: Extreme Link State Monitoring (ELSM) (continued)

| Feature | Product | Release introduced |
|---------|-------------|--------------------|
| ELSM | 4220 | Switch Engine 32.7 |
| | 5320 Series | Switch Engine 31.6 |
| | 5420 Series | EXOS 31.3 |
| | 5520 Series | EXOS 31.1 |
| | 5720 Series | Switch Engine 32.1 |
| | 7520 Series | Switch Engine 32.4 |
| | 7720 Series | Switch Engine 32.4 |

Table 18: Extreme Loop Recovery Protocol (ELRP)

| Feature | Product | Release introduced |
|---------|-------------|--------------------|
| ELRP | 4120 | Switch Engine 32.7 |
| | 4220 | Switch Engine 32.7 |
| | 5320 Series | Switch Engine 31.6 |
| | 5420 Series | EXOS 31.3 |
| | 5520 Series | EXOS 31.1 |
| | 5720 Series | Switch Engine 32.1 |
| | 7520 Series | Switch Engine 32.4 |
| | 7720 Series | Switch Engine 32.4 |

Table 19: Extreme Standby Router Protocol (ESRP)

| Feature | Product | Release introduced |
|---------|-------------|--------------------|
| ESRP | 4120 | Not supported |
| | 4220 | Not supported |
| | 5320 Series | Switch Engine 31.6 |
| | 5420 Series | EXOS 31.3 |
| | 5520 Series | EXOS 31.1 |
| | 5720 Series | Switch Engine 32.1 |
| | 7520 Series | Switch Engine 32.4 |
| | 7720 Series | Switch Engine 32.4 |

Table 20: Equal Cost Multi Paths (ECMP)

| Feature | Product | Release introduced |
|---------|---------|--------------------|
| | 4120 | Switch Engine 32.7 |

Table 20: Equal Cost Multi Paths (ECMP) (continued)

| Feature | Product | Release introduced |
|-------------|-------------|--------------------|
| Static ECMP | 4220 | Switch Engine 32.7 |
| | 5320 Series | Switch Engine 31.6 |
| | 5420 Series | EXOS 31.3 |
| | 5520 Series | EXOS 31.1 |
| | 5720 Series | Switch Engine 32.1 |
| | 7520 Series | Switch Engine 32.4 |
| | 7720 Series | Switch Engine 32.4 |

Table 21: Extended Edge Switching (VPEX)

| Feature | Product | Release introduced |
|--|-------------|---------------------------------------|
| Extended Edge Switching Control Bridge | 4120 | Not supported |
| | 4220 | Not supported |
| | 5320 Series | Not supported |
| | 5420 Series | EXOS 31.3 |
| | 5520 Series | EXOS 31.1 |
| | 5720 Series | Not supported |
| | 7520 Series | Switch Engine 32.6.1 7520-48Y only |
| | 7720 Series | Not supported |

Table 22: Fabric Attach

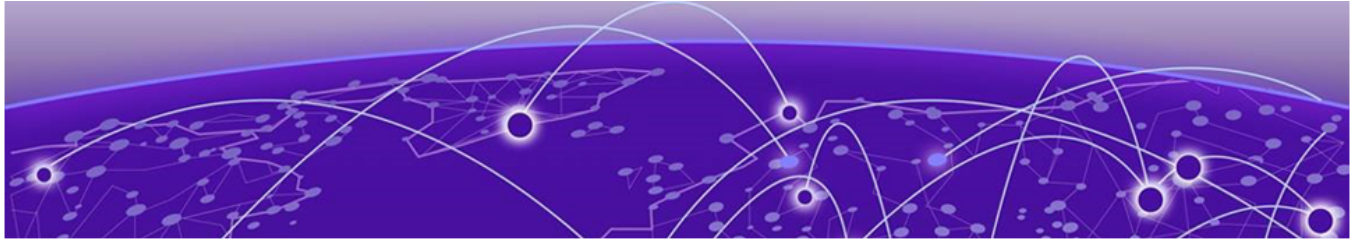
| Feature | Product | Release introduced |
|---|-------------|--------------------|
| Fabric Attach (interoperable with Extreme Fabric Connect) | 4120 | Switch Engine 32.7 |
| | 4220 | Switch Engine 32.7 |
| | 5320 Series | EXOS 31.6 |
| | 5420 Series | EXOS 31.3 |
| | 5520 Series | EXOS 31.1 |
| | 5720 Series | Switch Engine 32.1 |
| | 7520 Series | Switch Engine 32.4 |
| | 7720 Series | Switch Engine 32.4 |

Table 23: Flow Monitor

| Feature | Product | Release introduced |
|---------|-------------|--------------------|
| | 4120 Series | Not supported |

Table 23: Flow Monitor (continued)

| Feature | Product | Release introduced |
|--------------|-------------|--------------------|
| Flow Monitor | 4220 Series | Not supported |
| | 5320 Series | Not supported |
| | 5420 Series | Switch Engine 32.2 |
| | 5520 Series | Switch Engine 32.2 |
| | 5720 Series | Switch Engine 32.4 |
| | 7520 Series | Not applicable |
| | 7720 Series | Not applicable |



Features G to I

Table 24: Extreme Integrated Application Hosting (IAH)

| Feature | Product | Release introduced |
|--|-------------|--------------------|
| Extreme Integrated Application Hosting (IAH) | 4120 | Not supported |
| | 4220 | Not supported |
| | 5320 Series | Not supported |
| | 5420 Series | Not supported |
| | 5520 Series | Not supported |
| | 5720 Series | Switch Engine 32.1 |
| | 7520 Series | Switch Engine 32.4 |
| | 7720 Series | Switch Engine 32.5 |

Table 25: Instant Port Profile

| Feature | Product | Release introduced |
|--------------------------------|-------------|----------------------|
| Cisco Discovery Protocol (CDP) | 4120 | Switch Engine 33.2.1 |
| | 4220 | Switch Engine 33.2.1 |
| | 5320 | Switch Engine 33.2.1 |
| | 5420 | Switch Engine 33.2.1 |
| | 5520 | Switch Engine 33.2.1 |
| | 5720 | Switch Engine 33.2.1 |
| | 7520 | Switch Engine 33.2.1 |
| | 7720 | Switch Engine 33.2.1 |
| Instant Port profile | 4120 | Switch Engine 32.7 |
| | 4220 | Switch Engine 32.7 |
| | 5320 Series | Switch Engine 31.6 |
| | 5420 Series | EXOS 31.3 |
| | 5520 Series | EXOS 31.1 |
| | 5720 Series | Switch Engine 32.1 |
| | 7520 Series | Switch Engine 32.4 |
| | 7720 Series | Switch Engine 32.4 |

Table 25: Instant Port Profile (continued)

| Feature | Product | Release introduced |
|--------------------------------------|---------|----------------------|
| Link Layer Discovery Protocol (LLDP) | 4120 | Switch Engine 33.2.1 |
| | 4220 | Switch Engine 33.2.1 |
| | 5320 | Switch Engine 33.2.1 |
| | 5420 | Switch Engine 33.2.1 |
| | 5520 | Switch Engine 33.2.1 |
| | 5720 | Switch Engine 33.2.1 |
| | 7520 | Switch Engine 33.2.1 |
| | 7720 | Switch Engine 33.2.1 |

Table 26: Internet Control Message Protocol (ICMP)

| Feature | Product | Release introduced |
|-------------------------------------|-------------|--------------------|
| ICMP and IP-Option Response Control | 4120 | Switch Engine 32.7 |
| | 4220 | Switch Engine 32.7 |
| | 5320 Series | Switch Engine 31.6 |
| | 5420 Series | EXOS 31.3 |
| | 5520 Series | EXOS 31.1 |
| | 5720 Series | Switch Engine 32.1 |
| | 7520 Series | Switch Engine 32.4 |
| | 7720 Series | Switch Engine 32.4 |
| RFC 792 ICMP | 4120 | Switch Engine 32.7 |
| | 4220 | Switch Engine 32.7 |
| | 5320 Series | Switch Engine 31.6 |
| | 5420 Series | EXOS 31.3 |
| | 5520 Series | EXOS 31.1 |
| | 5720 Series | Switch Engine 32.1 |
| | 7520 Series | Switch Engine 32.4 |
| | 7720 Series | Switch Engine 32.4 |

Table 26: Internet Control Message Protocol (ICMP) (continued)

| Feature | Product | Release introduced |
|--|-------------|--------------------|
| RFC 1256 IPv4 ICMP Router Discovery (IRDP) | 4120 | Switch Engine 32.7 |
| | 4220 | Switch Engine 32.7 |
| | 5320 Series | Switch Engine 31.6 |
| | 5420 Series | EXOS 31.3 |
| | 5520 Series | EXOS 31.1 |
| | 5720 Series | Switch Engine 32.1 |
| | 7520 Series | Switch Engine 32.4 |
| | 7720 Series | Switch Engine 32.4 |

Table 27: Internet Group Management Protocol (IGMP)

| Feature | Product | Release introduced |
|--|-------------|--------------------|
| IGMP v1/v2 Snooping with Configurable Router Registration Forwarding | 4120 | Switch Engine 32.7 |
| | 4220 | Switch Engine 32.7 |
| | 5320 Series | Switch Engine 31.6 |
| | 5420 Series | EXOS 31.3 |
| | 5520 Series | EXOS 31.1 |
| | 5720 Series | Switch Engine 32.1 |
| | 7520 Series | Switch Engine 32.4 |
| | 7720 Series | Switch Engine 32.4 |
| IGMP v3 Snooping with Configurable Router Registration Forwarding | 4120 | Switch Engine 32.7 |
| | 4220 | Switch Engine 32.7 |
| | 5320 Series | Switch Engine 31.6 |
| | 5420 Series | EXOS 31.3 |
| | 5520 Series | EXOS 31.1 |
| | 5720 Series | Switch Engine 32.1 |
| | 7520 Series | Switch Engine 32.4 |
| | 7720 Series | Switch Engine 32.4 |

Table 27: Internet Group Management Protocol (IGMP) (continued)

| Feature | Product | Release introduced |
|------------------|-------------|--------------------|
| IGMP Filters | 4120 | Switch Engine 32.7 |
| | 4220 | Switch Engine 32.7 |
| | 5320 Series | Switch Engine 31.6 |
| | 5420 Series | EXOS 31.3 |
| | 5520 Series | EXOS 31.1 |
| | 5720 Series | Switch Engine 32.1 |
| | 7520 Series | Switch Engine 32.4 |
| | 7720 Series | Switch Engine 32.4 |
| RFC 1112 IGMP v1 | 4120 | Switch Engine 32.7 |
| | 4220 | Switch Engine 32.7 |
| | 5320 Series | Switch Engine 31.6 |
| | 5420 Series | EXOS 31.3 |
| | 5520 Series | EXOS 31.1 |
| | 5720 Series | Switch Engine 32.1 |
| | 7520 Series | Switch Engine 32.4 |
| | 7720 Series | Switch Engine 32.4 |
| RFC 2236 IGMP v2 | 4120 | Switch Engine 32.7 |
| | 4220 | Switch Engine 32.7 |
| | 5320 Series | Switch Engine 31.6 |
| | 5420 Series | EXOS 31.3 |
| | 5520 Series | EXOS 31.1 |
| | 5720 Series | Switch Engine 32.1 |
| | 7520 Series | Switch Engine 32.4 |
| | 7720 Series | Switch Engine 32.4 |
| RFC 3376 IGMP v3 | 4120 | Switch Engine 32.7 |
| | 4220 | Switch Engine 32.7 |
| | 5320 Series | Switch Engine 31.6 |
| | 5420 Series | EXOS 31.3 |
| | 5520 Series | EXOS 31.1 |
| | 5720 Series | Switch Engine 32.1 |
| | 7520 Series | Switch Engine 32.4 |
| | 7720 Series | Switch Engine 32.4 |

Table 27: Internet Group Management Protocol (IGMP) (continued)

| Feature | Product | Release introduced |
|--|-------------|--------------------|
| RFC 2933 IGMP MIB | 4120 | Switch Engine 32.7 |
| | 4220 | Switch Engine 32.7 |
| | 5320 Series | Switch Engine 31.6 |
| | 5420 Series | EXOS 31.3 |
| | 5520 Series | EXOS 31.1 |
| | 5720 Series | Switch Engine 32.1 |
| | 7520 Series | Switch Engine 32.4 |
| | 7720 Series | Switch Engine 32.4 |
| RFC 1256 IPv4 ICMP Router Discovery (IRDP) | 4120 | Switch Engine 32.7 |
| | 4220 | Switch Engine 32.7 |
| | 5320 Series | Switch Engine 31.6 |
| | 5420 Series | EXOS 31.3 |
| | 5520 Series | EXOS 31.1 |
| | 5720 Series | Switch Engine 32.1 |
| | 7520 Series | Switch Engine 32.4 |
| | 7720 Series | Switch Engine 32.4 |
| Static IGMP Membership | 4120 | Switch Engine 32.7 |
| | 4220 | Switch Engine 32.7 |
| | 5320 Series | Switch Engine 31.6 |
| | 5420 Series | EXOS 31.3 |
| | 5520 Series | EXOS 31.1 |
| | 5720 Series | Switch Engine 32.1 |
| | 7520 Series | Switch Engine 32.4 |
| | 7720 Series | Switch Engine 32.4 |

Table 28: IP Security

| Feature | Product | Release introduced |
|---------|---------|--------------------|
| | 4120 | Switch Engine 32.7 |
| | 4220 | Switch Engine 32.7 |

Table 28: IP Security (continued)

| Feature | Product | Release introduced |
|---|-------------|--------------------|
| IP Security – DHCP enforcement via Disable ARP Learning | 5320 Series | Switch Engine 31.6 |
| | 5420 Series | EXOS 31.3 |
| | 5520 Series | EXOS 31.1 |
| | 5720 Series | Switch Engine 32.1 |
| | 7520 Series | Switch Engine 32.4 |
| | 7720 Series | Switch Engine 32.4 |
| IP Security – DHCP Secured ARP/ARP Validation | 4120 | Switch Engine 32.7 |
| | 4220 | Switch Engine 32.7 |
| | 5320 Series | Switch Engine 31.6 |
| | 5420 Series | EXOS 31.3 |
| | 5520 Series | EXOS 31.1 |
| | 5720 Series | Switch Engine 32.1 |
| | 7520 Series | Switch Engine 32.4 |
| | 7720 Series | Switch Engine 32.4 |
| IP Security – Gratuitous ARP Protection | 4120 | Switch Engine 32.7 |
| | 4220 | Switch Engine 32.7 |
| | 5320 Series | Switch Engine 31.6 |
| | 5420 Series | EXOS 31.3 |
| | 5520 Series | EXOS 31.1 |
| | 5720 Series | Switch Engine 32.1 |
| | 7520 Series | Switch Engine 32.4 |
| | 7720 Series | Switch Engine 32.4 |
| IP Security – RFC 3046 DHCP Option 82 with port and VLAN ID | 4120 | Switch Engine 32.7 |
| | 4220 | Switch Engine 32.7 |
| | 5320 Series | Switch Engine 31.6 |
| | 5420 Series | EXOS 31.3 |
| | 5520 Series | EXOS 31.1 |
| | 5720 Series | Switch Engine 32.1 |
| | 7520 Series | Switch Engine 32.4 |
| | 7720 Series | Switch Engine 32.4 |

Table 28: IP Security (continued)

| Feature | Product | Release introduced |
|-----------------------------------|-------------|--------------------|
| IP Security – Trusted DHCP Server | 4120 | Switch Engine 32.7 |
| | 4220 | Switch Engine 32.7 |
| | 5320 Series | Switch Engine 31.6 |
| | 5420 Series | EXOS 31.3 |
| | 5520 Series | EXOS 31.1 |
| | 5720 Series | Switch Engine 32.1 |
| | 7520 Series | Switch Engine 32.4 |
| | 7720 Series | Switch Engine 32.4 |

Table 29: Internet Protocol, Version 4 (IPv4) Host Services

| Feature | Product | Release introduced |
|--|-------------|--------------------|
| IPv4 Network Address Translation | 4120 | Not supported |
| | 4220 | Not supported |
| | 5320 Series | Not supported |
| | 5420 Series | Not supported |
| | 5520 Series | Not supported |
| | 5720 Series | Not supported |
| | 7520 Series | Switch Engine 32.5 |
| | 7720 Series | Switch Engine 32.5 |
| Mrinfo, the multicast router information tool based on Appendix-B of draft-ietf-idmr-dvmrp-v3-11 | 4120 | Switch Engine 32.7 |
| | 4220 | Switch Engine 32.7 |
| | 5320 Series | Switch Engine 31.6 |
| | 5420 Series | EXOS 31.3 |
| | 5520 Series | EXOS 31.1 |
| | 5720 Series | Switch Engine 32.1 |
| | 7520 Series | Switch Engine 32.4 |
| | 7720 Series | Switch Engine 32.4 |

Table 29: Internet Protocol, Version 4 (IPv4) Host Services (continued)

| Feature | Product | Release introduced |
|---|-------------|--------------------|
| Multicast VLAN Registration (MVR) | 4120 | Switch Engine 32.7 |
| | 4220 | Switch Engine 32.7 |
| | 5320 Series | Switch Engine 31.6 |
| | 5420 Series | EXOS 31.3 |
| | 5520 Series | EXOS 31.1 |
| | 5720 Series | Switch Engine 32.1 |
| | 7520 Series | Switch Engine 32.4 |
| | 7720 Series | Switch Engine 32.4 |
| RFC 768 User Datagram Protocol (UDP) | 4120 | Switch Engine 32.7 |
| | 4220 | Switch Engine 32.7 |
| | 5320 Series | Switch Engine 31.6 |
| | 5420 Series | EXOS 31.3 |
| | 5520 Series | EXOS 31.1 |
| | 5720 Series | Switch Engine 32.1 |
| | 7520 Series | Switch Engine 32.4 |
| | 7720 Series | Switch Engine 32.4 |
| RFC 791 Internet Protocol (IP) | 4120 | Switch Engine 32.7 |
| | 4220 | Switch Engine 32.7 |
| | 5320 Series | Switch Engine 31.6 |
| | 5420 Series | EXOS 31.3 |
| | 5520 Series | EXOS 31.1 |
| | 5720 Series | Switch Engine 32.1 |
| | 7520 Series | Switch Engine 32.4 |
| | 7720 Series | Switch Engine 32.4 |
| RFC 793 Transmission Control Protocol (TCP) | 4120 | Switch Engine 32.7 |
| | 4220 | Switch Engine 32.7 |
| | 5320 Series | Switch Engine 31.6 |
| | 5420 Series | EXOS 31.3 |
| | 5520 Series | EXOS 31.1 |
| | 5720 Series | Switch Engine 32.1 |
| | 7520 Series | Switch Engine 32.4 |
| | 7720 Series | Switch Engine 32.4 |

Table 29: Internet Protocol, Version 4 (IPv4) Host Services (continued)

| Feature | Product | Release introduced |
|---|-------------|--------------------|
| RFC 826 Address Resolution Protocol (ARP) | 4120 | Switch Engine 32.7 |
| | 4220 | Switch Engine 32.7 |
| | 5320 Series | Switch Engine 31.6 |
| | 5420 Series | EXOS 31.3 |
| | 5520 Series | EXOS 31.1 |
| | 5720 Series | Switch Engine 32.1 |
| | 7520 Series | Switch Engine 32.4 |
| | 7720 Series | Switch Engine 32.4 |
| RFC 894 IP over Ethernet | 4120 | Switch Engine 32.7 |
| | 4220 | Switch Engine 32.7 |
| | 5320 Series | Switch Engine 31.6 |
| | 5420 Series | EXOS 31.3 |
| | 5520 Series | EXOS 31.1 |
| | 5720 Series | Switch Engine 32.1 |
| | 7520 Series | Switch Engine 32.4 |
| | 7720 Series | Switch Engine 32.4 |
| RFC 1027 Proxy ARP | 4120 | Switch Engine 32.7 |
| | 4220 | Switch Engine 32.7 |
| | 5320 Series | Switch Engine 31.6 |
| | 5420 Series | EXOS 31.3 |
| | 5520 Series | EXOS 31.1 |
| | 5720 Series | Switch Engine 32.1 |
| | 7520 Series | Switch Engine 32.4 |
| | 7720 Series | Switch Engine 32.4 |
| RFC 1122 Requirements for internal hosts – Communication Layers | 4120 | Switch Engine 32.7 |
| | 4220 | Switch Engine 32.7 |
| | 5320 Series | Switch Engine 31.6 |
| | 5420 Series | EXOS 31.3 |
| | 5520 Series | EXOS 31.1 |
| | 5720 Series | Switch Engine 32.1 |
| | 7520 Series | Switch Engine 32.4 |
| | 7720 Series | Switch Engine 32.4 |

Table 29: Internet Protocol, Version 4 (IPv4) Host Services (continued)

| Feature | Product | Release introduced |
|---|-------------|--------------------|
| RFC 1812 Requirements for IP Version 4 Routers | 4120 | Switch Engine 32.7 |
| | 4220 | Switch Engine 32.7 |
| | 5320 Series | Switch Engine 31.6 |
| | 5420 Series | EXOS 31.3 |
| | 5520 Series | EXOS 31.1 |
| | 5720 Series | Switch Engine 32.1 |
| | 7520 Series | Switch Engine 32.4 |
| | 7720 Series | Switch Engine 32.4 |
| RFC 2068 HTTP server | 4120 | Switch Engine 32.7 |
| | 4220 | Switch Engine 32.7 |
| | 5320 Series | Switch Engine 31.6 |
| | 5420 Series | EXOS 31.3 |
| | 5520 Series | EXOS 31.1 |
| | 5720 Series | Switch Engine 32.1 |
| | 7520 Series | Switch Engine 32.4 |
| | 7720 Series | Switch Engine 32.4 |
| RFC 2096 IPv4 Forwarding Table MIB | 4120 | Switch Engine 32.7 |
| | 4220 | Switch Engine 32.7 |
| | 5320 Series | Switch Engine 31.6 |
| | 5420 Series | EXOS 31.3 |
| | 5520 Series | EXOS 31.1 |
| | 5720 Series | Switch Engine 32.1 |
| | 7520 Series | Switch Engine 32.4 |
| | 7720 Series | Switch Engine 32.4 |
| RFC 3021 Using 31-Bit Prefixes on IPv4 Point-to-Point Links | 4120 | Switch Engine 32.7 |
| | 4220 | Switch Engine 32.7 |
| | 5320 Series | Switch Engine 31.6 |
| | 5420 Series | EXOS 31.3 |
| | 5520 Series | EXOS 31.1 |
| | 5720 Series | Switch Engine 32.1 |
| | 7520 Series | Switch Engine 32.4 |
| | 7720 Series | Switch Engine 32.4 |

Table 29: Internet Protocol, Version 4 (IPv4) Host Services (continued)

| Feature | Product | Release introduced |
|--|-------------|--------------------|
| RFC 3587, Global Unicast Address Format | 4120 | Switch Engine 32.7 |
| | 4220 | Switch Engine 32.7 |
| | 5320 Series | Switch Engine 31.6 |
| | 5420 Series | EXOS 31.3 |
| | 5520 Series | EXOS 31.1 |
| | 5720 Series | Switch Engine 32.1 |
| | 7520 Series | Switch Engine 32.4 |
| | 7720 Series | Switch Engine 32.4 |
| RFC 4632 An architecture for IP Address allocation with CIDR | 4120 | Switch Engine 32.7 |
| | 4220 | Switch Engine 32.7 |
| | 5320 Series | Switch Engine 31.6 |
| | 5420 Series | EXOS 31.3 |
| | 5520 Series | EXOS 31.1 |
| | 5720 Series | Switch Engine 32.1 |
| | 7520 Series | Switch Engine 32.4 |
| | 7720 Series | Switch Engine 32.4 |
| Static Multicast Routes | 4120 | Not supported |
| | 4220 | Not supported |
| | 5320 Series | Switch Engine 31.6 |
| | 5420 Series | EXOS 31.3 |
| | 5520 Series | EXOS 31.1 |
| | 5720 Series | Switch Engine 32.1 |
| | 7520 Series | Switch Engine 32.4 |
| | 7720 Series | Switch Engine 32.4 |

Table 29: Internet Protocol, Version 4 (IPv4) Host Services (continued)

| Feature | Product | Release introduced |
|-----------------------|-------------|--------------------|
| Static Unicast Routes | 4120 | Switch Engine 32.7 |
| | 4220 | Switch Engine 32.7 |
| | 5320 Series | Switch Engine 31.6 |
| | 5420 Series | EXOS 31.3 |
| | 5520 Series | EXOS 31.1 |
| | 5720 Series | Switch Engine 32.1 |
| | 7520 Series | Switch Engine 32.4 |
| | 7720 Series | Switch Engine 32.4 |

Table 30: Internet Protocol, Version 6 (IPv6) Host Services

| Feature | Product | Release introduced |
|--|-------------|--------------------|
| Ping over IPv6 transport | 4120 | Switch Engine 32.7 |
| | 4220 | Switch Engine 32.7 |
| | 5320 Series | Switch Engine 31.6 |
| | 5420 Series | EXOS 31.3 |
| | 5520 Series | EXOS 31.1 |
| | 5720 Series | Switch Engine 32.1 |
| | 7520 Series | Switch Engine 32.4 |
| | 7720 Series | Switch Engine 32.4 |
| RFC 1981, Path MTU Discovery for IPv6, August 1996 – Host Requirements | 4120 | Switch Engine 32.7 |
| | 4220 | Switch Engine 32.7 |
| | 5320 Series | Switch Engine 31.6 |
| | 5420 Series | EXOS 31.3 |
| | 5520 Series | EXOS 31.1 |
| | 5720 Series | Switch Engine 32.1 |
| | 7520 Series | Switch Engine 32.4 |
| | 7720 Series | Switch Engine 32.4 |

Table 30: Internet Protocol, Version 6 (IPv6) Host Services (continued)

| Feature | Product | Release introduced |
|---|-------------|--------------------|
| RFC 2460, Internet Protocol, Version 6 (IPv6) Specification | 4120 | Switch Engine 32.7 |
| | 4220 | Switch Engine 32.7 |
| | 5320 Series | Switch Engine 31.6 |
| | 5420 Series | EXOS 31.3 |
| | 5520 Series | EXOS 31.1 |
| | 5720 Series | Switch Engine 32.1 |
| | 7520 Series | Switch Engine 32.4 |
| | 7720 Series | Switch Engine 32.4 |
| RFC 2462, IPv6 Stateless Address Auto configuration – Host Requirements | 4120 | Switch Engine 32.7 |
| | 4220 | Switch Engine 32.7 |
| | 5320 Series | Switch Engine 31.6 |
| | 5420 Series | EXOS 31.3 |
| | 5520 Series | EXOS 31.1 |
| | 5720 Series | Switch Engine 32.1 |
| | 7520 Series | Switch Engine 32.4 |
| | 7720 Series | Switch Engine 32.4 |
| RFC 2463, Internet Control Message Protocol (ICMPv6) for the IPv6 Specification | 4120 | Switch Engine 32.7 |
| | 4220 | Switch Engine 32.7 |
| | 5320 Series | Switch Engine 31.6 |
| | 5420 Series | EXOS 31.3 |
| | 5520 Series | EXOS 31.1 |
| | 5720 Series | Switch Engine 32.1 |
| | 7520 Series | Switch Engine 32.4 |
| | 7720 Series | Switch Engine 32.4 |
| RFC 2464, Transmission of IPv6 Packets over Ethernet Networks | 4120 | Switch Engine 32.7 |
| | 4220 | Switch Engine 32.7 |
| | 5320 Series | Switch Engine 31.6 |
| | 5420 Series | EXOS 31.3 |
| | 5520 Series | EXOS 31.1 |
| | 5720 Series | Switch Engine 32.1 |
| | 7520 Series | Switch Engine 32.4 |
| | 7720 Series | Switch Engine 32.4 |

Table 30: Internet Protocol, Version 6 (IPv6) Host Services (continued)

| Feature | Product | Release introduced |
|--|-------------|--------------------|
| RFC 2465, IPv6 MIB, General Group and Textual Conventions | 4120 | Switch Engine 32.7 |
| | 4220 | Switch Engine 32.7 |
| | 5320 Series | Switch Engine 31.6 |
| | 5420 Series | EXOS 31.3 |
| | 5520 Series | EXOS 31.1 |
| | 5720 Series | Switch Engine 32.1 |
| | 7520 Series | Switch Engine 32.4 |
| | 7720 Series | Switch Engine 32.4 |
| RFC 2466, MIB for ICMPv6 | 4120 | Switch Engine 32.7 |
| | 4220 | Switch Engine 32.7 |
| | 5320 Series | Switch Engine 31.6 |
| | 5420 Series | EXOS 31.3 |
| | 5520 Series | EXOS 31.1 |
| | 5720 Series | Switch Engine 32.1 |
| | 7520 Series | Switch Engine 32.4 |
| | 7720 Series | Switch Engine 32.4 |
| RFC 3484, Default Address Selection for IPv6 | 4120 | Switch Engine 32.7 |
| | 4220 | Switch Engine 32.7 |
| | 5320 Series | Switch Engine 31.6 |
| | 5420 Series | EXOS 31.3 |
| | 5520 Series | EXOS 31.1 |
| | 5720 Series | Switch Engine 32.1 |
| | 7520 Series | Switch Engine 32.4 |
| | 7720 Series | Switch Engine 32.4 |
| RFC 3513, Internet Protocol Version 6 (IPv6) Addressing Architecture | 4120 | Switch Engine 32.7 |
| | 4220 | Switch Engine 32.7 |
| | 5320 Series | Switch Engine 31.6 |
| | 5420 Series | EXOS 31.3 |
| | 5520 Series | EXOS 31.1 |
| | 5720 Series | Switch Engine 32.1 |
| | 7520 Series | Switch Engine 32.4 |
| | 7720 Series | Switch Engine 32.4 |

Table 30: Internet Protocol, Version 6 (IPv6) Host Services (continued)

| Feature | Product | Release introduced |
|---|-------------|--------------------|
| RFC 4193, Unique Local IPv6 Unicast Addresses | 4120 | Switch Engine 32.7 |
| | 4220 | Switch Engine 32.7 |
| | 5320 Series | Switch Engine 31.6 |
| | 5420 Series | EXOS 31.3 |
| | 5520 Series | EXOS 31.1 |
| | 5720 Series | Switch Engine 32.1 |
| | 7520 Series | Switch Engine 32.4 |
| | 7720 Series | Switch Engine 32.4 |
| RFC 4293, Management Information Base for the Internet Protocol (partial) | 4120 | Switch Engine 32.7 |
| | 4220 | Switch Engine 32.7 |
| | 5320 Series | Switch Engine 31.6 |
| | 5420 Series | EXOS 31.3 |
| | 5520 Series | EXOS 31.1 |
| | 5720 Series | Switch Engine 32.1 |
| | 7520 Series | Switch Engine 32.4 |
| | 7720 Series | Switch Engine 32.4 |
| RFC 4861, Neighbor Discovery for IPv6 | 4120 | Switch Engine 32.7 |
| | 4220 | Switch Engine 32.7 |
| | 5320 Series | Switch Engine 31.6 |
| | 5420 Series | EXOS 31.3 |
| | 5520 Series | EXOS 31.1 |
| | 5720 Series | Switch Engine 32.1 |
| | 7520 Series | Switch Engine 32.4 |
| | 7720 Series | Switch Engine 32.4 |
| RFC 5095, IPv6 Specification | 4120 | Switch Engine 32.7 |
| | 4220 | Switch Engine 32.7 |
| | 5320 Series | Switch Engine 31.6 |
| | 5420 Series | EXOS 31.3 |
| | 5520 Series | EXOS 31.1 |
| | 5720 Series | Switch Engine 32.1 |
| | 7520 Series | Switch Engine 32.4 |
| | 7720 Series | Switch Engine 32.4 |

Table 30: Internet Protocol, Version 6 (IPv6) Host Services (continued)

| Feature | Product | Release introduced |
|--|-------------|--------------------|
| RFC 5722, Handling of Overlapping IPv6 | 4120 | Switch Engine 32.7 |
| | 4220 | Switch Engine 32.7 |
| | 5320 Series | Switch Engine 31.6 |
| | 5420 Series | EXOS 31.3 |
| | 5520 Series | EXOS 31.1 |
| | 5720 Series | Switch Engine 32.1 |
| | 7520 Series | Switch Engine 32.4 |
| SSH-2 server over IPv6 transport | 4120 | Switch Engine 32.7 |
| | 4220 | Switch Engine 32.7 |
| | 5320 Series | Switch Engine 31.6 |
| | 5420 Series | EXOS 31.3 |
| | 5520 Series | EXOS 31.1 |
| | 5720 Series | Switch Engine 32.1 |
| | 7520 Series | Switch Engine 32.4 |
| Telnet server over IPv6 transport | 4120 | Switch Engine 32.7 |
| | 4220 | Switch Engine 32.7 |
| | 5320 Series | Switch Engine 31.6 |
| | 5420 Series | EXOS 31.3 |
| | 5520 Series | EXOS 31.1 |
| | 5720 Series | Switch Engine 32.1 |
| | 7520 Series | Switch Engine 32.4 |
| | 7720 Series | Switch Engine 32.4 |

Table 30: Internet Protocol, Version 6 (IPv6) Host Services (continued)

| Feature | Product | Release introduced |
|--------------------------------|-------------|--------------------|
| Traceroute over IPv6 transport | 4120 | Switch Engine 32.7 |
| | 4220 | Switch Engine 32.7 |
| | 5320 Series | Switch Engine 31.6 |
| | 5420 Series | EXOS 31.3 |
| | 5520 Series | EXOS 31.1 |
| | 5720 Series | Switch Engine 32.1 |
| | 7520 Series | Switch Engine 32.4 |
| | 7720 Series | Switch Engine 32.4 |

Table 31: IPv6 Interworking and Migration

| Feature | Product | Release introduced |
|------------------------------|-------------|--------------------|
| RFC 2893, Configured Tunnels | 4120 | Not supported |
| | 4220 | Not supported |
| | 5320 Series | Switch Engine 31.6 |
| | 5420 Series | EXOS 31.3 |
| | 5520 Series | EXOS 31.1 |
| | 5720 Series | Switch Engine 32.1 |
| | 7520 Series | Switch Engine 32.4 |
| | 7720 Series | Switch Engine 32.4 |
| RFC 3056, 6to4 | 4120 | Not supported |
| | 4220 | Not supported |
| | 5320 Series | Switch Engine 31.6 |
| | 5420 Series | EXOS 31.3 |
| | 5520 Series | EXOS 31.1 |
| | 5720 Series | Switch Engine 32.1 |
| | 7520 Series | Switch Engine 32.4 |
| | 7720 Series | Switch Engine 32.4 |

Table 32: IPv6 Router Services

| Feature | Product | Release introduced |
|--|-------------|--------------------|
| draft-ietf-vrrp-unified-mib-08.txt - Definitions | 4120 | Not supported |
| | 4220 | Not supported |
| | 5320 Series | Switch Engine 31.6 |

Table 32: IPv6 Router Services (continued)

| Feature | Product | Release introduced |
|---|--------------------|--------------------|
| of Managed Objects for VRRPv3 | 5420 Series | EXOS 31.3 |
| | 5520 Series | EXOS 31.1 |
| | 5720 Series | Switch Engine 32.1 |
| | 7520 Series | Switch Engine 32.4 |
| RFC 1981, Path MTU Discovery for IPv6, August 1996 – Router Requirements | 4120 | Not supported |
| | 4220 | Not supported |
| | 5320 Series | Switch Engine 31.6 |
| | 5420 Series | EXOS 31.3 |
| | 5520 Series | EXOS 31.1 |
| | 5720 Series | Switch Engine 32.1 |
| | 7520 Series | Switch Engine 32.4 |
| RFC 2080, RIPng | 4120 | Not supported |
| | 4220 | Not supported |
| | 5320 Series | Switch Engine 31.6 |
| | 5420 Series | EXOS 31.3 |
| | 5520 Series | EXOS 31.1 |
| | 5720 Series | Switch Engine 32.1 |
| | 7520 Series | Switch Engine 32.4 |
| | 7720 Series | Switch Engine 32.4 |
| RFC 2462, IPv6 Stateless Address Auto Configuration – Router Requirements | 4120 | Not supported |
| | 4220 | Not supported |
| | 5320 Series | Switch Engine 31.6 |
| | 5420 Series | EXOS 31.3 |
| | 5520 Series | EXOS 31.1 |
| | 5720 Series | Switch Engine 32.1 |
| | 7520 Series | Switch Engine 32.4 |
| 7720 Series | Switch Engine 32.4 | |

Table 32: IPv6 Router Services (continued)

| Feature | Product | Release introduced |
|---|-------------|--------------------|
| RFC 2740 OSPFv3, OSPF for IPv6 | 4120 | Not supported |
| | 4220 | Not supported |
| | 5320 Series | Switch Engine 31.6 |
| | 5420 Series | EXOS 31.3 |
| | 5520 Series | EXOS 31.1 |
| | 5720 Series | Switch Engine 32.1 |
| | 7520 Series | Switch Engine 32.4 |
| | 7720 Series | Switch Engine 32.4 |
| RFC 4291, IP Version 6 Addressing Architecture | 4120 | Not supported |
| | 4220 | Not supported |
| | 5320 Series | Switch Engine 31.6 |
| | 5420 Series | EXOS 31.3 |
| | 5520 Series | EXOS 31.1 |
| | 5720 Series | Switch Engine 32.1 |
| | 7520 Series | Switch Engine 32.4 |
| | 7720 Series | Switch Engine 32.4 |
| RFC 4443, Internet Control Message Protocol (ICMPv6) for the Internet Protocol Version 6 (IPv6) Specification | 4120 | Not supported |
| | 4220 | Not supported |
| | 5320 Series | Switch Engine 31.6 |
| | 5420 Series | EXOS 31.3 |
| | 5520 Series | EXOS 31.1 |
| | 5720 Series | Switch Engine 32.1 |
| | 7520 Series | Switch Engine 32.4 |
| | 7720 Series | Switch Engine 32.4 |
| RFC 4862, IPv6 Stateless Address Autoconfiguration | 4120 | Not supported |
| | 4220 | Not supported |
| | 5320 Series | Switch Engine 31.6 |
| | 5420 Series | EXOS 31.3 |
| | 5520 Series | EXOS 31.1 |
| | 5720 Series | Switch Engine 32.1 |
| | 7520 Series | Switch Engine 32.4 |
| | 7720 Series | Switch Engine 32.4 |

Table 32: IPv6 Router Services (continued)

| Feature | Product | Release introduced |
|--|-------------|--------------------|
| RFC 5798 Virtual Router Redundancy Protocol (VRRP) Version 3 for IPv4 and IPv6 | 4120 | Not supported |
| | 4220 | Not supported |
| | 5320 Series | Switch Engine 31.6 |
| | 5320 Series | Switch Engine 31.6 |
| | 5420 Series | EXOS 31.3 |
| | 5520 Series | EXOS 31.1 |
| | 5720 Series | Switch Engine 32.1 |
| | 7520 Series | Switch Engine 32.4 |
| RFC 6106, IPv6 Router Advertisement Options for DNS Configuration | 4120 | Not supported |
| | 4220 | Not supported |
| | 5320 Series | Switch Engine 31.6 |
| | 5320 Series | Switch Engine 31.6 |
| | 5420 Series | EXOS 31.3 |
| | 5520 Series | EXOS 31.1 |
| | 5720 Series | Switch Engine 32.1 |
| | 7520 Series | Switch Engine 32.4 |
| RFC 6164, Using 127-Bit IPv6 Prefixes on Inter-Router Links | 4120 | Not supported |
| | 4220 | Not supported |
| | 5320 Series | Switch Engine 31.6 |
| | 5320 Series | Switch Engine 31.6 |
| | 5420 Series | EXOS 31.3 |
| | 5520 Series | EXOS 31.1 |
| | 5720 Series | Switch Engine 32.1 |
| | 7520 Series | Switch Engine 32.4 |
| | 7720 Series | Switch Engine 32.4 |

Table 32: IPv6 Router Services (continued)

| Feature | Product | Release introduced |
|---------------------------------|-------------|--------------------|
| RFC 7166 Authentication Trailer | 4120 | Not supported |
| | 4220 | Not supported |
| | 5320 Series | Switch Engine 31.6 |
| | 5320 Series | Switch Engine 31.6 |
| | 5420 Series | EXOS 31.3 |
| | 5520 Series | EXOS 31.1 |
| | 5720 Series | Switch Engine 32.1 |
| | 7520 Series | Switch Engine 32.4 |
| | 7720 Series | Switch Engine 32.4 |
| Static Unicast routes for IPv6 | 4120 | Switch Engine 32.7 |
| | 4220 | Switch Engine 32.7 |
| | 5320 Series | Switch Engine 31.6 |
| | 5420 Series | EXOS 31.3 |
| | 5520 Series | EXOS 31.1 |
| | 5720 Series | Switch Engine 32.1 |
| | 7520 Series | Switch Engine 32.4 |
| | 7720 Series | Switch Engine 32.4 |

Table 33: Intermediate System to Intermediate System (IS-IS)

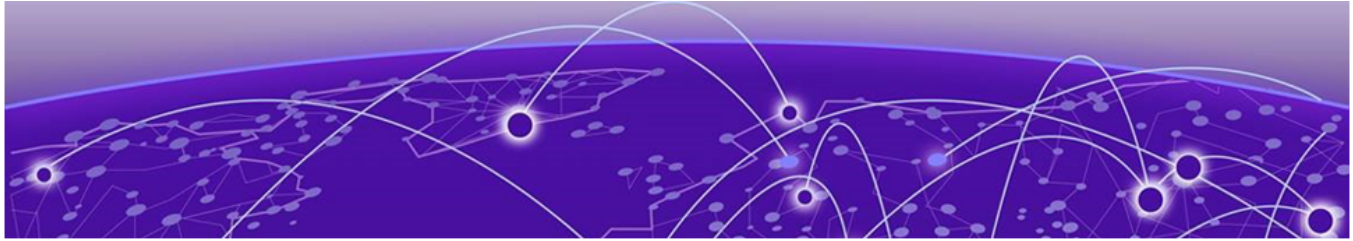
| Feature | Product | Release introduced |
|---|-------------|--------------------|
| Draft-ietf-isis-ipv6-06 Routing IPv6 with IS-IS | 4120 | Not supported |
| | 4220 | Not supported |
| | 5320 Series | Switch Engine 31.6 |
| | 5420 Series | EXOS 31.3 |
| | 5520 Series | EXOS 31.1 |
| | 5720 Series | Switch Engine 32.1 |
| | 7520 Series | Switch Engine 32.4 |
| | 7720 Series | Switch Engine 32.4 |

Table 33: Intermediate System to Intermediate System (IS-IS) (continued)

| Feature | Product | Release introduced |
|--|-------------|--------------------|
| Draft-ietf-isis-restart-02 Restart Signaling for IS-IS | 4120 | Not supported |
| | 4220 | Not supported |
| | 5320 Series | Switch Engine 31.6 |
| | 5420 Series | EXOS 31.3 |
| | 5520 Series | EXOS 31.1 |
| | 5720 Series | Switch Engine 32.1 |
| | 7520 Series | Switch Engine 32.4 |
| | 7720 Series | Switch Engine 32.4 |
| Draft-ietf-isis-wg-multi- topology-11 Multi Topology (MT) Routing in IS-IS | 4120 | Not supported |
| | 4220 | Not supported |
| | 5320 Series | Switch Engine 31.6 |
| | 5420 Series | EXOS 31.3 |
| | 5520 Series | EXOS 31.1 |
| | 5720 Series | Switch Engine 32.1 |
| | 7520 Series | Switch Engine 32.4 |
| | 7720 Series | Switch Engine 32.4 |
| IOS 10589 OSI IS-IS Intra- Domain Routing Protocol (RFC 1142) | 4120 | Not supported |
| | 4220 | Not supported |
| | 5320 Series | Switch Engine 31.6 |
| | 5420 Series | EXOS 31.3 |
| | 5520 Series | EXOS 31.1 |
| | 5720 Series | Switch Engine 32.1 |
| | 7520 Series | Switch Engine 32.4 |
| | 7720 Series | Switch Engine 32.4 |
| RFC 1195 Use of OSI IS-IS for Routing in TCP/IP and Dual Environments (TCP/IP transport only) | 4120 | Not supported |
| | 4220 | Not supported |
| | 5320 Series | Switch Engine 31.6 |
| | 5420 Series | EXOS 31.3 |
| | 5520 Series | EXOS 31.1 |
| | 5720 Series | Switch Engine 32.1 |
| | 7520 Series | Switch Engine 32.4 |
| | 7720 Series | Switch Engine 32.4 |

Table 33: Intermediate System to Intermediate System (IS-IS) (continued)

| Feature | Product | Release introduced |
|---|-------------|--------------------|
| RFC 2763 Dynamic Hostname Exchange Mechanism for IS-IS | 4120 | Not supported |
| | 4220 | Not supported |
| | 5320 Series | Switch Engine 31.6 |
| | 5420 Series | EXOS 31.3 |
| | 5520 Series | EXOS 31.1 |
| | 5720 Series | Switch Engine 32.1 |
| | 7520 Series | Switch Engine 32.4 |
| | 7720 Series | Switch Engine 32.4 |
| RFC 2966 Domain-wide Prefix Distribution with Two-Level IS-IS | 4120 | Not supported |
| | 4220 | Not supported |
| | 5320 Series | Switch Engine 31.6 |
| | 5420 Series | EXOS 31.3 |
| | 5520 Series | EXOS 31.1 |
| | 5720 Series | Switch Engine 32.1 |
| | 7520 Series | Switch Engine 32.4 |
| | 7720 Series | Switch Engine 32.4 |
| RFC 2973 IS-IS Mesh Groups | 4120 | Not supported |
| | 4220 | Not supported |
| | 5320 Series | Switch Engine 31.6 |
| | 5420 Series | EXOS 31.3 |
| | 5520 Series | EXOS 31.1 |
| | 5720 Series | Switch Engine 32.1 |
| | 7520 Series | Switch Engine 32.4 |
| | 7720 Series | Switch Engine 32.4 |
| RFC 3373 Three-way Handshake for IS-IS Point-to-Point Adjacencies | 4120 | Not supported |
| | 4220 | Not supported |
| | 5320 Series | Switch Engine 31.6 |
| | 5420 Series | EXOS 31.3 |
| | 5520 Series | EXOS 31.1 |
| | 5720 Series | Switch Engine 32.1 |
| | 7520 Series | Switch Engine 32.4 |
| | 7720 Series | Switch Engine 32.4 |



Features J to L

Table 34: Keychain Manager

| Feature | Product | Release introduced |
|------------------|-------------|--------------------|
| Keychain Manager | 4120 | Not supported |
| | 4220 | Not supported |
| | 5320 Series | Switch Engine 31.6 |
| | 5420 Series | EXOS 31.3 |
| | 5520 Series | EXOS 31.1 |
| | 5720 Series | Switch Engine 32.1 |
| | 7520 Series | Switch Engine 32.4 |
| | 7720 Series | Switch Engine 32.4 |

Table 35: Layer 3 Virtual Private Networks (VPN)

| Feature | Product | Release introduced |
|--|-------------|--|
| RFC 4364 BGP/MPLS IP Virtual Private Networks (VPNs) | 4120 | Not supported |
| | 4220 | Not supported |
| | 5320 Series | Not Supported |
| | 5420 Series | Not Supported |
| | 5520 Series | EXOS 31.1 Full except for section 9 and 10 |
| | 5720 Series | Not Supported |
| | 7520 Series | Switch Engine 32.5 Full except for section 9 and 10 |
| | 7720 Series | Switch Engine 32.5 Full except for section 9 and 10 |

Table 35: Layer 3 Virtual Private Networks (VPN) (continued)

| Feature | Product | Release introduced |
|-----------------------------------|-------------|---|
| RFC 4382 MPLS/BGP Layer 3 VPN MIB | 4120 | Not supported |
| | 4220 | Not supported |
| | 5320 Series | Not Supported |
| | 5420 Series | Not Supported |
| | 5520 Series | EXOS 31.1 Full except for 1 table: mplsL3VpnVrfSecTable |
| | 5720 Series | Not Supported |
| | 7520 Series | Not Supported |
| | 7720 Series | Not Supported |

Table 36: Licensing

| Feature | Product | Release introduced |
|---|-------------|--------------------|
| Ability to extend the Factory Default Premier Trial License | 4120 | Not supported |
| | 4220 | Not supported |
| | 5320 Series | Switch Engine 31.6 |
| | 5420 Series | EXOS 31.3 |
| | 5520 Series | EXOS 31.1 |
| | 5720 Series | Switch Engine 32.1 |
| | 7520 Series | Switch Engine 32.4 |
| | 7720 Series | Switch Engine 32.4 |
| License files signed using Extreme Networks signature. | 4120 | Not supported |
| | 4220 | Not supported |
| | 5320 Series | Switch Engine 31.6 |
| | 5420 Series | EXOS 31.3 |
| | 5520 Series | EXOS 31.1 |
| | 5720 Series | Switch Engine 32.1 |
| | 7520 Series | Switch Engine 32.4 |
| | 7720 Series | Switch Engine 32.4 |

Table 36: Licensing (continued)

| Feature | Product | Release introduced |
|-----------------------------|-------------|--------------------|
| Universal Hardware licenses | 4120 | Not supported |
| | 4220 | Not supported |
| | 5320 Series | Switch Engine 31.6 |
| | 5420 Series | EXOS 31.3 |
| | 5520 Series | EXOS 31.1 |
| | 5720 Series | Switch Engine 32.1 |
| | 7520 Series | Switch Engine 32.4 |
| | 7720 Series | Switch Engine 32.4 |

Table 37: Link Aggregation Control Protocol (LACP)

| Feature | Product | Release introduced |
|---|-------------|--------------------|
| IEEE 802.1AX-2008 Link Aggregation | 4120 | Not supported |
| | 4220 | Not supported |
| | 5320 Series | Switch Engine 31.6 |
| | 5420 Series | EXOS 31.3 |
| | 5520 Series | EXOS 31.1 |
| | 5720 Series | Switch Engine 32.1 |
| | 7520 Series | Switch Engine 32.4 |
| | 7720 Series | Switch Engine 32.4 |
| IEEE 802.3ad Static load sharing configuration and LACP based dynamic configuration | 4120 | Switch Engine 32.7 |
| | 4220 | Switch Engine 32.7 |
| | 5320 Series | Switch Engine 31.6 |
| | 5420 Series | EXOS 31.3 |
| | 5520 Series | EXOS 31.1 |
| | 5720 Series | Switch Engine 32.1 |
| | 7520 Series | Switch Engine 32.4 |
| | 7720 Series | Switch Engine 32.4 |

Table 37: Link Aggregation Control Protocol (LACP) (continued)

| Feature | Product | Release introduced |
|---------|-------------|--------------------|
| LACP | 4120 | Switch Engine 32.7 |
| | 4220 | Switch Engine 32.7 |
| | 5320 Series | Switch Engine 31.6 |
| | 5420 Series | EXOS 31.3 |
| | 5520 Series | EXOS 31.1 |
| | 5720 Series | Switch Engine 32.1 |
| | 7520 Series | Switch Engine 32.4 |
| | 7720 Series | Switch Engine 32.4 |

Table 38: Link Layer Discovery Protocol (LLDP)

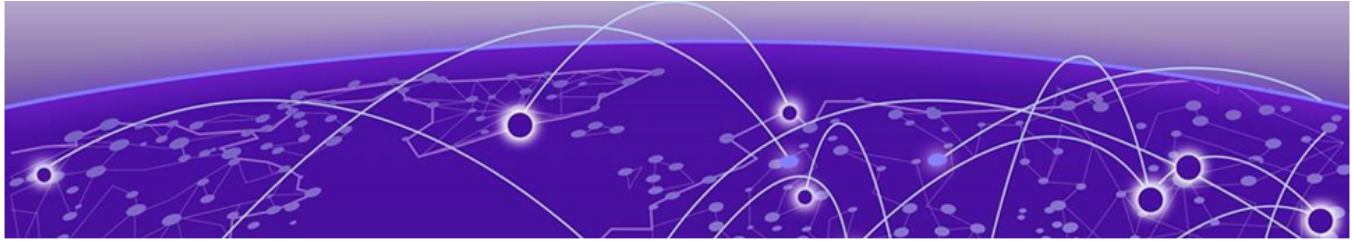
| Feature | Product | Release introduced |
|---|-------------|--------------------|
| IEEE 802.1AB – LLDP | 4120 | Switch Engine 32.7 |
| | 4220 | Switch Engine 32.7 |
| | 5320 Series | Switch Engine 31.6 |
| | 5420 Series | EXOS 31.3 |
| | 5520 Series | EXOS 31.1 |
| | 5720 Series | Switch Engine 32.1 |
| | 7520 Series | Switch Engine 32.4 |
| | 7720 Series | Switch Engine 32.4 |
| LLDP Media Endpoint Discovery (LLDP-MED), ANSI/TIA-1057, draft 08 | 4120 | Switch Engine 32.7 |
| | 4220 | Switch Engine 32.7 |
| | 5320 Series | Switch Engine 31.6 |
| | 5420 Series | EXOS 31.3 |
| | 5520 Series | EXOS 31.1 |
| | 5720 Series | Switch Engine 32.1 |
| | 7520 Series | Switch Engine 32.4 |
| | 7720 Series | Switch Engine 32.4 |

Table 39: Linux kernel version

| Feature | Product | Release introduced |
|---------|---------|-------------------------------|
| | 4120 | 5.10 as of Switch Engine 32.7 |

Table 39: Linux kernel version (continued)

| Feature | Product | Release introduced |
|----------------------|-------------|-------------------------------|
| Linux kernel version | 4220 | 5.10 as of Switch Engine 32.7 |
| | 5320 Series | 5.10 as of Switch Engine 32.6 |
| | 5420 Series | 5.10 as of Switch Engine 32.6 |
| | 5520 Series | 5.10 as of Switch Engine 32.6 |
| | 5720 Series | 5.10 as of Switch Engine 32.6 |
| | 7520 Series | 5.10 as of Switch Engine 32.6 |
| | 7720 Series | 5.10 as of Switch Engine 32.6 |



Features M to O

Table 40: MACsec

| Feature | Product | Release introduced |
|-------------------------------------|-------------|------------------------------|
| IEEE 802.1AE MACsec Link Encryption | 4120 | Not supported |
| | 4220 | Not supported |
| | 5320 Series | Switch Engine 31.6 |
| | 5420 Series | EXOS 31.4 |
| | 5520 Series | EXOS 31.1 |
| | 5720 Series | Switch Engine 32.1 |
| | 7520 Series | 32.6.1 7520-48YE-8CE only |
| | 7720 Series | Not supported |
| LRM/MACsec Adapter | 4120 | Not supported |
| | 4220 | Not supported |
| | 5320 Series | Switch Engine 31.6 |
| | 5420 Series | Not supported |
| | 5520 Series | Not supported |
| | 5720 Series | Switch Engine 32.1 |
| | 7520 Series | Not supported |
| | 7720 Series | Not supported |
| MAC Security – Lockdown and Limit | 4120 | Switch Engine 32.7 |
| | 4220 | Switch Engine 32.7 |
| | 5320 Series | Switch Engine 31.6 |
| | 5420 Series | EXOS 31.4 |
| | 5520 Series | EXOS 31.1 |
| | 5720 Series | Switch Engine 32.1 |
| | 7520 Series | 32.6.1 7520-48YE-8CE only |
| | 7720 Series | Not supported |

Table 40: MACsec (continued)

| Feature | Product | Release introduced |
|----------------------|-------------|------------------------------|
| MACsec Key Agreement | 4120 | Not supported |
| | 4220 | Not supported |
| | 5320 Series | Switch Engine 31.6 |
| | 5420 Series | EXOS 31.4 |
| | 5520 Series | EXOS 31.1 |
| | 5720 Series | Switch Engine 32.1 |
| | 7520 Series | 32.6.1 7520-48YE-8CE only |
| | 7720 Series | Not supported |

Table 41: Management and traffic analysis

| Feature | Product | Release introduced |
|-----------------------|-------------|--------------------|
| Application Telemetry | 4120 | Switch Engine 32.7 |
| | 4220 | Switch Engine 32.7 |
| | 5320 Series | Switch Engine 31.6 |
| | 5420 Series | EXOS 31.3 |
| | 5520 Series | EXOS 31.1 |
| | 5720 Series | Switch Engine 32.1 |
| | 7520 Series | Switch Engine 32.4 |
| | 7720 Series | Switch Engine 32.4 |
| Configuration logging | 4120 | Switch Engine 32.7 |
| | 4220 | Switch Engine 32.7 |
| | 5320 Series | Switch Engine 31.6 |
| | 5420 Series | EXOS 31.3 |
| | 5520 Series | EXOS 31.1 |
| | 5720 Series | Switch Engine 32.1 |
| | 7520 Series | Switch Engine 32.4 |
| | 7720 Series | Switch Engine 32.4 |

Table 41: Management and traffic analysis (continued)

| Feature | Product | Release introduced |
|-------------------------------------|-------------|--------------------|
| draft-ietf-hubmib-mau-mib-v3-02.txt | 4120 | Switch Engine 32.7 |
| | 4220 | Switch Engine 32.7 |
| | 5320 Series | Switch Engine 31.6 |
| | 5420 Series | EXOS 31.3 |
| | 5520 Series | EXOS 31.1 |
| | 5720 Series | Switch Engine 32.1 |
| | 7520 Series | Switch Engine 32.4 |
| | 7720 Series | Switch Engine 32.4 |
| ENTERASYS-MAC-LOCKING | 4120 | Switch Engine 32.7 |
| | 4220 | Switch Engine 32.7 |
| | 5320 Series | Switch Engine 31.6 |
| | 5420 Series | EXOS 31.3 |
| | 5520 Series | EXOS 31.1 |
| | 5720 Series | Switch Engine 32.1 |
| | 7520 Series | Switch Engine 32.4 |
| | 7720 Series | Switch Engine 32.4 |
| ENTERASYS-POLICY-PROFILE-MIB | 4120 | Switch Engine 32.7 |
| | 4220 | Switch Engine 32.7 |
| | 5320 Series | Switch Engine 31.6 |
| | 5420 Series | EXOS 31.3 |
| | 5520 Series | EXOS 31.1 |
| | 5720 Series | Switch Engine 32.1 |
| | 7520 Series | Switch Engine 32.4 |
| | 7720 Series | Switch Engine 32.4 |
| ENTERASYS-UPN-TC-MIB | 4120 | Switch Engine 32.7 |
| | 4220 | Switch Engine 32.7 |
| | 5320 Series | Switch Engine 31.6 |
| | 5420 Series | EXOS 31.3 |
| | 5520 Series | EXOS 31.1 |
| | 5720 Series | Switch Engine 32.1 |
| | 7520 Series | Switch Engine 32.4 |
| | 7720 Series | Switch Engine 32.4 |

Table 41: Management and traffic analysis (continued)

| Feature | Product | Release introduced |
|--------------------------------------|-------------|--------------------|
| ENTERASYS-CLASS-OF-SERVICE-MIB | 4120 | Switch Engine 32.7 |
| | 4220 | Switch Engine 32.7 |
| | 5320 Series | Switch Engine 31.6 |
| | 5420 Series | EXOS 31.3 |
| | 5520 Series | EXOS 31.1 |
| | 5720 Series | Switch Engine 32.1 |
| | 7520 Series | Switch Engine 32.4 |
| | 7720 Series | Switch Engine 32.4 |
| ENTERASYS-RADIUS-ACCT-CLIENT-EXT-MIB | 4120 | Switch Engine 32.7 |
| | 4220 | Switch Engine 32.7 |
| | 5320 Series | Switch Engine 31.6 |
| | 5420 Series | EXOS 31.3 |
| | 5520 Series | EXOS 31.1 |
| | 5720 Series | Switch Engine 32.1 |
| | 7520 Series | Switch Engine 32.4 |
| | 7720 Series | Switch Engine 32.4 |
| ENTERASYS-RADIUS-AUTH-CLIENT-MIB | 4120 | Switch Engine 32.7 |
| | 4220 | Switch Engine 32.7 |
| | 5320 Series | Switch Engine 31.6 |
| | 5420 Series | EXOS 31.3 |
| | 5520 Series | EXOS 31.1 |
| | 5720 Series | Switch Engine 32.1 |
| | 7520 Series | Switch Engine 32.4 |
| | 7720 Series | Switch Engine 32.4 |
| ENTERASYS-MULTI-AUTH-MIB | 4120 | Switch Engine 32.7 |
| | 4220 | Switch Engine 32.7 |
| | 5320 Series | Switch Engine 31.6 |
| | 5420 Series | EXOS 31.3 |
| | 5520 Series | EXOS 31.1 |
| | 5720 Series | Switch Engine 32.1 |
| | 7520 Series | Switch Engine 32.4 |
| | 7720 Series | Switch Engine 32.4 |

Table 41: Management and traffic analysis (continued)

| Feature | Product | Release introduced |
|---|-------------|--------------------|
| ENTERASYS-MAC-AUTHENTICATION-MIB | 4120 | Switch Engine 32.7 |
| | 4220 | Switch Engine 32.7 |
| | 5320 Series | Switch Engine 31.6 |
| | 5420 Series | EXOS 31.3 |
| | 5520 Series | EXOS 31.1 |
| | 5720 Series | Switch Engine 32.1 |
| | 7520 Series | Switch Engine 32.4 |
| | 7720 Series | Switch Engine 32.4 |
| ENTERASYS-MULTI-USER-8021X-MIB | 4120 | Switch Engine 32.7 |
| | 4220 | Switch Engine 32.7 |
| | 5320 Series | Switch Engine 31.6 |
| | 5420 Series | EXOS 31.3 |
| | 5520 Series | EXOS 31.1 |
| | 5720 Series | Switch Engine 32.1 |
| | 7520 Series | Switch Engine 32.4 |
| | 7720 Series | Switch Engine 32.4 |
| ENTERASYS-VLAN-AUTHORIZATION-MIB | 4120 | Switch Engine 32.7 |
| | 4220 | Switch Engine 32.7 |
| | 5320 Series | Switch Engine 31.6 |
| | 5420 Series | EXOS 31.3 |
| | 5520 Series | EXOS 31.1 |
| | 5720 Series | Switch Engine 32.1 |
| | 7520 Series | Switch Engine 32.4 |
| | 7720 Series | Switch Engine 32.4 |
| Extreme Networks vendor MIBs (includes statistics, FDB, PoE, CPU, Memory, ACL, CLEAR-Flow etc MIBs) | 4120 | Switch Engine 32.7 |
| | 4220 | Switch Engine 32.7 |
| | 5320 Series | Switch Engine 31.6 |
| | 5420 Series | EXOS 31.3 |
| | 5520 Series | EXOS 31.1 |
| | 5720 Series | Switch Engine 32.1 |
| | 7520 Series | Switch Engine 32.4 |
| | 7720 Series | Switch Engine 32.4 |

Table 41: Management and traffic analysis (continued)

| Feature | Product | Release introduced |
|---|-------------|--------------------|
| IEEE 802.1AB LLDP Basic MIB, LLDP-EXT-DOT1-MIB, LLDP-EXT-DOT3-MIB | 4120 | Switch Engine 32.7 |
| | 4220 | Switch Engine 32.7 |
| | 5320 Series | Switch Engine 31.6 |
| | 5420 Series | EXOS 31.3 |
| | 5520 Series | EXOS 31.1 |
| | 5720 Series | Switch Engine 32.1 |
| | 7520 Series | Switch Engine 32.4 |
| | 7720 Series | Switch Engine 32.4 |
| IEEE-8021-PAE-MIB | 4120 | Switch Engine 32.7 |
| | 4220 | Switch Engine 32.7 |
| | 5320 Series | Switch Engine 31.6 |
| | 5420 Series | EXOS 31.3 |
| | 5520 Series | EXOS 31.1 |
| | 5720 Series | Switch Engine 32.1 |
| | 7520 Series | Switch Engine 32.4 |
| | 7720 Series | Switch Engine 32.4 |
| IEEE802.1 Q BRIDGE MIB | 4120 | Switch Engine 32.7 |
| | 4220 | Switch Engine 32.7 |
| | 5320 Series | Switch Engine 31.6 |
| | 5420 Series | EXOS 31.3 |
| | 5520 Series | EXOS 31.1 |
| | 5720 Series | Switch Engine 32.1 |
| | 7520 Series | Switch Engine 32.4 |
| | 7720 Series | Switch Engine 32.4 |
| IEEE-8021x-EXTENSIONS-MIB | 4120 | Switch Engine 32.7 |
| | 4220 | Switch Engine 32.7 |
| | 5320 Series | Switch Engine 31.6 |
| | 5420 Series | EXOS 31.3 |
| | 5520 Series | EXOS 31.1 |
| | 5720 Series | Switch Engine 32.1 |
| | 7520 Series | Switch Engine 32.4 |
| | 7720 Series | Switch Engine 32.4 |

Table 41: Management and traffic analysis (continued)

| Feature | Product | Release introduced |
|--------------------------------------|-------------|--------------------|
| IP Route Compression | 4120 | Switch Engine 32.7 |
| | 4220 | Switch Engine 32.7 |
| | 5320 Series | Switch Engine 31.6 |
| | 5420 Series | EXOS 31.3 |
| | 5520 Series | EXOS 31.1 |
| | 5720 Series | Switch Engine 32.1 |
| | 7520 Series | Switch Engine 32.4 |
| | 7720 Series | Switch Engine 32.4 |
| Multiple Images, Multiple Configs | 4120 | Switch Engine 32.7 |
| | 4220 | Switch Engine 32.7 |
| | 5320 Series | Switch Engine 31.6 |
| | 5420 Series | EXOS 31.3 |
| | 5520 Series | EXOS 31.1 |
| | 5720 Series | Switch Engine 32.1 |
| | 7520 Series | Switch Engine 32.4 |
| | 7720 Series | Switch Engine 32.4 |
| PIM MIB draft-ietf-pim-mib-v2-01.txt | 4120 | Not supported |
| | 4220 | Not supported |
| | 5320 Series | Switch Engine 31.6 |
| | 5420 Series | EXOS 31.3 |
| | 5520 Series | EXOS 31.1 |
| | 5720 Series | Switch Engine 32.1 |
| | 7520 Series | Switch Engine 32.4 |
| | 7720 Series | Switch Engine 32.4 |
| RFC 854 Telnet client and server | 4120 | Switch Engine 32.7 |
| | 4220 | Switch Engine 32.7 |
| | 5320 Series | Switch Engine 31.6 |
| | 5420 Series | EXOS 31.3 |
| | 5520 Series | EXOS 31.1 |
| | 5720 Series | Switch Engine 32.1 |
| | 7520 Series | Switch Engine 32.4 |
| | 7720 Series | Switch Engine 32.4 |

Table 41: Management and traffic analysis (continued)

| Feature | Product | Release introduced |
|--|-------------|--------------------|
| RFC 1155 Structure of Management Information (SMIPv1) | 4120 | Switch Engine 32.7 |
| | 4220 | Switch Engine 32.7 |
| | 5320 Series | Switch Engine 31.6 |
| | 5420 Series | EXOS 31.3 |
| | 5520 Series | EXOS 31.1 |
| | 5720 Series | Switch Engine 32.1 |
| | 7520 Series | Switch Engine 32.4 |
| | 7720 Series | Switch Engine 32.4 |
| RFC 1212, RFC 1213, RFC 1215 MIB-II, Ethernet-Like MIB and TRAPs | 4120 | Switch Engine 32.7 |
| | 4220 | Switch Engine 32.7 |
| | 5320 Series | Switch Engine 31.6 |
| | 5420 Series | EXOS 31.3 |
| | 5520 Series | EXOS 31.1 |
| | 5720 Series | Switch Engine 32.1 |
| | 7520 Series | Switch Engine 32.4 |
| | 7720 Series | Switch Engine 32.4 |
| RFC 1350 TFTP Protocol (revision 2) | 4120 | Switch Engine 32.7 |
| | 4220 | Switch Engine 32.7 |
| | 5320 Series | Switch Engine 31.6 |
| | 5420 Series | EXOS 31.3 |
| | 5520 Series | EXOS 31.1 |
| | 5720 Series | Switch Engine 32.1 |
| | 7520 Series | Switch Engine 32.4 |
| | 7720 Series | Switch Engine 32.4 |
| RFC 1493 Bridge MIB | 4120 | Switch Engine 32.7 |
| | 4220 | Switch Engine 32.7 |
| | 5320 Series | Switch Engine 31.6 |
| | 5420 Series | EXOS 31.3 |
| | 5520 Series | EXOS 31.1 |
| | 5720 Series | Switch Engine 32.1 |
| | 7520 Series | Switch Engine 32.4 |
| | 7720 Series | Switch Engine 32.4 |

Table 41: Management and traffic analysis (continued)

| Feature | Product | Release introduced |
|---|-------------|--------------------|
| RFC 1591 DNS (client operation) | 4120 | Switch Engine 32.7 |
| | 4220 | Switch Engine 32.7 |
| | 5320 Series | Switch Engine 31.6 |
| | 5420 Series | EXOS 31.3 |
| | 5520 Series | EXOS 31.1 |
| | 5720 Series | Switch Engine 32.1 |
| | 7520 Series | Switch Engine 32.4 |
| | 7720 Series | Switch Engine 32.4 |
| RFC 1573 Evolution of Interface | 4120 | Switch Engine 32.7 |
| | 4220 | Switch Engine 32.7 |
| | 5320 Series | Switch Engine 31.6 |
| | 5420 Series | EXOS 31.3 |
| | 5520 Series | EXOS 31.1 |
| | 5720 Series | Switch Engine 32.1 |
| | 7520 Series | Switch Engine 32.4 |
| | 7720 Series | Switch Engine 32.4 |
| RFC 1643 Ethernet MIB | 4120 | Switch Engine 32.7 |
| | 4220 | Switch Engine 32.7 |
| | 5320 Series | Switch Engine 31.6 |
| | 5420 Series | EXOS 31.3 |
| | 5520 Series | EXOS 31.1 |
| | 5720 Series | Switch Engine 32.1 |
| | 7520 Series | Switch Engine 32.4 |
| | 7720 Series | Switch Engine 32.4 |
| RFC 1757 RMON 4 groups: Stats, History, Alarms and Events | 4120 | Switch Engine 32.7 |
| | 4220 | Switch Engine 32.7 |
| | 5320 Series | Switch Engine 31.6 |
| | 5420 Series | EXOS 31.3 |
| | 5520 Series | EXOS 31.1 |
| | 5720 Series | Switch Engine 32.1 |
| | 7520 Series | Switch Engine 32.4 |
| | 7720 Series | Switch Engine 32.4 |

Table 41: Management and traffic analysis (continued)

| Feature | Product | Release introduced |
|---|-------------|--------------------|
| RFC 2021 RMON2 (probe configuration) | 4120 | Switch Engine 32.7 |
| | 4220 | Switch Engine 32.7 |
| | 5320 Series | Switch Engine 31.6 |
| | 5420 Series | EXOS 31.3 |
| | 5520 Series | EXOS 31.1 |
| | 5720 Series | Switch Engine 32.1 |
| | 7520 Series | Switch Engine 32.4 |
| | 7720 Series | Switch Engine 32.4 |
| RFC 2233 Interface MIB | 4120 | Switch Engine 32.7 |
| | 4220 | Switch Engine 32.7 |
| | 5320 Series | Switch Engine 31.6 |
| | 5420 Series | EXOS 31.3 |
| | 5520 Series | EXOS 31.1 |
| | 5720 Series | Switch Engine 32.1 |
| | 7520 Series | Switch Engine 32.4 |
| | 7720 Series | Switch Engine 32.4 |
| RFC 2578 – 2580 SMIV2 (update to RFC 1902 – 1903) | 4120 | Switch Engine 32.7 |
| | 4220 | Switch Engine 32.7 |
| | 5320 Series | Switch Engine 31.6 |
| | 5420 Series | EXOS 31.3 |
| | 5520 Series | EXOS 31.1 |
| | 5720 Series | Switch Engine 32.1 |
| | 7520 Series | Switch Engine 32.4 |
| | 7720 Series | Switch Engine 32.4 |
| RFC 2613 SMON MIB | 4120 | Switch Engine 32.7 |
| | 4220 | Switch Engine 32.7 |
| | 5320 Series | Switch Engine 31.6 |
| | 5420 Series | EXOS 31.3 |
| | 5520 Series | EXOS 31.1 |
| | 5720 Series | Switch Engine 32.1 |
| | 7520 Series | Switch Engine 32.4 |
| | 7720 Series | Switch Engine 32.4 |

Table 41: Management and traffic analysis (continued)

| Feature | Product | Release introduced |
|---|-------------|--------------------|
| RFC 2665 – Definitions of Managed Objects for the Ethernet-like Interface types | 4120 | Switch Engine 32.7 |
| | 4220 | Switch Engine 32.7 |
| | 5320 Series | Switch Engine 31.6 |
| | 5420 Series | EXOS 31.3 |
| | 5520 Series | EXOS 31.1 |
| | 5720 Series | Switch Engine 32.1 |
| | 7520 Series | Switch Engine 32.4 |
| | 7720 Series | Switch Engine 32.4 |
| RFC 2668 802.3 Medium Attachment Units (MAU) MIB | 4120 | Switch Engine 32.7 |
| | 4220 | Switch Engine 32.7 |
| | 5320 Series | Switch Engine 31.6 |
| | 5420 Series | EXOS 31.3 |
| | 5520 Series | EXOS 31.1 |
| | 5720 Series | Switch Engine 32.1 |
| | 7520 Series | Switch Engine 32.4 |
| | 7720 Series | Switch Engine 32.4 |
| RFC 2925 Ping/Traceroute MIB | 4120 | Switch Engine 32.7 |
| | 4220 | Switch Engine 32.7 |
| | 5320 Series | Switch Engine 31.6 |
| | 5420 Series | EXOS 31.3 |
| | 5520 Series | EXOS 31.1 |
| | 5720 Series | Switch Engine 32.1 |
| | 7520 Series | Switch Engine 32.4 |
| | 7720 Series | Switch Engine 32.4 |
| RFC 3014 Notification Log MIB | 4120 | Switch Engine 32.7 |
| | 4220 | Switch Engine 32.7 |
| | 5320 Series | Switch Engine 31.6 |
| | 5420 Series | EXOS 31.3 |
| | 5520 Series | EXOS 31.1 |
| | 5720 Series | Switch Engine 32.1 |
| | 7520 Series | Switch Engine 32.4 |
| | 7720 Series | Switch Engine 32.4 |

Table 41: Management and traffic analysis (continued)

| Feature | Product | Release introduced |
|---|-------------|--------------------|
| RFC 3315, Dynamic Host Configuration Protocol for IPV6 (DHCPv6), Client and Relay Function(Secondary IP address only) support | 4120 | Switch Engine 32.7 |
| | 4220 | Switch Engine 32.7 |
| | 5320 Series | Switch Engine 31.6 |
| | 5420 Series | EXOS 31.3 |
| | 5520 Series | EXOS 31.1 |
| | 5720 Series | Switch Engine 32.1 |
| | 7520 Series | Switch Engine 32.4 |
| | 7720 Series | Switch Engine 32.4 |
| RFC 3917 IPFIX | 4120 | Not supported |
| | 4220 | Not supported |
| | 5320 Series | Not supported |
| | 5420 Series | EXOS 31.3 |
| | 5520 Series | EXOS 31.1 |
| | 5720 Series | Switch Engine 32.1 |
| | 7520 Series | Switch Engine 32.4 |
| | 7720 Series | Switch Engine 32.4 |
| RFC4805 - Managed Objects for DS1, J1, E1, DS2 and E2 interfaces | 4120 | Switch Engine 32.7 |
| | 4220 | Switch Engine 32.7 |
| | 5320 Series | Switch Engine 31.6 |
| | 5420 Series | EXOS 31.3 |
| | 5520 Series | EXOS 31.1 |
| | 5720 Series | Switch Engine 32.1 |
| | 7520 Series | Switch Engine 32.4 |
| | 7720 Series | Switch Engine 32.4 |
| RFC 6933 Entity MIB v4 | 4120 | Switch Engine 32.7 |
| | 4220 | Switch Engine 32.7 |
| | 5320 Series | Switch Engine 31.6 |
| | 5420 Series | EXOS 31.3 |
| | 5520 Series | EXOS 31.1 |
| | 5720 Series | Switch Engine 32.1 |
| | 7520 Series | Switch Engine 32.4 |
| | 7720 Series | Switch Engine 32.4 |

Table 41: Management and traffic analysis (continued)

| Feature | Product | Release introduced |
|---|-------------|--------------------|
| Secure FTP (SFTP) server | 4120 | Switch Engine 32.7 |
| | 4220 | Switch Engine 32.7 |
| | 5320 Series | Switch Engine 31.6 |
| | 5420 Series | EXOS 31.3 |
| | 5520 Series | EXOS 31.1 |
| | 5720 Series | Switch Engine 32.1 |
| | 7520 Series | Switch Engine 32.4 |
| | 7720 Series | Switch Engine 32.4 |
| SFF-8472 DDMI (Digital Diagnostics Monitoring Interface) | 4120 | Switch Engine 32.7 |
| | 4220 | Switch Engine 32.7 |
| | 5320 Series | Switch Engine 31.6 |
| | 5420 Series | EXOS 31.3 |
| | 5520 Series | EXOS 31.1 |
| | 5720 Series | Switch Engine 32.1 |
| | 7520 Series | Switch Engine 32.4 |
| | 7720 Series | Switch Engine 32.4 |
| sFlow version 5 | 4120 | Switch Engine 32.7 |
| | 4220 | Switch Engine 32.7 |
| | 5320 Series | Switch Engine 31.6 |
| | 5420 Series | EXOS 31.3 |
| | 5520 Series | EXOS 31.1 |
| | 5720 Series | Switch Engine 32.1 |
| | 7520 Series | Switch Engine 32.4 |
| | 7720 Series | Switch Engine 32.4 |
| Web-based device management interface – ExtremeXOS Chalet | 4120 | Switch Engine 32.7 |
| | 4220 | Switch Engine 32.7 |
| | 5320 Series | Switch Engine 31.6 |
| | 5420 Series | EXOS 31.3 |
| | 5520 Series | EXOS 31.1 |
| | 5720 Series | Switch Engine 32.1 |
| | 7520 Series | Switch Engine 32.4 |
| | 7720 Series | Switch Engine 32.4 |

Table 41: Management and traffic analysis (continued)

| Feature | Product | Release introduced |
|---|-------------|--------------------|
| XML APIs over Telnet/SSH and HTTP/HTTPS | 4120 | Switch Engine 32.7 |
| | 4220 | Switch Engine 32.7 |
| | 5320 Series | Switch Engine 31.6 |
| | 5420 Series | EXOS 31.3 |
| | 5520 Series | EXOS 31.1 |
| | 5720 Series | Switch Engine 32.1 |
| | 7520 Series | Switch Engine 32.4 |
| | 7720 Series | Switch Engine 32.4 |

Table 42: Message Session Relay Protocol (MSRP)

| Feature | Product | Release introduced |
|---------|-------------|--------------------|
| MSRP | 4120 | Not supported |
| | 4220 | Not supported |
| | 5320 Series | Switch Engine 31.6 |
| | 5420 Series | EXOS 31.3 |
| | 5520 Series | EXOS 31.1 |
| | 5720 Series | Switch Engine 32.1 |
| | 7520 Series | Switch Engine 32.4 |
| | 7720 Series | Switch Engine 32.4 |

Table 43: Multi-Switch Link Aggregation Groups (MLAG)

| Feature | Product | Release introduced |
|---------|---------|--------------------|
| | 4120 | Not supported |

Table 43: Multi-Switch Link Aggregation Groups (MLAG) (continued)

| Feature | Product | Release introduced |
|---------|-------------|--------------------|
| MLAG | 4220 | Not supported |
| | 5320 Series | Switch Engine 31.6 |
| | 5420 Series | EXOS 31.3 |
| | 5520 Series | EXOS 31.1 |
| | 5720 Series | Switch Engine 32.1 |
| | 7520 Series | Switch Engine 32.4 |
| | 7720 Series | Switch Engine 32.4 |

Table 44: Multi-User, Multi-method authentication and policy

| Feature | Product | Release introduced |
|--|-------------|--------------------|
| Multi-User, Multi-method authentication and policy | 4120 | Switch Engine 32.7 |
| | 4220 | Switch Engine 32.7 |
| | 5320 Series | Switch Engine 31.6 |
| | 5420 Series | EXOS 31.3 |
| | 5520 Series | EXOS 31.1 |
| | 5720 Series | Switch Engine 32.1 |
| | 7520 Series | Switch Engine 32.4 |
| | 7720 Series | Switch Engine 32.4 |

Table 45: MultiProtocol Label Switching (MPLS)

| Feature | Product | Release introduced |
|---|-------------|--------------------|
| RFC 2961 RSVP Refresh Overhead Reduction Extensions | 4120 | Not supported |
| | 4220 | Not supported |
| | 5320 Series | Not supported |
| | 5420 Series | Not supported |
| | 5520 Series | EXOS 31.6 |
| | 5720 Series | Not supported |
| | 7520 Series | Switch Engine 32.5 |
| | 7720 Series | Switch Engine 32.5 |

Table 45: MultiProtocol Label Switching (MPLS) (continued)

| Feature | Product | Release introduced |
|--|-------------|--------------------|
| RFC 3031 Multiprotocol Label Switching Architecture | 4120 | Not supported |
| | 4220 | Not supported |
| | 5320 Series | Not supported |
| | 5420 Series | Not supported |
| | 5520 Series | EXOS 31.6 |
| | 5720 Series | Not supported |
| | 7520 Series | Switch Engine 32.5 |
| | 7720 Series | Switch Engine 32.5 |
| RFC 3032 MPLS Label Stack Encoding | 4120 | Not supported |
| | 4220 | Not supported |
| | 5320 Series | Not supported |
| | 5420 Series | Not supported |
| | 5520 Series | EXOS 31.6 |
| | 5720 Series | Not supported |
| | 7520 Series | Switch Engine 32.5 |
| | 7720 Series | Switch Engine 32.5 |
| RFC 3811 Definitions of Textual Conventions (TCs) for MPLS Management | 4120 | Not supported |
| | 4220 | Not supported |
| | 5320 Series | Not supported |
| | 5420 Series | Not supported |
| | 5520 Series | EXOS 31.6 |
| | 5720 Series | Not supported |
| | 7520 Series | Switch Engine 32.5 |
| | 7720 Series | Switch Engine 32.5 |
| RFC 3812 MPLS Traffic Engineering (TE) Management Information Base (MIB) | 4120 | Not supported |
| | 4220 | Not supported |
| | 5320 Series | Not supported |
| | 5420 Series | Not supported |
| | 5520 Series | EXOS 31.6 |
| | 5720 Series | Not supported |
| | 7520 Series | Switch Engine 32.5 |
| | 7720 Series | Switch Engine 32.5 |

Table 45: MultiProtocol Label Switching (MPLS) (continued)

| Feature | Product | Release introduced |
|--|-------------|--------------------|
| RFC 3813 MPLS Label Switching Router (LSR) MIB | 4120 | Not supported |
| | 4220 | Not supported |
| | 5320 Series | Not supported |
| | 5420 Series | Not supported |
| | 5520 Series | EXOS 31.6 |
| | 5720 Series | Not supported |
| | 7520 Series | Switch Engine 32.5 |
| | 7720 Series | Switch Engine 32.5 |
| RFC 3815 Definition of Managed Objects for the MPLS, Label Distribution Protocol (LDP) | 4120 | Not supported |
| | 4220 | Not supported |
| | 5320 Series | Not supported |
| | 5420 Series | Not supported |
| | 5520 Series | EXOS 31.6 |
| | 5720 Series | Not supported |
| | 7520 Series | Switch Engine 32.5 |
| | 7720 Series | Switch Engine 32.5 |
| RFC 4379 Detecting MPLS (MPLS) Data Plane Failures (LSP Ping) | 4120 | Not supported |
| | 4220 | Not supported |
| | 5320 Series | Not supported |
| | 5420 Series | Not supported |
| | 5520 Series | EXOS 31.6 |
| | 5720 Series | Not supported |
| | 7520 Series | Switch Engine 32.5 |
| | 7720 Series | Switch Engine 32.5 |

Table 45: MultiProtocol Label Switching (MPLS) (continued)

| Feature | Product | Release introduced |
|---|-------------|--------------------|
| RFC 4448 Encapsulation Methods for Transport of Ethernet over MPLS Networks | 4120 | Not supported |
| | 4220 | Not supported |
| | 5320 Series | Not supported |
| | 5420 Series | Not supported |
| | 5520 Series | EXOS 31.1 |
| | 5720 Series | Not supported |
| | 7520 Series | Switch Engine 32.5 |
| | 7720 Series | Switch Engine 32.5 |

Table 46: Multicast Listener Discovery (MLD)

| Feature | Product | Release introduced |
|--------------|-------------|--------------------|
| MLD | 4120 | Switch Engine 32.7 |
| | 4220 | Switch Engine 32.7 |
| | 5320 Series | Switch Engine 31.6 |
| | 5420 Series | EXOS 31.3 |
| | 5520 Series | EXOS 31.1 |
| | 5720 Series | Switch Engine 32.1 |
| | 7520 Series | Switch Engine 32.4 |
| | 7720 Series | Switch Engine 32.4 |
| MLD Snooping | 4120 | Switch Engine 32.7 |
| | 4220 | Switch Engine 32.7 |
| | 5320 Series | Switch Engine 31.6 |
| | 5420 Series | EXOS 31.3 |
| | 5520 Series | EXOS 31.1 |
| | 5720 Series | Switch Engine 32.1 |
| | 7520 Series | Switch Engine 32.4 |
| | 7720 Series | Switch Engine 32.4 |

Table 46: Multicast Listener Discovery (MLD) (continued)

| Feature | Product | Release introduced |
|--|-------------|--------------------|
| RFC 2710, IPv6 MLDv1 Protocol | 4120 | Switch Engine 32.7 |
| | 4220 | Switch Engine 32.7 |
| | 5320 Series | Switch Engine 31.6 |
| | 5420 Series | EXOS 31.3 |
| | 5520 Series | EXOS 31.1 |
| | 5720 Series | Switch Engine 32.1 |
| | 7520 Series | Switch Engine 32.4 |
| | 7720 Series | Switch Engine 32.4 |
| RFC 3810, IPv6 MLDv2 Protocol | 4120 | Switch Engine 32.7 |
| | 4220 | Switch Engine 32.7 |
| | 5320 Series | Switch Engine 31.6 |
| | 5420 Series | EXOS 31.3 |
| | 5520 Series | EXOS 31.1 |
| | 5720 Series | Switch Engine 32.1 |
| | 7520 Series | Switch Engine 32.4 |
| | 7720 Series | Switch Engine 32.4 |
| RFC 4541, Considerations for Internet Group Management Protocol (IGMP) and MLD Snooping Switches | 4120 | Switch Engine 32.7 |
| | 4220 | Switch Engine 32.7 |
| | 5320 Series | Switch Engine 31.6 |
| | 5420 Series | EXOS 31.3 |
| | 5520 Series | EXOS 31.1 |
| | 5720 Series | Switch Engine 32.1 |
| | 7520 Series | Switch Engine 32.4 |
| | 7720 Series | Switch Engine 32.4 |

Table 47: Multicast Source Discovery Protocol (MSDP)

| Feature | Product | Release introduced |
|---------|---------|--------------------|
| | 4120 | Not supported |

Table 47: Multicast Source Discovery Protocol (MSDP) (continued)

| Feature | Product | Release introduced |
|---|-------------|----------------------|
| IPv4 MSDP over user-created Virtual Routers | 4220 | Not supported |
| | 5320 Series | Switch Engine 33.2.1 |
| | 5420 Series | Switch Engine 33.2.1 |
| | 5520 Series | Switch Engine 33.2.1 |
| | 5720 Series | Switch Engine 33.2.1 |
| | 7520 Series | Switch Engine 33.2.1 |
| | 7720 Series | Switch Engine 33.2.1 |
| RFC 3618 MSDP | 4120 | Not supported |
| | 4220 | Not supported |
| | 5320 Series | Switch Engine 31.6 |
| | 5420 Series | EXOS 31.3 |
| | 5520 Series | EXOS 31.1 |
| | 5720 Series | Switch Engine 32.1 |
| | 7520 Series | Switch Engine 32.4 |
| | 7720 Series | Switch Engine 32.4 |

Table 48: Multiple Spanning Tree Protocol (MSTP)

| Feature | Product | Release introduced |
|--|-------------|--------------------|
| IEEE 802.1Q – 2003 (formerly IEEE 802.1s) Multiple Instances of STP, MSTP | 4120 | Switch Engine 32.7 |
| | 4220 | Switch Engine 32.7 |
| | 5320 Series | Switch Engine 31.6 |
| | 5420 Series | EXOS 31.3 |
| | 5520 Series | EXOS 31.1 |
| | 5720 Series | Switch Engine 32.1 |
| | 7520 Series | Switch Engine 32.4 |
| | 7720 Series | Switch Engine 32.4 |

Table 49: Multiple CLI Users

| Feature | Product | Release introduced |
|---------|---------|--------------------|
| | 4120 | Switch Engine 32.7 |

Table 49: Multiple CLI Users (continued)

| Feature | Product | Release introduced |
|-----------------------------|-------------|--------------------|
| Multiple CLI users per role | 4220 | Switch Engine 32.7 |
| | 5320 Series | Switch Engine 31.6 |
| | 5420 Series | EXOS 31.3 |
| | 5520 Series | EXOS 31.1 |
| | 5720 Series | Switch Engine 32.1 |
| | 7520 Series | Switch Engine 32.4 |
| | 7720 Series | Switch Engine 32.4 |

Table 50: Network Login

| Feature | Product | Release introduced |
|--|--------------------|--------------------|
| IEEE 802.1x – 2004 Port-Based Network Access Control for Network Login | 4120 | Switch Engine 32.7 |
| | 4220 | Switch Engine 32.7 |
| | 5320 Series | Switch Engine 31.6 |
| | 5420 Series | EXOS 31.3 |
| | 5520 Series | EXOS 31.1 |
| | 5720 Series | Switch Engine 32.1 |
| | 7520 Series | Switch Engine 32.4 |
| Multiple supplicants with multiple VLANs for Network Login (all modes) | 4120 | Switch Engine 32.7 |
| | 4220 | Switch Engine 32.7 |
| | 5320 Series | Switch Engine 31.6 |
| | 5420 Series | EXOS 31.3 |
| | 5520 Series | EXOS 31.1 |
| | 5720 Series | Switch Engine 32.1 |
| | 7520 Series | Switch Engine 32.4 |
| Network Login – 802.1x, Web and MAC-based mechanisms | 4120 | Switch Engine 32.7 |
| | 4220 | Switch Engine 32.7 |
| | 5320 Series | Switch Engine 31.6 |
| | 5420 Series | EXOS 31.3 |
| | 5520 Series | EXOS 31.1 |
| | 5720 Series | Switch Engine 32.1 |
| | 7520 Series | Switch Engine 32.4 |
| 7720 Series | Switch Engine 32.4 | |

Table 50: Network Login (continued)

| Feature | Product | Release introduced |
|--|-------------|----------------------|
| ONEPolicy fallback VLAN | 4120 | Switch Engine 33.2.1 |
| | 4220 | Switch Engine 33.2.1 |
| | 5320 Series | Switch Engine 33.2.1 |
| | 5420 Series | Switch Engine 33.2.1 |
| | 5520 Series | Switch Engine 33.2.1 |
| | 5720 Series | Switch Engine 33.2.1 |
| | 7520 Series | Switch Engine 33.2.1 |
| | 7720 Series | Switch Engine 33.2.1 |
| RFC 1866 HTML – used for Web-based Network Login and ExtremeXOS Chalet | 4120 | Switch Engine 32.7 |
| | 4220 | Switch Engine 32.7 |
| | 5320 Series | Switch Engine 31.6 |
| | 5420 Series | EXOS 31.3 |
| | 5520 Series | EXOS 31.1 |
| | 5720 Series | Switch Engine 32.1 |
| | 7520 Series | Switch Engine 32.4 |
| | 7720 Series | Switch Engine 32.4 |
| SSL/TLS transport – used for Web-based Network Login and ExtremeXOS Chalet | 4120 | Switch Engine 32.7 |
| | 4220 | Switch Engine 32.7 |
| | 5320 Series | Switch Engine 31.6 |
| | 5420 Series | EXOS 31.3 |
| | 5520 Series | EXOS 31.1 |
| | 5720 Series | Switch Engine 32.1 |
| | 7520 Series | Switch Engine 32.4 |
| | 7720 Series | Switch Engine 32.4 |

Table 51: Network operating system personality

| Feature | Product | Release introduced |
|---------|---------|--------------------|
| | 4120 | Not supported |

Table 51: Network operating system personality (continued)

| Feature | Product | Release introduced |
|-------------------------|-------------|--------------------|
| Dual-boot personalities | 4220 | Not supported |
| | 5320 Series | Switch Engine 31.6 |
| | 5420 Series | EXOS 31.3 |
| | 5520 Series | EXOS 31.1 |
| | 5720 Series | Switch Engine 32.1 |
| | 7720 Series | Switch Engine 32.4 |
| | 7520 Series | Switch Engine 32.4 |

Table 52: Network Time Protocol (NTP)

| Feature | Product | Release introduced |
|---------------------------|-------------|--------------------|
| NTPv4 client for IPv4 | 4120 | Switch Engine 32.7 |
| | 4220 | Switch Engine 32.7 |
| | 5320 Series | Switch Engine 31.6 |
| | 5420 Series | EXOS 31.3 |
| | 5520 Series | EXOS 31.1 |
| | 5720 Series | Switch Engine 32.1 |
| | 7520 Series | Switch Engine 32.4 |
| | 7720 Series | Switch Engine 32.4 |
| NTPv4 client for IPv6 | 4120 | Switch Engine 32.7 |
| | 4220 | Switch Engine 32.7 |
| | 5320 Series | Switch Engine 31.6 |
| | 5420 Series | EXOS 31.3 |
| | 5520 Series | EXOS 31.1 |
| | 5720 Series | Switch Engine 32.1 |
| | 7520 Series | Switch Engine 32.4 |
| | 7720 Series | Switch Engine 32.4 |
| NTPv4 master and restrict | 4120 | Switch Engine 32.7 |
| | 4220 | Switch Engine 32.7 |
| | 5320 Series | Switch Engine 31.6 |
| | 5420 Series | EXOS 31.3 |
| | 5520 Series | EXOS 31.1 |
| | 5720 Series | Switch Engine 32.1 |
| | 7520 Series | Switch Engine 32.4 |
| | 7720 Series | Switch Engine 32.4 |

Table 52: Network Time Protocol (NTP) (continued)

| Feature | Product | Release introduced |
|---|-------------|--------------------|
| NTP Authentication Key Obfuscation | 4120 | Switch Engine 32.7 |
| | 4220 | Switch Engine 32.7 |
| | 5320 Series | Switch Engine 31.6 |
| | 5420 Series | EXOS 31.3 |
| | 5520 Series | EXOS 31.1 |
| | 5720 Series | Switch Engine 32.1 |
| | 7520 Series | Switch Engine 32.4 |
| | 7720 Series | Switch Engine 32.4 |
| NTP Server configuration using fully qualified domain name (FQDN) | 4120 | Switch Engine 32.7 |
| | 4220 | Switch Engine 32.7 |
| | 5320 Series | Switch Engine 31.6 |
| | 5420 Series | EXOS 31.3 |
| | 5520 Series | EXOS 31.1 |
| | 5720 Series | Switch Engine 32.1 |
| | 7520 Series | Switch Engine 32.4 |
| | 7720 Series | Switch Engine 32.4 |
| RFC 5905 1 – NTP Version 4: Protocol and Algorithms Specification | 4120 | Switch Engine 32.7 |
| | 4220 | Switch Engine 32.7 |
| | 5320 Series | Switch Engine 31.6 |
| | 5420 Series | EXOS 31.3 |
| | 5520 Series | EXOS 31.1 |
| | 5720 Series | Switch Engine 32.1 |
| | 7520 Series | Switch Engine 32.4 |
| | 7720 Series | Switch Engine 32.4 |

Table 53: ONEPolicy

| Feature | Product | Release introduced |
|---------|---------|--------------------|
| | 4120 | Switch Engine 32.7 |

Table 53: ONEPolicy (continued)

| Feature | Product | Release introduced |
|-------------------|-------------|--------------------|
| ONEPolicy | 4220 | Switch Engine 32.7 |
| | 5320 Series | Switch Engine 31.6 |
| | 5420 Series | EXOS 31.3 |
| | 5520 Series | EXOS 31.1 |
| | 5720 Series | Switch Engine 32.1 |
| | 7520 Series | Switch Engine 32.4 |
| | 7720 Series | Switch Engine 32.4 |
| Role Based Policy | 4120 | Switch Engine 32.7 |
| | 4220 | Switch Engine 32.7 |
| | 5320 Series | Switch Engine 31.6 |
| | 5420 Series | EXOS 31.3 |
| | 5520 Series | EXOS 31.1 |
| | 5720 Series | Switch Engine 32.1 |
| | 7520 Series | Switch Engine 32.4 |
| | 7720 Series | Switch Engine 32.4 |

Table 54: OpenFlow

| Feature | Product | Release introduced |
|----------|-------------|--------------------|
| OpenFlow | 4120 | Switch Engine 32.7 |
| | 4220 | Switch Engine 32.7 |
| | 5320 Series | Switch Engine 31.6 |
| | 5420 Series | EXOS 31.3 |
| | 5520 Series | EXOS 31.1 |
| | 5720 Series | Switch Engine 32.1 |
| | 7520 Series | Switch Engine 32.4 |
| | 7720 Series | Switch Engine 32.4 |

Table 55: Open vSwitch Database (OVSDB)

| Feature | Product | Release introduced |
|---------|---------|--------------------|
| | 4120 | Switch Engine 32.7 |

Table 55: Open vSwitch Database (OVSDB) (continued)

| Feature | Product | Release introduced |
|---------|-------------|--------------------|
| OVSDB | 4220 | Switch Engine 32.7 |
| | 5320 Series | Switch Engine 31.6 |
| | 5420 Series | EXOS 31.3 |
| | 5520 Series | EXOS 31.1 |
| | 5720 Series | Switch Engine 32.1 |
| | 7520 Series | Switch Engine 32.4 |
| | 7720 Series | Switch Engine 32.4 |

Table 56: Open Shortest Path First (OSPF)

| Feature | Product | Release introduced |
|-------------------------|-------------|--------------------|
| OSPF | 4120 | Not supported |
| | 4220 | Not supported |
| | 5320 Series | Switch Engine 31.6 |
| | 5420 Series | EXOS 31.3 |
| | 5520 Series | EXOS 31.1 |
| | 5720 Series | Switch Engine 32.1 |
| | 7520 Series | Switch Engine 32.4 |
| | 7720 Series | Switch Engine 32.4 |
| OSPF ECMP | 4120 | Not supported |
| | 4220 | Not supported |
| | 5320 Series | Switch Engine 31.6 |
| | 5420 Series | EXOS 31.3 |
| | 5520 Series | EXOS 31.1 |
| | 5720 Series | Switch Engine 32.1 |
| | 7520 Series | Switch Engine 32.4 |
| | 7720 Series | Switch Engine 32.4 |
| OSPF MD5 Authentication | 4120 | Not supported |
| | 4220 | Not supported |
| | 5320 Series | Switch Engine 31.6 |
| | 5420 Series | EXOS 31.3 |
| | 5520 Series | EXOS 31.1 |
| | 5720 Series | Switch Engine 32.1 |
| | 7520 Series | Switch Engine 32.4 |
| | 7720 Series | Switch Engine 32.4 |

Table 56: Open Shortest Path First (OSPF) (continued)

| Feature | Product | Release introduced |
|---------------------------------|-------------|--------------------|
| RFC 1850 OSPFv2 MIB | 4120 | Not supported |
| | 4220 | Not supported |
| | 5320 Series | Switch Engine 31.6 |
| | 5420 Series | EXOS 31.3 |
| | 5520 Series | EXOS 31.1 |
| | 5720 Series | Switch Engine 32.1 |
| | 7520 Series | Switch Engine 32.4 |
| | 7720 Series | Switch Engine 32.4 |
| RFC 2328 OSPF v2 (Edge-mode) | 4120 | Not supported |
| | 4220 | Not supported |
| | 5320 Series | Switch Engine 31.6 |
| | 5420 Series | EXOS 31.3 |
| | 5520 Series | EXOS 31.1 |
| | 5720 Series | Switch Engine 32.1 |
| | 7520 Series | Switch Engine 32.4 |
| | 7720 Series | Switch Engine 32.4 |
| RFC 1587 OSPF NSSA Option | 4120 | Not supported |
| | 4220 | Not supported |
| | 5320 Series | Switch Engine 31.6 |
| | 5420 Series | EXOS 31.3 |
| | 5520 Series | EXOS 31.1 |
| | 5720 Series | Switch Engine 32.1 |
| | 7520 Series | Switch Engine 32.4 |
| | 7720 Series | Switch Engine 32.4 |
| RFC 1765 OSPF Database Overflow | 4120 | Not supported |
| | 4220 | Not supported |
| | 5320 Series | Switch Engine 31.6 |
| | 5420 Series | EXOS 31.3 |
| | 5520 Series | EXOS 31.1 |
| | 5720 Series | Switch Engine 32.1 |
| | 7520 Series | Switch Engine 32.4 |
| | 7720 Series | Switch Engine 32.4 |

Table 56: Open Shortest Path First (OSPF) (continued)

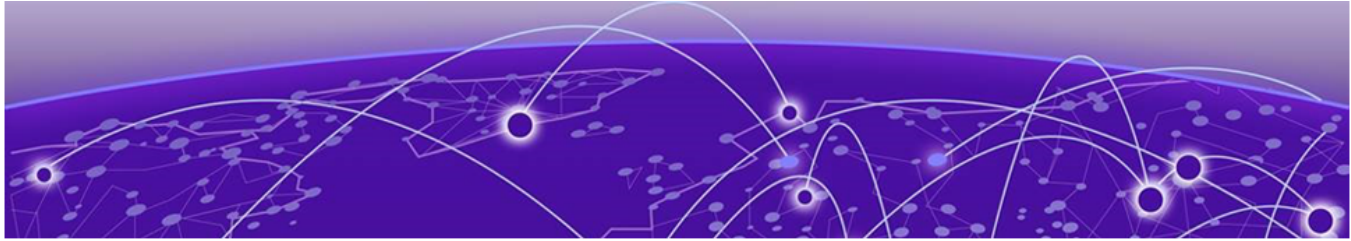
| Feature | Product | Release introduced |
|---|-------------|--------------------|
| RFC 2370 OSPF Opaque LSA Option | 4120 | Not supported |
| | 4220 | Not supported |
| | 5320 Series | Switch Engine 31.6 |
| | 5420 Series | EXOS 31.3 |
| | 5520 Series | EXOS 31.1 |
| | 5720 Series | Switch Engine 32.1 |
| | 7520 Series | Switch Engine 32.4 |
| | 7720 Series | Switch Engine 32.4 |
| RFC 3623 OSPF Graceful Restart | 4120 | Not supported |
| | 4220 | Not supported |
| | 5320 Series | Switch Engine 31.6 |
| | 5420 Series | EXOS 31.3 |
| | 5520 Series | EXOS 31.1 |
| | 5720 Series | Switch Engine 32.1 |
| | 7520 Series | Switch Engine 32.4 |
| | 7720 Series | Switch Engine 32.4 |
| Secure hash algorithm 1 (SHA-1) and SHA-2 | 4120 | Not supported |
| | 4220 | Not supported |
| | 5320 Series | Switch Engine 31.6 |
| | 5420 Series | EXOS 31.3 |
| | 5520 Series | EXOS 31.1 |
| | 5720 Series | Switch Engine 32.1 |
| | 7520 Series | Switch Engine 32.4 |
| | 7720 Series | Switch Engine 32.4 |

Table 57: Open Shortest Path First version 3 (OSPFv3)

| Feature | Product | Release introduced |
|---------|---------|--------------------|
| | 4120 | Not supported |

Table 57: Open Shortest Path First version 3 (OSPFv3) (continued)

| Feature | Product | Release introduced |
|--|--------------------|--------------------|
| OSPFv3 | 4220 | Not supported |
| | 5320 Series | Switch Engine 31.6 |
| | 5420 Series | EXOS 31.3 |
| | 5520 Series | EXOS 31.1 |
| | 5720 Series | Switch Engine 32.1 |
| | 7520 Series | Switch Engine 32.4 |
| | 7720 Series | Switch Engine 32.4 |
| RFC 4552 Authentication/ Confidentiality for OSPFv3 | 4120 | Not supported |
| | 4220 | Not supported |
| | 5320 Series | Switch Engine 31.6 |
| | 5420 Series | EXOS 31.3 |
| | 5520 Series | EXOS 31.1 |
| | 5720 Series | Switch Engine 32.1 |
| | 7520 Series | Switch Engine 32.4 |
| RFC 5187 OSPFv3 Graceful Restart | 4120 | Not supported |
| | 4220 | Not supported |
| | 5320 Series | Switch Engine 31.6 |
| | 5420 Series | EXOS 31.3 |
| | 5520 Series | EXOS 31.1 |
| | 5720 Series | Switch Engine 32.1 |
| | 7520 Series | Switch Engine 32.4 |
| RFC 5340 OSPF for IPv6 (OSPFv3)(edited) | 4120 | Not supported |
| | 4220 | Not supported |
| | 5320 Series | Switch Engine 31.6 |
| | 5420 Series | EXOS 31.3 |
| | 5520 Series | EXOS 31.1 |
| | 5720 Series | Switch Engine 32.1 |
| | 7520 Series | Switch Engine 32.4 |
| 7720 Series | Switch Engine 32.4 | |



Features P to R

Table 58: Port Mirroring

| Feature | Product | Release introduced |
|---|-------------|--------------------|
| Egress mirroring (port-based) | 4120 | Switch Engine 32.7 |
| | 4220 | Switch Engine 32.7 |
| | 5320 Series | Switch Engine 31.6 |
| | 5420 Series | EXOS 31.3 |
| | 5520 Series | EXOS 31.1 |
| | 5720 Series | Switch Engine 32.1 |
| | 7520 Series | Switch Engine 32.4 |
| | 7720 Series | Switch Engine 32.4 |
| Ingress mirroring (port and flow-based) | 4120 | Switch Engine 32.7 |
| | 4220 | Switch Engine 32.7 |
| | 5320 Series | Switch Engine 31.6 |
| | 5420 Series | EXOS 31.3 |
| | 5520 Series | EXOS 31.1 |
| | 5720 Series | Switch Engine 32.1 |
| | 7520 Series | Switch Engine 32.4 |
| | 7720 Series | Switch Engine 32.4 |

Table 59: Power over Ethernet (PoE)

| Feature | Product | Release introduced |
|----------|-------------|--|
| Fast PoE | 4120 | Switch Engine 32.7 |
| | 4220 | Switch Engine 32.7 |
| | 5320 Series | EXOS 31.6 5320-24P-8XE, 5320-48P-8XE, 5320-16P-4XE, and 5320-16P-4XE-DC. |
| | 5420 Series | EXOS 31.3 5420F-24P-4XE, 5420F-48P-4XE |

Table 59: Power over Ethernet (PoE) (continued)

| Feature | Product | Release introduced |
|---------|-------------|---|
| | | 5420F-8W-16P-4XE, , 5420F-16W-32P-4XE, 5420F-16MW-32P-4XE , 5420F-48P-4XL, 5420M-24W-4YE, 5420M-48W-4YE, and 5420M-16MW-32P-4YE |
| | 5520 Series | EXOS 31.1 5520-12MW-36W, 5520-24W and 5520-48W only |
| | 5720 Series | Switch Engine 32.1 5720-24MW, 5720-48MW, 5720-24MXW, and 5720-48MXW |
| | 7520 Series | Not Applicable |
| | 7720 Series | Not Applicable |
| PoE | 4120 | Switch Engine 32.7 |
| | 4220 | Switch Engine 32.7 |
| | 5320 Series | EXOS 31.6 5320-24P-8XE, 5320-48P-8XE, 5320-16P-4XE, and 5320-16P-4XE-DC. |
| | 5420 Series | EXOS 31.3 5420F-24P-4XE, 5420F-48P-4XE, 5420F-48P-4XL, 5420F-8W-16P-4XE, 5420F-16W-32P-4XE, 5420F-16MW-32P-4XE, 5420M-24W-4YE, 5420M-48W-4YE, and 5420M-16MW-32P-4YE |
| | 5520 Series | EXOS 31.1 5520-12MW-36W, 5520-24W and 5520-48W only |
| | 5720 Series | Switch Engine 32.1 5720-24MW, 5720-48MW, 5720-24MXW, and 5720-48MXW |
| | 7520 Series | Not Applicable |
| | 7720 Series | Not Applicable |

Table 59: Power over Ethernet (PoE) (continued)

| Feature | Product | Release introduced |
|--------------------------------|-------------|---|
| PoE/PoE+ allocation using LLDP | 4120 | Switch Engine 32.7 |
| | 4220 | Switch Engine 32.7 |
| | 5320 Series | EXOS 31.6 5320-24P-8XE, 5320-48P-8XE, 5320-16P-4XE, and 5320-16P-4XE-DC. |
| | 5420 Series | EXOS 31.3 5420F-24P-4XE, 5420F-48P-4XE 5420F-8W-16P-4XE, , 5420F-16W-32P-4XE, 5420F-16MW-32P-4XE , 5420F-48P-4XL, 5420M-24W-4YE, 5420M-48W-4YE, and 5420M-16MW-32P-4YE |
| | 5520 Series | EXOS 31.1 5520-12MW-36W, 5520-24W and 5520-48W only |
| | 5720 Series | Switch Engine 32.1 5720-24MW, 5720-48MW, 5720-24MXW, and 5720-48MXW |
| | 7520 Series | Not Applicable |
| | 7720 Series | Not Applicable |

Table 59: Power over Ethernet (PoE) (continued)

| Feature | Product | Release introduced |
|---------------|-------------|---|
| Perpetual PoE | 4120 | Switch Engine 32.7 |
| | 4220 | Switch Engine 32.7 |
| | 5320 Series | EXOS 31.6 5320-24P-8XE, 5320-48P-8XE, 5320-16P-4XE, and 5320-16P-4XE-DC. |
| | 5420 Series | EXOS 31.3 5420F-24P-4XE, 5420F-48P-4XE 5420F-8W-16P-4XE, , 5420F-16W-32P-4XE, 5420F-16MW-32P-4XE , 5420F-48P-4XL, 5420M-24W-4YE, 5420M-48W-4YE, and 5420M-16MW-32P-4YE |
| | 5520 Series | EXOS 31.1 5520-12MW-36W, 5520-24W and 5520-48W only |
| | 5720 Series | Switch Engine 32.1 5720-24MW, 5720-48MW, 5720-24MXW, and 5720-48MXW |
| | 7520 Series | Not Applicable |
| | 7720 Series | Not Applicable |

Table 59: Power over Ethernet (PoE) (continued)

| Feature | Product | Release introduced |
|--------------------------------------|-------------|---|
| RFC 3621 PoE-MIB (PoE switches only) | 4120 | Switch Engine 32.7 |
| | 4220 | Switch Engine 32.7 |
| | 5320 Series | EXOS 31.6 5320-24P-8XE, 5320-48P-8XE, 5320-16P-4XE, and 5320-16P-4XE-DC. |
| | 5420 Series | EXOS 31.3 5420F-24P-4XE, 5420F-48P-4XE 5420F-8W-16P-4XE, , 5420F-16W-32P-4XE, 5420F-16MW-32P-4XE , 5420F-48P-4XL, 5420M-24W-4YE, 5420M-48W-4YE, and 5420M-16MW-32P-4YE |
| | 5520 Series | EXOS 31.1 5520-12MW-36W, 5520-24W and 5520-48W only |
| | 5720 Series | Switch Engine 32.1 5720-24MW, 5720-48MW, 5720-24MXW, and 5720-48MXW |
| | 7520 Series | Not supported |
| | 7720 Series | Not supported |

Table 60: Precision Time Protocol v2 (PTPv2)

| Feature | Product | Release introduced |
|----------------|-------------|----------------------|
| Boundary Clock | 4120 | Not supported |
| | 4220 | Not supported |
| | 5320 Series | Not supported |
| | 5420 Series | Not supported |
| | 5520 Series | Not supported |
| | 5720 Series | Not supported |
| | 7520-48Y | Switch Engine 33.1.1 |
| | 7720 Series | Switch Engine 33.1.1 |

Table 60: Precision Time Protocol v2 (PTPv2) (continued)

| Feature | Product | Release introduced |
|-------------------|-------------|----------------------|
| Ordinary Clock | 4120 | Not supported |
| | 4220 | Not supported |
| | 5320 Series | Not supported |
| | 5420 Series | Not supported |
| | 5520 Series | Not supported |
| | 5720 Series | Not supported |
| | 7520 Series | Switch Engine 33.2.1 |
| | 7720 Series | Switch Engine 33.2.1 |
| Transparent Clock | 4120 | Not supported |
| | 4220 | Not supported |
| | 5320 Series | Not supported |
| | 5420 Series | Switch Engine 33.1.1 |
| | 5520 Series | EXOS 32.6.1 |
| | 5720 Series | Switch Engine 32.7 |
| | 7520 Series | Not supported |
| | 7720 Series | Not supported |

Table 61: Priority Flow Control

| Feature | Product | Release introduced |
|---------------------------------------|-------------|--------------------|
| Priority Flow Control (IEEE 802.1Qbb) | 4120 | Switch Engine 32.7 |
| | 4220 | Switch Engine 32.7 |
| | 5320 Series | Switch Engine 31.6 |
| | 5420 Series | EXOS 31.3 |
| | 5520 Series | EXOS 31.1 |
| | 5720 Series | Switch Engine 32.1 |
| | 7520 Series | Switch Engine 32.4 |
| | 7720 Series | Switch Engine 32.4 |

Table 62: Protocol Independent Multicast (PIM)

| Feature | Product | Release introduced |
|---------|---------|--------------------|
| | 4120 | Not supported |

Table 62: Protocol Independent Multicast (PIM) (continued)

| Feature | Product | Release introduced |
|---|--------------------|--------------------|
| PIM ECMP Load Splitting | 4220 | Not supported |
| | 5320 Series | Switch Engine 31.6 |
| | 5420 Series | EXOS 31.3 |
| | 5520 Series | EXOS 31.1 |
| | 5720 Series | Switch Engine 32.1 |
| | 7520 Series | Switch Engine 32.4 |
| | 7720 Series | Switch Engine 32.4 |
| PIM over IPv6 | 4120 | Not supported |
| | 4220 | Not supported |
| | 5320 Series | Switch Engine 31.6 |
| | 5420 Series | EXOS 31.3 |
| | 5520 Series | EXOS 31.1 |
| | 5720 Series | Switch Engine 32.1 |
| | 7520 Series | Switch Engine 32.4 |
| 7720 Series | Switch Engine 32.4 | |
| PIM Snooping | 4120 | Not supported |
| | 4220 | Not supported |
| | 5320 Series | Switch Engine 31.6 |
| | 5420 Series | EXOS 31.3 |
| | 5520 Series | EXOS 31.1 |
| | 5720 Series | Switch Engine 32.1 |
| | 7520 Series | Switch Engine 32.4 |
| 7720 Series | Switch Engine 32.4 | |
| RFC 2934 Protocol Independent Multicast MIB | 4120 | Not supported |
| | 4220 | Not supported |
| | 5320 Series | Switch Engine 31.6 |
| | 5420 Series | EXOS 31.3 |
| | 5520 Series | EXOS 31.1 |
| | 5720 Series | Switch Engine 32.1 |
| | 7520 Series | Switch Engine 32.4 |
| 7720 Series | Switch Engine 32.4 | |

Table 62: Protocol Independent Multicast (PIM) (continued)

| Feature | Product | Release introduced |
|--|-------------|--------------------|
| RFC 3446 Anycast RP using PIM and MSDP | 4120 | Not supported |
| | 4220 | Not supported |
| | 5320 Series | Switch Engine 31.6 |
| | 5420 Series | EXOS 31.3 |
| | 5520 Series | EXOS 31.1 |
| | 5720 Series | Switch Engine 32.1 |
| | 7520 Series | Switch Engine 32.4 |
| | 7720 Series | Switch Engine 32.4 |

Table 63: Protocol Independent Multicast-Source Specific Mode (PIM-SSM)

| Feature | Product | Release introduced |
|------------------------------|-------------|--------------------|
| draft-ietf-pim-mib-v2-01.txt | 4120 | Not supported |
| | 4220 | Not supported |
| | 5320 Series | Switch Engine 31.6 |
| | 5420 Series | EXOS 31.3 |
| | 5520 Series | EXOS 31.1 |
| | 5720 Series | Switch Engine 32.1 |
| | 7520 Series | Switch Engine 32.4 |
| | 7720 Series | Switch Engine 32.4 |
| PIM-SSM for IPv4 | 4120 | Not supported |
| | 4220 | Not supported |
| | 5320 Series | Switch Engine 31.6 |
| | 5420 Series | EXOS 31.3 |
| | 5520 Series | EXOS 31.1 |
| | 5720 Series | Switch Engine 32.1 |
| | 7520 Series | Switch Engine 32.4 |
| | 7720 Series | Switch Engine 32.4 |

**Table 63: Protocol Independent Multicast-Source Specific Mode (PIM-SSM)
(continued)**

| Feature | Product | Release introduced |
|---|-------------|--------------------|
| PIM-DM Draft IETF PIM Dense Mode draft-ietf-idmr-pim-dm-05.txt, draft-ietf-pim-dm-new-v2-04.txt | 4120 | Not supported |
| | 4220 | Not supported |
| | 5320 Series | Switch Engine 31.6 |
| | 5420 Series | EXOS 31.3 |
| | 5520 Series | EXOS 31.1 |
| | 7520 Series | Switch Engine 32.1 |
| | 7720 Series | Switch Engine 32.4 |
| | 5720 Series | Switch Engine 32.4 |
| RFC 3569, draft-ietf-ssm-arch-06.txt PIM-SSM PIM Source Specific Multicast | 4120 | Not supported |
| | 4220 | Not supported |
| | 5320 Series | Switch Engine 31.6 |
| | 5420 Series | EXOS 31.3 |
| | 5520 Series | EXOS 31.1 |
| | 5720 Series | Switch Engine 32.1 |
| | 7520 Series | Switch Engine 32.4 |
| | 7720 Series | Switch Engine 32.4 |

Table 64: Protocol Independent Multicast - Sparse Mode (PIM-SM)

| Feature | Product | Release introduced |
|--|-------------|--------------------|
| PIM Infinite Threshold for IPv4 and IPv6 | 4120 | Not supported |
| | 4220 | Not supported |
| | 5320 Series | Switch Engine 31.6 |
| | 5420 Series | EXOS 31.3 |
| | 5520 Series | EXOS 31.1 |
| | 5720 Series | Switch Engine 32.1 |
| | 7520 Series | Switch Engine 32.4 |
| | 7720 Series | Switch Engine 32.4 |

Table 64: Protocol Independent Multicast - Sparse Mode (PIM-SM) (continued)

| Feature | Product | Release introduced |
|-----------------------------|-------------|--------------------|
| PIM-SM for IPv4 | 4120 | Not supported |
| | 4220 | Not supported |
| | 5320 Series | Switch Engine 31.6 |
| | 5420 Series | EXOS 31.3 |
| | 5520 Series | EXOS 31.1 |
| | 5720 Series | Switch Engine 32.1 |
| | 7520 Series | Switch Engine 32.4 |
| | 7720 Series | Switch Engine 32.4 |
| RFC 2362 PIM-SM (Edge-mode) | 4120 | Not supported |
| | 4220 | Not supported |
| | 5320 Series | Switch Engine 31.6 |
| | 5420 Series | EXOS 31.3 |
| | 5520 Series | EXOS 31.1 |
| | 5720 Series | Switch Engine 32.1 |
| | 7520 Series | Switch Engine 32.4 |
| | 7720 Series | Switch Engine 32.4 |

Table 65: Pseudowire

| Feature | Product | Release introduced |
|----------------------------|-------------|--------------------|
| Pseudowire LSP Loadsharing | 4120 | Not supported |
| | 4220 | Not supported |
| | 5320 Series | Not applicable |
| | 5420 Series | Not applicable |
| | 5520 Series | EXOS 31.1 |
| | 5720 Series | Not applicable |
| | 7520 Series | Switch Engine 32.5 |
| | 7720 Series | Switch Engine 32.5 |

Table 65: Pseudowire (continued)

| Feature | Product | Release introduced |
|---|-------------|--------------------|
| RFC 4447 Pseudowire Setup and Maintenance using the Label Distribution Protocol (LDP) | 4120 | Not supported |
| | 4220 | Not supported |
| | 5320 Series | Not applicable |
| | 5420 Series | Not applicable |
| | 5520 Series | EXOS 31.1 |
| | 5720 Series | Not applicable |
| | 7520 Series | Switch Engine 32.5 |
| | 7720 Series | Switch Engine 32.5 |
| RFC 5085 Pseudowire Virtual Circuit Connectivity Verification (VCCV) | 4120 | Not supported |
| | 4220 | Not supported |
| | 5320 Series | Not applicable |
| | 5420 Series | Not applicable |
| | 5520 Series | EXOS 31.1 |
| | 5720 Series | Not applicable |
| | 7520 Series | Switch Engine 32.5 |
| | 7720 Series | Switch Engine 32.5 |
| RFC 5542 Definitions of Textual Conventions for Pseudowire (PW) Management | 4120 | Not supported |
| | 4220 | Not supported |
| | 5320 Series | Not applicable |
| | 5420 Series | Not applicable |
| | 5520 Series | EXOS 31.1 |
| | 5720 Series | Not applicable |
| | 7520 Series | Switch Engine 32.5 |
| | 7720 Series | Switch Engine 32.5 |
| RFC 5602 Pseudowire over MPLS PSN MIB | 4120 | Not supported |
| | 4220 | Not supported |
| | 5320 Series | Not applicable |
| | 5420 Series | Not applicable |
| | 5520 Series | EXOS 31.1 |
| | 5720 Series | Not applicable |
| | 7520 Series | Switch Engine 32.5 |
| | 7720 Series | Switch Engine 32.5 |

Table 65: Pseudowire (continued)

| Feature | Product | Release introduced |
|----------------------------------|-------------|--------------------|
| RFC 5603 Ethernet Pseudowire MIB | 4120 | Not supported |
| | 4220 | Not supported |
| | 5320 Series | Not applicable |
| | 5420 Series | Not applicable |
| | 5520 Series | EXOS 31.1 |
| | 5720 Series | Not applicable |
| | 7520 Series | Switch Engine 32.5 |
| | 7720 Series | Switch Engine 32.5 |

Table 66: Quality of Service (QoS) and Voice-over-IP (VoIP)

| Feature | Product | Release introduced |
|---|-------------|--------------------|
| Automatic QoS | 4120 | Not Supported |
| | 4220 | Not Supported |
| | 5320 Series | Not Supported |
| | 5420 Series | Not Supported |
| | 5520 Series | Not Supported |
| | 5720 Series | Not Supported |
| | 7520 Series | Not Supported |
| | 7720 Series | Not Supported |
| IEEE 802.1D – 1998 (802.1p) Packet Priority | 4120 | Switch Engine 32.7 |
| | 4220 | Switch Engine 32.7 |
| | 5320 Series | Switch Engine 31.6 |
| | 5420 Series | EXOS 31.3 |
| | 5520 Series | EXOS 31.1 |
| | 5720 Series | Switch Engine 32.1 |
| | 7520 Series | Switch Engine 32.4 |
| | 7720 Series | Switch Engine 32.4 |

Table 66: Quality of Service (QoS) and Voice-over-IP (VoIP) (continued)

| Feature | Product | Release introduced |
|---|-------------|--------------------|
| RFC 2474 DiffServ Precedence, including 8 queues/port | 4120 | Switch Engine 32.7 |
| | 4220 | Switch Engine 32.7 |
| | 5320 Series | Switch Engine 31.6 |
| | 5420 Series | EXOS 31.3 |
| | 5520 Series | EXOS 31.1 |
| | 5720 Series | Switch Engine 32.1 |
| | 7520 Series | Switch Engine 32.4 |
| | 7720 Series | Switch Engine 32.4 |
| RFC 2598 DiffServ Expedited Forwarding (EF) | 4120 | Switch Engine 32.7 |
| | 4220 | Switch Engine 32.7 |
| | 5320 Series | Switch Engine 31.6 |
| | 5420 Series | EXOS 31.3 |
| | 5520 Series | EXOS 31.1 |
| | 5720 Series | Switch Engine 32.1 |
| | 7520 Series | Switch Engine 32.4 |
| | 7720 Series | Switch Engine 32.4 |
| RFC 2597 DiffServ Assured Forwarding (AF) | 4120 | Switch Engine 32.7 |
| | 4220 | Switch Engine 32.7 |
| | 5320 Series | Switch Engine 31.6 |
| | 5420 Series | EXOS 31.3 |
| | 5520 Series | EXOS 31.1 |
| | 5720 Series | Switch Engine 32.1 |
| | 7520 Series | Switch Engine 32.4 |
| | 7720 Series | Switch Engine 32.4 |
| RFC 2475 DiffServ Core and Edge Router Functions | 4120 | Switch Engine 32.7 |
| | 4220 | Switch Engine 32.7 |
| | 5320 Series | Switch Engine 31.6 |
| | 5420 Series | EXOS 31.3 |
| | 5520 Series | EXOS 31.1 |
| | 5720 Series | Switch Engine 32.1 |
| | 7520 Series | Switch Engine 32.4 |
| | 7720 Series | Switch Engine 32.4 |

Table 66: Quality of Service (QoS) and Voice-over-IP (VoIP) (continued)

| Feature | Product | Release introduced |
|--|-------------|--------------------|
| Weighted Random Early Detection (WRED) | 4120 | Switch Engine 32.7 |
| | 4220 | Switch Engine 32.7 |
| | 5320 Series | Switch Engine 31.6 |
| | 5420 Series | EXOS 31.3 |
| | 5520 Series | EXOS 31.1 |
| | 5720 Series | Switch Engine 32.1 |
| | 7520 Series | Switch Engine 32.4 |
| | 7720 Series | Switch Engine 32.4 |

Table 67: Queue Profiles

| Feature | Product | Release introduced |
|-----------------------------|-------------|--------------------|
| QoS per queue rate limiting | 4120 | Switch Engine 32.7 |
| | 4220 | Switch Engine 32.7 |
| | 5320 Series | Switch Engine 31.6 |
| | 5420 Series | EXOS 31.3 |
| | 5520 Series | EXOS 31.1 |
| | 5720 Series | Switch Engine 32.1 |
| | 7520 Series | Switch Engine 32.4 |
| | 7720 Series | Switch Engine 32.4 |

Table 68: RADIUS

| Feature | Product | Release introduced |
|--------------------|---------|----------------------|
| Nelogin keep alive | 4120 | Switch Engine 33.2.1 |
| | 4220 | Switch Engine 33.2.1 |
| | 5320 | Switch Engine 33.2.1 |
| | 5420 | Switch Engine 33.2.1 |
| | 5520 | Switch Engine 33.2.1 |
| | 5720 | Switch Engine 33.2.1 |
| | 7520 | Switch Engine 33.2.1 |
| | 7720 | Switch Engine 33.2.1 |

Table 68: RADIUS (continued)

| Feature | Product | Release introduced |
|--------------------------------------|-------------|--------------------|
| RADIUS (IPv6) | 4120 | Switch Engine 32.7 |
| | 4220 | Switch Engine 32.7 |
| | 5320 Series | Switch Engine 31.6 |
| | 5420 Series | EXOS 31.3 |
| | 5520 Series | EXOS 31.1 |
| | 5720 Series | Switch Engine 32.1 |
| | 7520 Series | Switch Engine 32.4 |
| | 7720 Series | Switch Engine 32.4 |
| RADIUS, community-based users (IPv4) | 4120 | Switch Engine 32.7 |
| | 4220 | Switch Engine 32.7 |
| | 5320 Series | Switch Engine 31.6 |
| | 5420 Series | EXOS 31.3 |
| | 5520 Series | EXOS 31.1 |
| | 5720 Series | Switch Engine 32.1 |
| | 7520 Series | Switch Engine 32.4 |
| | 7720 Series | Switch Engine 32.4 |
| RADIUS over TLS | 4120 | Switch Engine 32.7 |
| | 4220 | Switch Engine 32.7 |
| | 5320 Series | Switch Engine 31.6 |
| | 5420 Series | EXOS 31.3 |
| | 5520 Series | EXOS 31.1 |
| | 5720 Series | Switch Engine 32.1 |
| | 7520 Series | Switch Engine 32.4 |
| | 7720 Series | Switch Engine 32.4 |
| RADIUS Security (RADSec) | 4120 | Switch Engine 32.7 |
| | 4220 | Switch Engine 32.7 |
| | 5320 Series | Switch Engine 31.6 |
| | 5420 Series | EXOS 31.3 |
| | 5520 Series | EXOS 31.1 |
| | 5720 Series | Switch Engine 32.1 |
| | 7520 Series | Switch Engine 32.4 |
| | 7720 Series | Switch Engine 32.4 |

Table 68: RADIUS (continued)

| Feature | Product | Release introduced |
|--|-------------|--------------------|
| RFC 2865 RADIUS Authentication | 4120 | Switch Engine 32.7 |
| | 4220 | Switch Engine 32.7 |
| | 5320 Series | Switch Engine 31.6 |
| | 5420 Series | EXOS 31.3 |
| | 5520 Series | EXOS 31.1 |
| | 5720 Series | Switch Engine 32.1 |
| | 7520 Series | Switch Engine 32.4 |
| | 7720 Series | Switch Engine 32.4 |
| RFC 2866 RADIUS Accounting | 4120 | Switch Engine 32.7 |
| | 4220 | Switch Engine 32.7 |
| | 5320 Series | Switch Engine 31.6 |
| | 5420 Series | EXOS 31.3 |
| | 5520 Series | EXOS 31.1 |
| | 5720 Series | Switch Engine 32.1 |
| | 7520 Series | Switch Engine 32.4 |
| | 7720 Series | Switch Engine 32.4 |
| RFC 3579 RADIUS EAP support for 802.1x | 4120 | Switch Engine 32.7 |
| | 4220 | Switch Engine 32.7 |
| | 5320 Series | Switch Engine 31.6 |
| | 5420 Series | EXOS 31.3 |
| | 5520 Series | EXOS 31.1 |
| | 5720 Series | Switch Engine 32.1 |
| | 7520 Series | Switch Engine 32.4 |
| | 7720 Series | Switch Engine 32.4 |
| RFC 3580 IEEE 802.1x RADIUS Guidelines, Dynamic VLAN assignment via RADIUS tunnel attributes | 4120 | Switch Engine 32.7 |
| | 4220 | Switch Engine 32.7 |
| | 5320 Series | Switch Engine 31.6 |
| | 5420 Series | EXOS 31.3 |
| | 5520 Series | EXOS 31.1 |
| | 5720 Series | Switch Engine 32.1 |
| | 7520 Series | Switch Engine 32.4 |
| | 7720 Series | Switch Engine 32.4 |

Table 68: RADIUS (continued)

| Feature | Product | Release introduced |
|--|-------------|--------------------|
| RADIUS Per-command Authentication | 4120 | Switch Engine 32.7 |
| | 4220 | Switch Engine 32.7 |
| | 5320 Series | Switch Engine 31.6 |
| | 5420 Series | EXOS 31.3 |
| | 5520 Series | EXOS 31.1 |
| | 5720 Series | Switch Engine 32.1 |
| | 7520 Series | Switch Engine 32.4 |
| | 7720 Series | Switch Engine 32.4 |
| RADIUS Server Load Balancing | 4120 | Switch Engine 32.7 |
| | 4220 | Switch Engine 32.7 |
| | 5320 Series | Switch Engine 31.6 |
| | 5420 Series | EXOS 31.3 |
| | 5520 Series | EXOS 31.1 |
| | 5720 Series | Switch Engine 32.1 |
| | 7520 Series | Switch Engine 32.4 |
| | 7720 Series | Switch Engine 32.4 |
| RFC 4668 RADIUS Authentication Client MIB for IPv6 | 4120 | Switch Engine 32.7 |
| | 4220 | Switch Engine 32.7 |
| | 5320 Series | Switch Engine 31.6 |
| | 5420 Series | EXOS 31.3 |
| | 5520 Series | EXOS 31.1 |
| | 5720 Series | Switch Engine 32.1 |
| | 7520 Series | Switch Engine 32.4 |
| | 7720 Series | Switch Engine 32.4 |

Table 68: RADIUS (continued)

| Feature | Product | Release introduced |
|--|-------------|--------------------|
| RFC 4670 RADIUS Accounting Client MIB for IPv6 | 4120 | Switch Engine 32.7 |
| | 4220 | Switch Engine 32.7 |
| | 5320 Series | Switch Engine 31.6 |
| | 5420 Series | EXOS 31.3 |
| | 5520 Series | EXOS 31.1 |
| | 5720 Series | Switch Engine 32.1 |
| | 7520 Series | Switch Engine 32.4 |
| | 7720 Series | Switch Engine 32.4 |

Table 69: Representational State Transfer Configuration Protocol (RESTCONF)

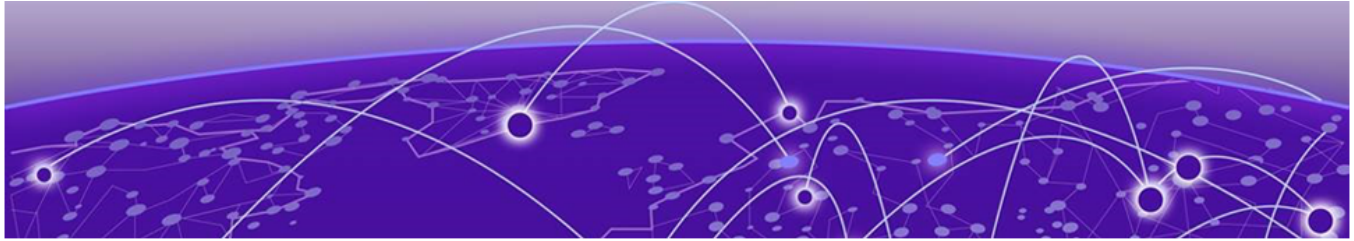
| Feature | Product | Release introduced |
|----------|-------------|--------------------|
| RESTCONF | 4120 | Switch Engine 32.7 |
| | 4220 | Switch Engine 32.7 |
| | 5320 Series | Switch Engine 31.6 |
| | 5420 Series | EXOS 31.3 |
| | 5520 Series | EXOS 31.1 |
| | 5720 Series | Switch Engine 32.1 |
| | 7520 Series | Switch Engine 32.4 |
| | 7720 Series | Switch Engine 32.4 |

Table 70: Routing Information Protocol (RIP)

| Feature | Product | Release introduced |
|---------|-------------|--------------------|
| RIP | 4120 | Not supported |
| | 4220 | Not supported |
| | 5320 Series | Switch Engine 31.6 |
| | 5420 Series | EXOS 31.3 |
| | 5520 Series | EXOS 31.1 |
| | 5720 Series | Switch Engine 32.1 |
| | 7520 Series | Switch Engine 32.4 |
| | 7720 Series | Switch Engine 32.4 |

Table 70: Routing Information Protocol (RIP) (continued)

| Feature | Product | Release introduced |
|--------------------|--------------------|--------------------|
| RIPng | 4120 | Not supported |
| | 4220 | Not supported |
| | Switch Engine 31.6 | Switch Engine 31.6 |
| | EXOS 31.3 | EXOS 31.3 |
| | EXOS 31.1 | EXOS 31.1 |
| | Switch Engine 32.1 | Switch Engine 32.1 |
| | Switch Engine 32.4 | Switch Engine 32.4 |
| | Switch Engine 32.4 | Switch Engine 32.4 |
| RFC 1058 RIP v1 | 4120 | Not supported |
| | 4220 | Not supported |
| | 5320 Series | Switch Engine 31.6 |
| | 5420 Series | EXOS 31.3 |
| | 5520 Series | EXOS 31.1 |
| | 5720 Series | Switch Engine 32.1 |
| | 7520 Series | Switch Engine 32.4 |
| | 7720 Series | Switch Engine 32.4 |
| RFC 1724 RIPv2 MIB | 4120 | Not supported |
| | 4220 | Not supported |
| | 5320 Series | Switch Engine 31.6 |
| | 5420 Series | EXOS 31.3 |
| | 5520 Series | EXOS 31.1 |
| | 5720 Series | Switch Engine 32.1 |
| | 7520 Series | Switch Engine 32.4 |
| | 7720 Series | Switch Engine 32.4 |
| RFC 2453 RIP v2 | 4120 | Not supported |
| | 4220 | Not supported |
| | 5320 Series | Switch Engine 31.6 |
| | 5420 Series | EXOS 31.3 |
| | 5520 Series | EXOS 31.1 |
| | 5720 Series | Switch Engine 32.1 |
| | 7520 Series | Switch Engine 32.4 |
| | 7720 Series | Switch Engine 32.4 |



Features S to U

Table 71: Secure Shell (SSH)

| Feature | Product | Release introduced |
|---|-------------|--------------------|
| SSH-2 client and server | 4120 | Switch Engine 32.7 |
| | 4220 | Switch Engine 32.7 |
| | 5320 Series | Switch Engine 31.6 |
| | 5420 Series | EXOS 31.3 |
| | 5520 Series | EXOS 31.1 |
| | 5720 Series | Switch Engine 32.1 |
| | 7520 Series | Switch Engine 32.4 |
| | 7720 Series | Switch Engine 32.4 |
| Secure Copy (SCP-2) client and server | 4120 | Switch Engine 32.7 |
| | 4220 | Switch Engine 32.7 |
| | 5320 Series | Switch Engine 31.6 |
| | 5420 Series | EXOS 31.3 |
| | 5520 Series | EXOS 31.1 |
| | 5720 Series | Switch Engine 32.1 |
| | 7520 Series | Switch Engine 32.4 |
| | 7720 Series | Switch Engine 32.4 |
| SSH-2, Secure Copy (SCP-2), and SFTP client/server with encryption/authentication | 4120 | Switch Engine 32.7 |
| | 4220 | Switch Engine 32.7 |
| | 5320 Series | Switch Engine 31.6 |
| | 5420 Series | EXOS 31.3 |
| | 5520 Series | EXOS 31.1 |
| | 5720 Series | Switch Engine 32.1 |
| | 7520 Series | Switch Engine 32.4 |
| | 7720 Series | Switch Engine 32.4 |

Table 71: Secure Shell (SSH) (continued)

| Feature | Product | Release introduced |
|--|-------------|--------------------|
| Access Policies for Telnet/ SSH-2/SCP-2 | 4120 | Switch Engine 32.7 |
| | 4220 | Switch Engine 32.7 |
| | 5320 Series | Switch Engine 31.6 |
| | 5420 Series | EXOS 31.3 |
| | 5520 Series | EXOS 31.1 |
| | 5720 Series | Switch Engine 32.1 |
| | 7520 Series | Switch Engine 32.4 |
| | 7720 Series | Switch Engine 32.4 |

Table 72: Security, switch, and network protection

| Feature | Product | Release introduced |
|---|-------------|--------------------|
| Secure Shell (SSH-2), Secure Copy (SCP-2), and SFTP client/server with encryption/authentication | 4120 | Switch Engine 32.7 |
| | 4220 | Switch Engine 32.7 |
| | 5320 Series | Switch Engine 31.6 |
| | 5420 Series | EXOS 31.3 |
| | 5520 Series | EXOS 31.1 |
| | 5720 Series | Switch Engine 32.1 |
| | 7520 Series | Switch Engine 32.4 |
| | 7720 Series | Switch Engine 32.4 |
| Access Profiles on All Routing Protocols | 4120 | Switch Engine 32.7 |
| | 4220 | Switch Engine 32.7 |
| | 5320 Series | Switch Engine 31.6 |
| | 5420 Series | EXOS 31.3 |
| | 5520 Series | EXOS 31.1 |
| | 5720 Series | Switch Engine 32.1 |
| | 7520 Series | Switch Engine 32.4 |
| | 7720 Series | Switch Engine 32.4 |

Table 72: Security, switch, and network protection (continued)

| Feature | Product | Release introduced |
|--|-------------|--------------------|
| Access Policies for Telnet/ SSH-2/SCP-2 | 4120 | Switch Engine 32.7 |
| | 4220 | Switch Engine 32.7 |
| | 5320 Series | Switch Engine 31.6 |
| | 5420 Series | EXOS 31.3 |
| | 5520 Series | EXOS 31.1 |
| | 5720 Series | Switch Engine 32.1 |
| | 7520 Series | Switch Engine 32.4 |
| | 7720 Series | Switch Engine 32.4 |
| Fallback to local authentication database (MAC and Web-based methods) | 4120 | Switch Engine 32.7 |
| | 4220 | Switch Engine 32.7 |
| | 5320 Series | Switch Engine 31.6 |
| | 5420 Series | EXOS 31.3 |
| | 5520 Series | EXOS 31.1 |
| | 5720 Series | Switch Engine 32.1 |
| | 7520 Series | Switch Engine 32.4 |
| | 7720 Series | Switch Engine 32.4 |
| Guest VLAN for 802.1x | 4120 | Switch Engine 32.7 |
| | 4220 | Switch Engine 32.7 |
| | 5320 Series | Switch Engine 31.6 |
| | 5420 Series | EXOS 31.3 |
| | 5520 Series | EXOS 31.1 |
| | 5720 Series | Switch Engine 32.1 |
| | 7520 Series | Switch Engine 32.4 |
| | 7720 Series | Switch Engine 32.4 |
| RFC 2267 Network Ingress Filtering | 4120 | Switch Engine 32.7 |
| | 4220 | Switch Engine 32.7 |
| | 5320 Series | Switch Engine 31.6 |
| | 5420 Series | EXOS 31.3 |
| | 5520 Series | EXOS 31.1 |
| | 5720 Series | Switch Engine 32.1 |
| | 7520 Series | Switch Engine 32.4 |
| | 7720 Series | Switch Engine 32.4 |

Table 72: Security, switch, and network protection (continued)

| Feature | Product | Release introduced |
|---|-------------|--------------------|
| IP Broadcast Forwarding Control | 4120 | Switch Engine 32.7 |
| | 4220 | Switch Engine 32.7 |
| | 5320 Series | Switch Engine 31.6 |
| | 5420 Series | EXOS 31.3 |
| | 5520 Series | EXOS 31.1 |
| | 5720 Series | Switch Engine 32.1 |
| | 7520 Series | Switch Engine 32.4 |
| | 7720 Series | Switch Engine 32.4 |
| SYN attack protection | 4120 | Switch Engine 32.7 |
| | 4220 | Switch Engine 32.7 |
| | 5320 Series | Switch Engine 31.6 |
| | 5420 Series | EXOS 31.3 |
| | 5520 Series | EXOS 31.1 |
| | 5720 Series | Switch Engine 32.1 |
| | 7520 Series | Switch Engine 32.4 |
| | 7720 Series | Switch Engine 32.4 |
| CPU DoS Protection with traffic rate-limiting to management CPU | 4120 | Switch Engine 32.7 |
| | 4220 | Switch Engine 32.7 |
| | 5320 Series | Switch Engine 31.6 |
| | 5420 Series | EXOS 31.3 |
| | 5520 Series | EXOS 31.1 |
| | 5720 Series | Switch Engine 32.1 |
| | 7520 Series | Switch Engine 32.4 |
| | 7720 Series | Switch Engine 32.4 |
| IEEE 802.1Q – 1998 Virtual Bridged Local Area Networks | 4120 | Switch Engine 32.7 |
| | 4220 | Switch Engine 32.7 |
| | 5320 Series | Switch Engine 31.6 |
| | 5420 Series | EXOS 31.3 |
| | 5520 Series | EXOS 31.1 |
| | 5720 Series | Switch Engine 32.1 |
| | 7520 Series | Switch Engine 32.4 |
| | 7720 Series | Switch Engine 32.4 |

Table 72: Security, switch, and network protection (continued)

| Feature | Product | Release introduced |
|--|-------------|--------------------|
| Software Redundant Ports | 4120 | Switch Engine 32.7 |
| | 4220 | Switch Engine 32.7 |
| | 5320 Series | Switch Engine 31.6 |
| | 5420 Series | EXOS 31.3 |
| | 5520 Series | EXOS 31.1 |
| | 5720 Series | Switch Engine 32.1 |
| | 7520 Series | Switch Engine 32.4 |
| | 7720 Series | Switch Engine 32.4 |
| IEEE 802.1ag L2 Ping and traceroute, Connectivity Fault Management | 4120 | Switch Engine 32.7 |
| | 4220 | Switch Engine 32.7 |
| | 5320 Series | Switch Engine 31.6 |
| | 5420 Series | EXOS 31.3 |
| | 5520 Series | EXOS 31.1 |
| | 5720 Series | Switch Engine 32.1 |
| | 7520 Series | Switch Engine 32.4 |
| | 7720 Series | Switch Engine 32.4 |
| ITU-T Y.1731 Frame Delay | 4120 | Switch Engine 32.7 |
| | 4220 | Switch Engine 32.7 |
| | 5320 Series | Switch Engine 31.6 |
| | 5420 Series | EXOS 31.3 |
| | 5520 Series | EXOS 31.1 |
| | 5720 Series | Switch Engine 32.1 |
| | 7520 Series | Switch Engine 32.4 |
| | 7720 Series | Switch Engine 32.4 |
| ITU-T Y.1731 Frame Loss | 4120 | Switch Engine 32.7 |
| | 4220 | Switch Engine 32.7 |
| | 5320 Series | Switch Engine 31.6 |
| | 5420 Series | EXOS 31.3 |
| | 5520 Series | EXOS 31.1 |
| | 5720 Series | Switch Engine 32.1 |
| | 7520 Series | Switch Engine 32.4 |
| | 7720 Series | Switch Engine 32.4 |

Table 72: Security, switch, and network protection (continued)

| Feature | Product | Release introduced |
|--|-------------|--------------------|
| IEEE 802.3ah Ethernet OAM – Unidirectional Link Fault Management | 4120 | Not supported |
| | 4220 | Not supported |
| | 5320 Series | Switch Engine 31.6 |
| | 5420 Series | EXOS 31.3 |
| | 5520 Series | EXOS 31.1 |
| | 5720 Series | Switch Engine 32.1 |
| | 7520 Series | Switch Engine 32.4 |
| | 7720 Series | Switch Engine 32.4 |
| ITU G.8032 Ethernet Ring Protection Switching | 4120 | Not supported |
| | 4220 | Not supported |
| | 5320 Series | Switch Engine 31.6 |
| | 5420 Series | EXOS 31.3 |
| | 5520 Series | EXOS 31.1 |
| | 5720 Series | Switch Engine 32.1 |
| | 7520 Series | Switch Engine 32.4 |
| | 7720 Series | Switch Engine 32.4 |

Table 73: Security, router protection

| Feature | Product | Release introduced |
|-------------------------------------|-------------|--------------------|
| Routing protocol MD5 authentication | 4120 | Not supported |
| | 4220 | Not supported |
| | 5320 Series | Switch Engine 31.6 |
| | 5420 Series | EXOS 31.3 |
| | 5520 Series | EXOS 31.1 |
| | 5720 Series | Switch Engine 32.1 |
| | 7520 Series | Switch Engine 32.4 |
| | 7720 Series | Switch Engine 32.4 |

Table 73: Security, router protection (continued)

| Feature | Product | Release introduced |
|------------------|-------------|--------------------|
| Identity Manager | 4120 | Not supported |
| | 4220 | Not supported |
| | 5320 Series | Switch Engine 31.6 |
| | 5420 Series | EXOS 31.3 |
| | 5520 Series | EXOS 31.1 |
| | 5720 Series | Switch Engine 32.1 |
| | 7520 Series | Switch Engine 32.4 |
| | 7720 Series | Switch Engine 32.4 |

Table 74: Simple Network Management Protocol (SNMP)

| Feature | Product | Release introduced |
|---|-------------|--------------------|
| MEF-36 Y.1731 Compliant Performance Monitoring SNMP MIB | 4120 | Switch Engine 32.7 |
| | 4220 | Switch Engine 32.7 |
| | 5320 Series | Switch Engine 31.6 |
| | 5420 Series | EXOS 31.3 |
| | 5520 Series | EXOS 31.1 |
| | 5720 Series | Switch Engine 32.1 |
| | 7520 Series | Switch Engine 32.4 |
| | 7720 Series | Switch Engine 32.4 |
| RFC 1157 SNMPv1 | 4120 | Switch Engine 32.7 |
| | 4220 | Switch Engine 32.7 |
| | 5320 Series | Switch Engine 31.6 |
| | 5420 Series | EXOS 31.3 |
| | 5520 Series | EXOS 31.1 |
| | 5720 Series | Switch Engine 32.1 |
| | 7520 Series | Switch Engine 32.4 |
| | 7720 Series | Switch Engine 32.4 |

Table 74: Simple Network Management Protocol (SNMP) (continued)

| Feature | Product | Release introduced |
|--|-------------|--------------------|
| RFC 1650 Ethernet-Like MIB (update of RFC 1213 for SNMPv2) | 4120 | Switch Engine 32.7 |
| | 4220 | Switch Engine 32.7 |
| | 5320 Series | Switch Engine 31.6 |
| | 5420 Series | EXOS 31.3 |
| | 5520 Series | EXOS 31.1 |
| | 5720 Series | Switch Engine 32.1 |
| | 7520 Series | Switch Engine 32.4 |
| | 7720 Series | Switch Engine 32.4 |
| RFC 1901 to – 1908 SNMPv2c, SMIV2 and Revised MIB-II | 4120 | Switch Engine 32.7 |
| | 4220 | Switch Engine 32.7 |
| | 5320 Series | Switch Engine 31.6 |
| | 5420 Series | EXOS 31.3 |
| | 5520 Series | EXOS 31.1 |
| | 5720 Series | Switch Engine 32.1 |
| | 7520 Series | Switch Engine 32.4 |
| | 7720 Series | Switch Engine 32.4 |
| RFC 2418 – Management Information Base for SNMP | 4120 | Switch Engine 32.7 |
| | 4220 | Switch Engine 32.7 |
| | 5320 Series | Switch Engine 31.6 |
| | 5420 Series | EXOS 31.3 |
| | 5520 Series | EXOS 31.1 |
| | 5720 Series | Switch Engine 32.1 |
| | 7520 Series | Switch Engine 32.4 |
| | 7720 Series | Switch Engine 32.4 |
| RFC 2576 Coexistence between SNMP Version 1, Version 2 and Version 3 of the Internet standard Network Management Framework | 4120 | Switch Engine 32.7 |
| | 4220 | Switch Engine 32.7 |
| | 5320 Series | Switch Engine 31.6 |
| | 5420 Series | EXOS 31.3 |
| | 5520 Series | EXOS 31.1 |
| | 5720 Series | Switch Engine 32.1 |
| | 7520 Series | Switch Engine 32.4 |
| | 7720 Series | Switch Engine 32.4 |

Table 74: Simple Network Management Protocol (SNMP) (continued)

| Feature | Product | Release introduced |
|--|-------------|--------------------|
| RFC 3410 – 3415 SNMPv3, user based security, encryption and authentication | 4120 | Switch Engine 32.7 |
| | 4220 | Switch Engine 32.7 |
| | 5320 Series | Switch Engine 31.6 |
| | 5420 Series | EXOS 31.3 |
| | 5520 Series | EXOS 31.1 |
| | 5720 Series | Switch Engine 32.1 |
| | 7520 Series | Switch Engine 32.4 |
| | 7720 Series | Switch Engine 32.4 |
| RFC 3416 – Protocol Operations for Version 2 of SNMP | 4120 | Switch Engine 32.7 |
| | 4220 | Switch Engine 32.7 |
| | 5320 Series | Switch Engine 31.6 |
| | 5420 Series | EXOS 31.3 |
| | 5520 Series | EXOS 31.1 |
| | 5720 Series | Switch Engine 32.1 |
| | 7520 Series | Switch Engine 32.4 |
| | 7720 Series | Switch Engine 32.4 |
| RFC 3826 – The Advanced Encryption Standard (AES) Cipher Algorithm in the SNMP User-based Security Model | 4120 | Switch Engine 32.7 |
| | 4220 | Switch Engine 32.7 |
| | 5320 Series | Switch Engine 31.6 |
| | 5420 Series | EXOS 31.3 |
| | 5520 Series | EXOS 31.1 |
| | 5720 Series | Switch Engine 32.1 |
| | 7520 Series | Switch Engine 32.4 |
| | 7720 Series | Switch Engine 32.4 |

Table 74: Simple Network Management Protocol (SNMP) (continued)

| Feature | Product | Release introduced |
|---|-------------|--------------------|
| SNMPv3 user based security, with encryption/ authentication | 4120 | Switch Engine 32.7 |
| | 4220 | Switch Engine 32.7 |
| | 5320 Series | Switch Engine 31.6 |
| | 5420 Series | EXOS 31.3 |
| | 5520 Series | EXOS 31.1 |
| | 5720 Series | Switch Engine 32.1 |
| | 7520 Series | Switch Engine 32.4 |
| | 7720 Series | Switch Engine 32.4 |

Table 75: Simple Network Time Protocol (SNTP)

| Feature | Product | Release introduced |
|------------------|-------------|--------------------|
| RFC 2030 SNTP v4 | 4120 | Switch Engine 32.7 |
| | 4220 | Switch Engine 32.7 |
| | 5320 Series | Switch Engine 31.6 |
| | 5420 Series | EXOS 31.3 |
| | 5520 Series | EXOS 31.1 |
| | 5720 Series | Switch Engine 32.1 |
| | 7520 Series | Switch Engine 32.4 |
| | 7720 Series | Switch Engine 32.4 |

Table 76: Spanning Tree Protocol (STP)

| Feature | Product | Release introduced |
|--|-------------|--------------------|
| Draft-ietf-bridge-rstpmib-03.txt – Definitions of Managed Objects for Bridges with Rapid STP | 4120 | Switch Engine 32.7 |
| | 4220 | Switch Engine 32.7 |
| | 5320 Series | Switch Engine 31.6 |
| | 5420 Series | EXOS 31.3 |
| | 5520 Series | EXOS 31.1 |
| | 5720 Series | Switch Engine 32.1 |
| | 7520 Series | Switch Engine 32.4 |
| | 7720 Series | Switch Engine 32.4 |

Table 76: Spanning Tree Protocol (STP) (continued)

| Feature | Product | Release introduced |
|---|-------------|--------------------|
| IEEE 802.1D – 1998 STP | 4120 | Switch Engine 32.7 |
| | 4220 | Switch Engine 32.7 |
| | 5320 Series | Switch Engine 31.6 |
| | 5420 Series | EXOS 31.3 |
| | 5520 Series | EXOS 31.1 |
| | 5720 Series | Switch Engine 32.1 |
| | 7520 Series | Switch Engine 32.4 |
| | 7720 Series | Switch Engine 32.4 |
| IEEE 802.1D – 2004 (STP and RSTP) | 4120 | Switch Engine 32.7 |
| | 4220 | Switch Engine 32.7 |
| | 5320 Series | Switch Engine 31.6 |
| | 5420 Series | EXOS 31.3 |
| | 5520 Series | EXOS 31.1 |
| | 5720 Series | Switch Engine 32.1 |
| | 7520 Series | Switch Engine 32.4 |
| | 7720 Series | Switch Engine 32.4 |
| IEEE 802.1w – 2001 Rapid Reconfiguration for STP, RSTP | 4120 | Switch Engine 32.7 |
| | 4220 | Switch Engine 32.7 |
| | 5320 Series | Switch Engine 31.6 |
| | 5420 Series | EXOS 31.3 |
| | 5520 Series | EXOS 31.1 |
| | 5720 Series | Switch Engine 32.1 |
| | 7520 Series | Switch Engine 32.4 |
| | 7720 Series | Switch Engine 32.4 |
| IEEE 802.1Q – 2003 (formerly IEEE 802.1s) Multiple Instances of STP, MSTP | 4120 | Switch Engine 32.7 |
| | 4220 | Switch Engine 32.7 |
| | 5320 Series | Switch Engine 31.6 |
| | 5420 Series | EXOS 31.3 |
| | 5520 Series | EXOS 31.1 |
| | 5720 Series | Switch Engine 32.1 |
| | 7520 Series | Switch Engine 32.4 |
| | 7720 Series | Switch Engine 32.4 |

Table 76: Spanning Tree Protocol (STP) (continued)

| Feature | Product | Release introduced |
|--|-------------|--------------------|
| EMISTP, Extreme Multiple Instances of STP | 4120 | Switch Engine 32.7 |
| | 4220 | Switch Engine 32.7 |
| | 5320 Series | Switch Engine 31.6 |
| | 5420 Series | EXOS 31.3 |
| | 5520 Series | EXOS 31.1 |
| | 5720 Series | Switch Engine 32.1 |
| | 7520 Series | Switch Engine 32.4 |
| | 7720 Series | Switch Engine 32.4 |
| PVST+, Per VLAN STP (802.1Q interoperable) | 4120 | Switch Engine 32.7 |
| | 4220 | Switch Engine 32.7 |
| | 5320 Series | Switch Engine 31.6 |
| | 5420 Series | EXOS 31.3 |
| | 5520 Series | EXOS 31.1 |
| | 5720 Series | Switch Engine 32.1 |
| | 7520 Series | Switch Engine 32.4 |
| | 7720 Series | Switch Engine 32.4 |

Table 77: Stacking

| Feature | Product | Release introduced |
|-------------------------|-------------|--------------------|
| Stacking auto-discovery | 4120 | Not supported |
| | 4220 | Not supported |
| | 5320 Series | Not supported |
| | 5420 Series | EXOS 31.5 |
| | 5520 Series | EXOS 31.5 |
| | 5720 Series | Not supported |
| | 7520 Series | Not supported |
| | 7720 Series | Not supported |

Table 77: Stacking (continued)

| Feature | Product | Release introduced |
|-----------------|-------------|--|
| SummitStack-V | 4120 | Not supported |
| | 4220 | Not supported |
| | 5320 Series | Not supported |
| | 5420 Series | Not supported |
| | 5520 Series | Switch Engine 31.3 Only on 5520-VIM-4X allowing cross-stack to 5320 and 5420 SummitStack- V40. |
| | 5720 Series | Not supported |
| | 7520 Series | Not supported |
| | 7720 Series | Not supported |
| SummitStack-V40 | 4120 | Not supported |
| | 4220 | Switch Engine 32.7 |
| | 5320 Series | Switch Engine 31.6 |
| | 5420 Series | EXOS 31.3 |
| | 5520 Series | Not supported |
| | 5720 Series | Not supported |
| | 7520 Series | Not supported |
| | 7720 Series | Not supported |
| SummitStack-V80 | 4120 | Not supported |
| | 4220 | Not supported |
| | 5320 Series | Not supported |
| | 5420 Series | EXOS 31.4 |
| | 5520 Series | EXOS 31.5 Only when cross-stacking with 5420. |
| | 5720 Series | Not supported |
| | 7520 Series | Not supported |
| | 7720 Series | Not supported |

Table 77: Stacking (continued)

| Feature | Product | Release introduced |
|------------------|-------------|--|
| SummitStack-V160 | 4120 | Not supported |
| | 4220 | Not supported |
| | 5320 Series | Not supported |
| | 5420 Series | Not supported |
| | 5520 Series | EXOS 31.1 |
| | 5720 Series | Not supported |
| | 7520 Series | Not supported |
| | 7720 Series | Not supported |
| SummitStack-V200 | 4120 | Switch Engine 32.7 |
| | 4220 | Not supported |
| | 5320 Series | Not supported |
| | 5420 Series | Not supported |
| | 5520 Series | EXOS 31.6 |
| | 5720 Series | Switch Engine 32.1 Only when cross-stacking with 5520. |
| | 7520 Series | Not supported |
| | 7720 Series | Not supported |
| SummitStack-V400 | 4120 | Not supported |
| | 4220 | Not supported |
| | 5320 Series | Not supported |
| | 5420 Series | Not supported |
| | 5520 Series | Not supported |
| | 5720 Series | EXOS 32.1 Only with themselves. No VIM ports. |
| | 7520 Series | Switch Engine 32.4 Only with themselves or cross-stacking with 7720. |
| | 7720 Series | Switch Engine 32.4 Only with themselves or cross-stacking with 7520. |

Table 77: Stacking (continued)

| Feature | Product | Release introduced |
|---|-------------|--|
| SummitStack-V400 Alternative Configuration | 4120 | Not supported |
| | 4220 | Not supported |
| | 5320 Series | Not supported |
| | 5420 Series | Not supported |
| | 5520 Series | Not supported |
| | 5720 Series | Switch Engine 32.2 Only with themselves. No VIM ports. |
| | 7520 Series | Switch Engine 32.4 Only with themselves or cross-stacking with 7720. |
| | 7720 Series | Switch Engine 32.4 Only with themselves or cross-stacking with 7520. |

Table 78: Syslog

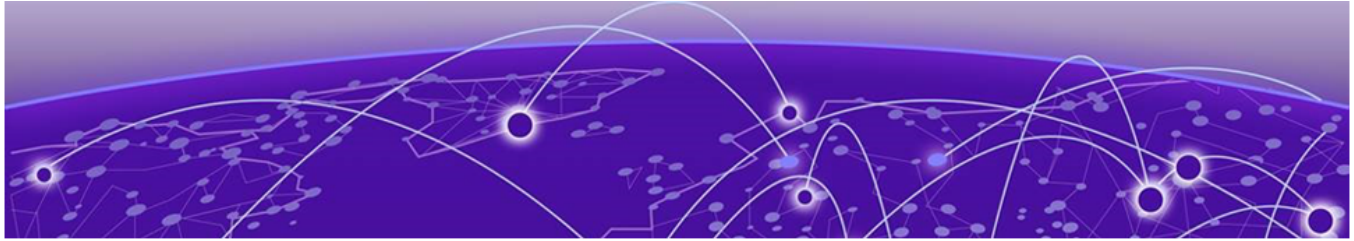
| Feature | Product | Release introduced |
|--|-------------|--------------------|
| RFC 3164 BSD Syslog Protocol with Multiple Syslog Servers – 999 Local Messages (criticals stored across reboots) | 4120 | Switch Engine 32.7 |
| | 4220 | Switch Engine 32.7 |
| | 5320 Series | Switch Engine 31.6 |
| | 5420 Series | EXOS 31.3 |
| | 5520 Series | EXOS 31.1 |
| | 5720 Series | Switch Engine 32.1 |
| | 7520 Series | Switch Engine 32.4 |
| | 7720 Series | Switch Engine 32.4 |

Table 78: Syslog (continued)

| Feature | Product | Release introduced |
|---------|-------------|--------------------|
| Syslog | 4120 | Switch Engine 32.7 |
| | 4220 | Switch Engine 32.7 |
| | 5320 Series | Switch Engine 31.6 |
| | 5420 Series | EXOS 31.3 |
| | 5520 Series | EXOS 31.1 |
| | 5720 Series | Switch Engine 32.1 |
| | 7520 Series | Switch Engine 32.4 |
| | 7720 Series | Switch Engine 32.4 |

Table 79: Terminal Access Controller Access Control System (TACACS)

| Feature | Product | Release introduced |
|------------------|-------------|--------------------|
| RFC 1492 TACACS+ | 4120 | Switch Engine 32.7 |
| | 4220 | Switch Engine 32.7 |
| | 5320 Series | Switch Engine 31.6 |
| | 5420 Series | EXOS 31.3 |
| | 5520 Series | EXOS 31.1 |
| | 5720 Series | Switch Engine 32.1 |
| | 7520 Series | Switch Engine 32.4 |
| | 7720 Series | Switch Engine 32.4 |



Features V to X

Table 80: Virtual LAN Services (VLAN) Services: VLANs, VMANs

| Feature | Product | Release introduced |
|--|-------------|--------------------|
| IEEE 802.1ad Provider Bridge Network, virtual MANs (vMANs) | 4120 | Not supported |
| | 4220 | Not supported |
| | 5320 Series | Switch Engine 31.6 |
| | 5420 Series | EXOS 31.3 |
| | 5520 Series | EXOS 31.1 |
| | 5720 Series | Switch Engine 32.1 |
| | 7520 Series | Switch Engine 32.4 |
| | 7720 Series | Switch Engine 32.4 |
| IEEE 802.1AK MVRP and MRP | 4120 | Not supported |
| | 4220 | Not supported |
| | 5320 Series | Switch Engine 31.6 |
| | 5420 Series | EXOS 31.3 |
| | 5520 Series | EXOS 31.1 |
| | 5720 Series | Switch Engine 32.1 |
| | 7520 Series | Switch Engine 32.4 |
| | 7720 Series | Switch Engine 32.4 |
| IEEE 802.1Q VLAN Tagging | 4120 | Switch Engine 32.7 |
| | 4220 | Switch Engine 32.7 |
| | 5320 Series | Switch Engine 31.6 |
| | 5420 Series | EXOS 31.3 |
| | 5520 Series | EXOS 31.1 |
| | 5720 Series | Switch Engine 32.1 |
| | 7520 Series | Switch Engine 32.4 |
| | 7720 Series | Switch Engine 32.4 |

Table 80: Virtual LAN Services (VLAN) Services: VLANs, VMANs (continued)

| Feature | Product | Release introduced |
|---|-------------|--------------------|
| IEEE 802.1v: VLAN classification by Protocol and Port | 4120 | Switch Engine 32.7 |
| | 4220 | Switch Engine 32.7 |
| | 5320 Series | Switch Engine 31.6 |
| | 5420 Series | EXOS 31.3 |
| | 5520 Series | EXOS 31.1 |
| | 5720 Series | Switch Engine 32.1 |
| | 7520 Series | Switch Engine 32.4 |
| | 7720 Series | Switch Engine 32.4 |
| MAC-based VLANs | 4120 | Switch Engine 32.7 |
| | 4220 | Switch Engine 32.7 |
| | 5320 Series | Switch Engine 31.6 |
| | 5420 Series | EXOS 31.3 |
| | 5520 Series | EXOS 31.1 |
| | 5720 Series | Switch Engine 32.1 |
| | 7520 Series | Switch Engine 32.4 |
| | 7720 Series | Switch Engine 32.4 |
| Multiple STP domains per VLAN | 4120 | Switch Engine 32.7 |
| | 4220 | Switch Engine 32.7 |
| | 5320 Series | Switch Engine 31.6 |
| | 5420 Series | EXOS 31.3 |
| | 5520 Series | EXOS 31.1 |
| | 5720 Series | Switch Engine 32.1 |
| | 7520 Series | Switch Engine 32.4 |
| | 7720 Series | Switch Engine 32.4 |
| Multicast Support for PVLAN | 4120 | Switch Engine 32.7 |
| | 4220 | Switch Engine 32.7 |
| | 5320 Series | Switch Engine 31.6 |
| | 5420 Series | EXOS 31.3 |
| | 5520 Series | EXOS 31.1 |
| | 5720 Series | Switch Engine 32.1 |
| | 7520 Series | Switch Engine 32.4 |
| | 7720 Series | Switch Engine 32.4 |

Table 80: Virtual LAN Services (VLAN) Services: VLANs, VMANs (continued)

| Feature | Product | Release introduced |
|--|-------------|--------------------|
| Multicast Support for VLAN Aggregation | 4120 | Switch Engine 32.7 |
| | 4220 | Switch Engine 32.7 |
| | 5320 Series | Switch Engine 31.6 |
| | 5420 Series | EXOS 31.3 |
| | 5520 Series | EXOS 31.1 |
| | 5720 Series | Switch Engine 32.1 |
| | 7520 Series | Switch Engine 32.4 |
| | 7720 Series | Switch Engine 32.4 |
| Port-based VLANs | 4120 | Switch Engine 32.7 |
| | 4220 | Switch Engine 32.7 |
| | 5320 Series | Switch Engine 31.6 |
| | 5420 Series | EXOS 31.3 |
| | 5520 Series | EXOS 31.1 |
| | 5720 Series | Switch Engine 32.1 |
| | 7520 Series | Switch Engine 32.4 |
| | 7720 Series | Switch Engine 32.4 |
| Port-Specific VLAN tag | 4120 | Not supported |
| | 4220 | Not supported |
| | 5320 Series | Not supported |
| | 5420 Series | Not supported |
| | 5520 Series | EXOS 31.1 |
| | 5720 Series | Switch Engine 32.1 |
| | 7520 Series | Switch Engine 32.4 |
| | 7720 Series | Switch Engine 32.4 |
| Protocol-based VLANs | 4120 | Not supported |
| | 4220 | Not supported |
| | 5320 Series | Switch Engine 31.6 |
| | 5420 Series | EXOS 31.3 |
| | 5520 Series | EXOS 31.1 |
| | 5720 Series | Switch Engine 32.1 |
| | 7520 Series | Switch Engine 32.4 |
| | 7720 Series | Switch Engine 32.4 |

Table 80: Virtual LAN Services (VLAN) Services: VLANs, VMANs (continued)

| Feature | Product | Release introduced |
|---|-------------|--------------------|
| vMAN Ethertype Translation/Secondary vMAN Ethertype | 4120 | Not supported |
| | 4220 | Not supported |
| | 5320 Series | Switch Engine 31.6 |
| | 5420 Series | EXOS 31.3 |
| | 5520 Series | EXOS 31.1 |
| | 5720 Series | Switch Engine 32.1 |
| | 7520 Series | Switch Engine 32.4 |
| | 7720 Series | Switch Engine 32.4 |
| vMAN Ethertype Translation/Secondary vMAN Ethertype | 4120 | Not supported |
| | 4220 | Not supported |
| | 5320 Series | Switch Engine 31.6 |
| | 5420 Series | EXOS 31.3 |
| | 5520 Series | EXOS 31.1 |
| | 5720 Series | Switch Engine 32.1 |
| | 7520 Series | Switch Engine 32.4 |
| | 7720 Series | Switch Engine 32.4 |
| VLAN Aggregation | 4120 | Switch Engine 32.7 |
| | 4220 | Switch Engine 32.7 |
| | 5320 Series | Switch Engine 31.6 |
| | 5420 Series | EXOS 31.3 |
| | 5520 Series | EXOS 31.1 |
| | 5720 Series | Switch Engine 32.1 |
| | 7520 Series | Switch Engine 32.4 |
| | 7720 Series | Switch Engine 32.4 |

Table 80: Virtual LAN Services (VLAN) Services: VLANs, VMANs (continued)

| Feature | Product | Release introduced |
|---------------|-------------|--------------------|
| VLAN Bridging | 4120 | Switch Engine 32.7 |
| | 4220 | Switch Engine 32.7 |
| | 5320 Series | Switch Engine 31.6 |
| | 5420 Series | EXOS 31.3 |
| | 5520 Series | EXOS 31.1 |
| | 5720 Series | Switch Engine 32.1 |
| | 7520 Series | Switch Engine 32.4 |
| | 7720 Series | Switch Engine 32.4 |

Table 81: Virtual Router Redundancy Protocol (VRRP)

| Feature | Product | Release introduced |
|---------------|-------------|--------------------|
| IPv6 VRRP | 4120 | Not supported |
| | 4220 | Not supported |
| | 5320 Series | Switch Engine 31.6 |
| | 5420 Series | EXOS 31.3 |
| | 5520 Series | EXOS 31.1 |
| | 5720 Series | Switch Engine 32.1 |
| | 7520 Series | Switch Engine 32.4 |
| | 7720 Series | Switch Engine 32.4 |
| RFC 2338 VRRP | 4120 | Not supported |
| | 4220 | Not supported |
| | 5320 Series | Switch Engine 31.6 |
| | 5420 Series | EXOS 31.3 |
| | 5520 Series | EXOS 31.1 |
| | 5720 Series | Switch Engine 32.1 |
| | 7520 Series | Switch Engine 32.4 |
| | 7720 Series | Switch Engine 32.4 |

Table 81: Virtual Router Redundancy Protocol (VRRP) (continued)

| Feature | Product | Release introduced |
|-------------------|-------------|--------------------|
| RFC 2787 VRRP MIB | 4120 | Not supported |
| | 4220 | Not supported |
| | 5320 Series | Switch Engine 31.6 |
| | 5420 Series | EXOS 31.3 |
| | 5520 Series | EXOS 31.1 |
| | 5720 Series | Switch Engine 32.1 |
| | 7520 Series | Switch Engine 32.4 |
| | 7720 Series | Switch Engine 32.4 |
| RFC 3768 VRRPv2 | 4120 | Not supported |
| | 4220 | Not supported |
| | 5320 Series | Switch Engine 31.6 |
| | 5420 Series | EXOS 31.3 |
| | 5520 Series | EXOS 31.1 |
| | 5720 Series | Switch Engine 32.1 |
| | 7520 Series | Switch Engine 32.4 |
| | 7720 Series | Switch Engine 32.4 |
| VRRP | 4120 | Not supported |
| | 4220 | Not supported |
| | 5320 Series | Switch Engine 31.6 |
| | 5420 Series | EXOS 31.3 |
| | 5520 Series | EXOS 31.1 |
| | 5720 Series | Switch Engine 32.1 |
| | 7520 Series | Switch Engine 32.4 |
| | 7720 Series | Switch Engine 32.4 |
| VRRPv3 for IPv4 | 4120 | Not supported |
| | 4220 | Not supported |
| | 5320 Series | Switch Engine 31.6 |
| | 5420 Series | EXOS 31.3 |
| | 5520 Series | EXOS 31.1 |
| | 5720 Series | Switch Engine 32.1 |
| | 7520 Series | Switch Engine 32.4 |
| | 7720 Series | Switch Engine 32.4 |

Table 81: Virtual Router Redundancy Protocol (VRRP) (continued)

| Feature | Product | Release introduced |
|-----------------|-------------|--------------------|
| VRRPv3 for IPv6 | 4120 | Not supported |
| | 4220 | Not supported |
| | 5320 Series | Switch Engine 31.6 |
| | 5420 Series | EXOS 31.3 |
| | 5520 Series | EXOS 31.1 |
| | 5720 Series | Switch Engine 32.1 |
| | 7520 Series | Switch Engine 32.4 |
| | 7720 Series | Switch Engine 32.4 |

Table 82: Virtual Routing and Forwarding (VRF)

| Feature | Product | Release introduced |
|--|-----------------------------|---|
| Virtualization with IPv4 VRF <ul style="list-style-type: none"> • ARP • DHCP Relay • Inter-VRF Routing (static, dynamic, and policy) • Local routing • OSPFv2 • RIPv1 and v2 • Route policies • Static routing • VRRP | 4120 | Not supported |
| | 4220 | Not supported |
| | 5320 Series | Switch Engine 31.6 Only 5320-48P-8XE and 5320-48T-8XE support more than one VRF with IP configuration. |
| | 5420 Series | EXOS 31.3 |
| | 5520 Series | EXOS 31.1 |
| | 5720 Series | Switch Engine 32.1 |
| | 7520 Series | Switch Engine 32.4 |
| | 7720 Series | Switch Engine 32.4 |
| | IBGP over user-created VRFs | 4120 |
| 4220 | | Not supported |
| 5320 Series | | Switch Engine 31.6 Only 5320-48P-8XE and 5320-48T-8XE support more than one VRF with IP configuration. |
| 5420 Series | | EXOS 31.3 |
| 5520 Series | | EXOS 31.1 |
| 5720 Series | | Switch Engine 32.1 |
| 7520 Series | | Switch Engine 32.4 |
| 7720 Series | | Switch Engine 32.4 |

Table 82: Virtual Routing and Forwarding (VRF) (continued)

| Feature | Product | Release introduced |
|---|-------------|---|
| IPv6 Virtualization for the following features and functions: <ul style="list-style-type: none"> • IPv6 Interfaces and IPv6 Static Routes in VRFs and Layer 3 VSNs • ECMP and Alternative route • Route redistribution for static and direct routes • VRRPv3 for IPv6 • DHCP Relay • IPv6 Reverse Path Forwarding • ICMP Ping and Traceroute | 4120 | Not supported |
| | 4220 | Not supported |
| | 5320 Series | Switch Engine 31.6 Only 5320-48P-8XE and 5320-48T-8XE support more than one VRF with IP configuration. |
| | 5420 Series | EXOS 31.3 |
| | 5520 Series | EXOS 31.1 |
| | 5720 Series | Switch Engine 32.1 |
| | 7520 Series | Switch Engine 32.4 |
| | 7720 Series | Switch Engine 32.4 |
| IPv6 Virtualization for the following features and functions: <ul style="list-style-type: none"> • Open Shortest Path First for IPv6 (OSPFv3) • IPv6 Border Gateway Protocol (IPv6 BGP) • IPv6 route redistribution enhancements | 4120 | Not supported |
| | 4220 | Not supported |
| | 5320 Series | Switch Engine 31.6 Only 5320-48P-8XE and 5320-48T-8XE support more than one VRF with IP configuration. |
| | 5420 Series | EXOS 31.3 |
| | 5520 Series | EXOS 31.1 |
| | 5720 Series | Switch Engine 32.1 |
| | 7520 Series | Switch Engine 32.4 |
| | 7720 Series | Switch Engine 32.4 |

Table 83: Virtual eXtensible Local Area Network (VXLAN)

| Feature | Product | Release introduced |
|---|-------------|--------------------|
| Address Resolution Protocol (ARP) Learning over Tunnels | 4120 | Not supported |
| | 4220 | Not supported |
| | 5320 Series | Switch Engine 31.6 |
| | 5420 Series | EXOS 31.3 |
| | 5520 Series | EXOS 31.1 |
| | 5720 Series | Switch Engine 32.1 |
| | 7520 Series | Switch Engine 32.4 |
| | 7720 Series | Switch Engine 32.4 |

Table 83: Virtual eXtensible Local Area Network (VXLAN) (continued)

| Feature | Product | Release introduced |
|---|-------------|--------------------|
| Address Resolution Protocol (ARP) Suppression | 4120 | Not supported |
| | 4220 | Not supported |
| | 5320 Series | Switch Engine 31.6 |
| | 5420 Series | EXOS 31.3 |
| | 5520 Series | EXOS 31.1 |
| | 5720 Series | Switch Engine 32.1 |
| | 7520 Series | Switch Engine 32.4 |
| | 7720 Series | Switch Engine 32.4 |
| Assisted Replication | 4120 | Not supported |
| | 4220 | Not supported |
| | 5320 Series | Switch Engine 31.6 |
| | 5420 Series | EXOS 31.3 |
| | 5520 Series | EXOS 31.1 |
| | 5720 Series | Switch Engine 32.1 |
| | 7520 Series | Switch Engine 32.4 |
| | 7720 Series | Switch Engine 32.4 |
| Dynamic Virtual Networks | 4120 | Not supported |
| | 4220 | Not supported |
| | 5320 Series | Switch Engine 31.6 |
| | 5420 Series | EXOS 31.3 |
| | 5520 Series | EXOS 31.1 |
| | 5720 Series | Switch Engine 32.1 |
| | 7520 Series | Switch Engine 32.4 |
| | 7720 Series | Switch Engine 32.4 |
| Edge Automation | 4120 | Not supported |
| | 4220 | Not supported |
| | 5320 Series | Switch Engine 31.6 |
| | 5420 Series | EXOS 31.3 |
| | 5520 Series | EXOS 31.1 |
| | 5720 Series | Switch Engine 32.1 |
| | 7520 Series | Switch Engine 32.4 |
| | 7720 Series | Switch Engine 32.4 |

Table 83: Virtual eXtensible Local Area Network (VXLAN) (continued)

| Feature | Product | Release introduced |
|--|-------------|----------------------|
| Load Balancing | 4120 | Not supported |
| | 4220 | Not supported |
| | 5320 Series | Switch Engine 31.6 |
| | 5420 Series | EXOS 31.3 |
| | 5520 Series | EXOS 31.1 |
| | 5720 Series | Switch Engine 32.1 |
| | 7520 Series | Switch Engine 32.4 |
| | 7720 Series | Switch Engine 32.4 |
| Multiprotocol Border Gateway Protocol (MBGP) support for VXLAN | 4120 | Not supported |
| | 4220 | Not supported |
| | 5320 Series | Switch Engine 31.6 |
| | 5420 Series | EXOS 31.3 |
| | 5520 Series | EXOS 31.1 |
| | 5720 Series | Switch Engine 32.1 |
| | 7520 Series | Switch Engine 32.4 |
| | 7720 Series | Switch Engine 32.4 |
| Policy and VXLAN | 4120 | Not supported |
| | 4220 | Not supported |
| | 5320 Series | Switch Engine 31.6 |
| | 5420 Series | EXOS 31.3 |
| | 5520 Series | EXOS 31.1 |
| | 5720 Series | Switch Engine 32.1 |
| | 7520 Series | Switch Engine 32.4 |
| | 7720 Series | Switch Engine 32.4 |
| Policy and VXLAN with static provisioning | 4120 | Not supported |
| | 4220 | Not supported |
| | 5320 Series | Switch Engine 31.6 |
| | 5420 Series | Switch Engine 32.6.1 |
| | 5520 Series | Switch Engine 32.6.1 |
| | 5720 Series | Switch Engine 32.6.1 |
| | 7520 Series | Switch Engine 32.6.1 |
| | 7720 Series | Switch Engine 32.6.1 |

Table 83: Virtual eXtensible Local Area Network (VXLAN) (continued)

| Feature | Product | Release introduced |
|---------------------------|-------------|--------------------|
| OSPFv2 VXLAN Extensions | 4120 | Not supported |
| | 4220 | Not supported |
| | 5320 Series | Switch Engine 31.6 |
| | 5420 Series | EXOS 31.3 |
| | 5520 Series | EXOS 31.1 |
| | 5720 Series | Switch Engine 32.1 |
| | 7520 Series | Switch Engine 32.4 |
| | 7720 Series | Switch Engine 32.4 |
| Overlay Routing for VXLAN | 4120 | Not supported |
| | 4220 | Not supported |
| | 5320 Series | Switch Engine 31.6 |
| | 5420 Series | EXOS 31.3 |
| | 5520 Series | EXOS 31.1 |
| | 5720 Series | Switch Engine 32.1 |
| | 7520 Series | Switch Engine 32.4 |
| | 7720 Series | Switch Engine 32.4 |
| Quality of Service | 4120 | Not supported |
| | 4220 | Not supported |
| | 5320 Series | Switch Engine 31.6 |
| | 5420 Series | EXOS 31.3 |
| | 5520 Series | EXOS 31.1 |
| | 5720 Series | Switch Engine 32.1 |
| | 7520 Series | Switch Engine 32.4 |
| | 7720 Series | Switch Engine 32.4 |
| Redundant Access | 4120 | Not supported |
| | 4220 | Not supported |
| | 5320 Series | Switch Engine 31.6 |
| | 5420 Series | EXOS 31.3 |
| | 5520 Series | EXOS 31.1 |
| | 5720 Series | Switch Engine 32.1 |
| | 7520 Series | Switch Engine 32.4 |
| | 7720 Series | Switch Engine 32.4 |

Table 83: Virtual eXtensible Local Area Network (VXLAN) (continued)

| Feature | Product | Release introduced |
|--|-------------|--------------------|
| Underlay multicast (multicast tunnel) | 4120 | Not supported |
| | 4220 | Not supported |
| | 5320 Series | Switch Engine 31.6 |
| | 5420 Series | EXOS 31.3 |
| | 5520 Series | EXOS 31.1 |
| | 5720 Series | Switch Engine 32.1 |
| | 7520 Series | Switch Engine 32.4 |
| | 7720 Series | Switch Engine 32.4 |
| Unicast and Multicast | 4120 | Not supported |
| | 4220 | Not supported |
| | 5320 Series | Switch Engine 31.6 |
| | 5420 Series | EXOS 31.3 |
| | 5520 Series | EXOS 31.1 |
| | 5720 Series | Switch Engine 32.1 |
| | 7520 Series | Switch Engine 32.4 |
| | 7720 Series | Switch Engine 32.4 |
| Virtual Network Flood Modes | 4120 | Not supported |
| | 4220 | Not supported |
| | 5320 Series | Switch Engine 31.6 |
| | 5420 Series | EXOS 31.3 |
| | 5520 Series | EXOS 31.1 |
| | 5720 Series | Switch Engine 32.1 |
| | 7520 Series | Switch Engine 32.4 |
| | 7720 Series | Switch Engine 32.4 |
| VXLAN + VMAN Customer Edge Ports | 4120 | Not supported |
| | 4220 | Not supported |
| | 5320 Series | Switch Engine 31.6 |
| | 5420 Series | EXOS 31.3 |
| | 5520 Series | EXOS 31.1 |
| | 5720 Series | Switch Engine 32.1 |
| | 7520 Series | Switch Engine 32.4 |
| | 7720 Series | Switch Engine 32.4 |

Table 83: Virtual eXtensible Local Area Network (VXLAN) (continued)

| Feature | Product | Release introduced |
|----------------|-------------|--------------------|
| VXLAN Learning | 4120 | Not supported |
| | 4220 | Not supported |
| | 5320 Series | Switch Engine 31.6 |
| | 5420 Series | EXOS 31.3 |
| | 5520 Series | EXOS 31.1 |
| | 5720 Series | Switch Engine 32.1 |
| | 7520 Series | Switch Engine 32.4 |
| | 7720 Series | Switch Engine 32.4 |

Table 84: Virtual Private LAN Services (VPLS)

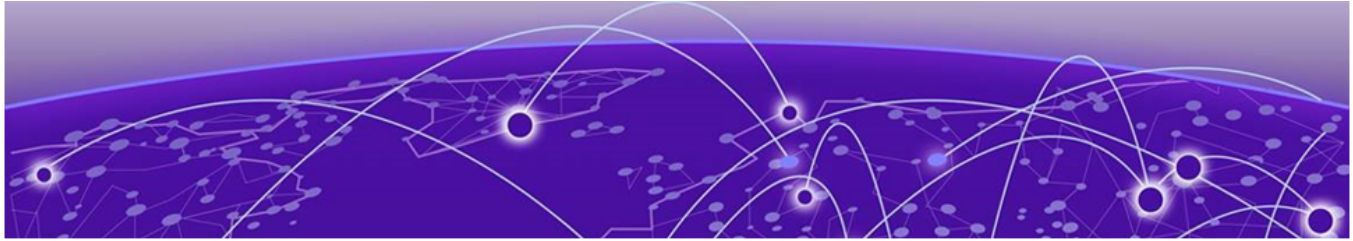
| Feature | Product | Release introduced |
|---|-------------|--------------------|
| draft-ietf-l2vpn-vpls-mib-02.txt VPLS MIB | 4120 | Not supported |
| | 4220 | Not supported |
| | 5320 Series | Not supported |
| | 5420 Series | Not supported |
| | 5520 Series | EXOS 31.1 |
| | 5720 Series | Not supported |
| | 7520 Series | Switch Engine 32.5 |
| | 7720 Series | Switch Engine 32.5 |
| draft-ietf-l2vpn-vpls-mib-02.txt VPLS MIB | 4120 | Not supported |
| | 4220 | Not supported |
| | 5320 Series | Not supported |
| | 5420 Series | Not supported |
| | 5520 Series | EXOS 31.1 |
| | 5720 Series | Not supported |
| | 7520 Series | Switch Engine 32.5 |
| | 7720 Series | Switch Engine 32.5 |

Table 84: Virtual Private LAN Services (VPLS) (continued)

| Feature | Product | Release introduced |
|---|-------------|--------------------|
| RFC 4762 VPLS using Label Distribution Protocol (LDP) Signaling | 4120 | Not supported |
| | 4220 | Not supported |
| | 5320 Series | Not supported |
| | 5420 Series | Not supported |
| | 5520 Series | EXOS 31.1 |
| | 5720 Series | Not supported |
| | 7520 Series | Switch Engine 32.5 |
| | 7720 Series | Switch Engine 32.5 |

Table 85: ExtremeXOS Network Virtualization (XNV)

| Feature | Product | Release introduced |
|---------|-------------|--------------------|
| XNV | 4120 | Not supported |
| | 4220 | Not supported |
| | 5320 Series | Switch Engine 31.6 |
| | 5420 Series | EXOS 31.3 |
| | 5520 Series | EXOS 31.1 |
| | 5720 Series | Switch Engine 32.1 |
| | 7520 Series | Switch Engine 32.4 |
| | 7720 Series | Switch Engine 32.4 |



Features Y and Z

Table 86: Zero Touch Deployment

| Feature | Product | Release introduced |
|-----------------------|-------------|--------------------|
| Zero Touch Deployment | 4120 | Switch Engine 32.7 |
| | 4220 | Switch Engine 32.7 |
| | 5320 Series | Switch Engine 31.6 |
| | 5420 Series | EXOS 31.3 |
| | 5520 Series | EXOS 31.1 |
| | 5720 Series | Switch Engine 32.1 |
| | 7520 Series | Switch Engine 32.4 |
| | 7720 Series | Switch Engine 32.4 |

Table 87: Zero Touch Fabric Configuration

| Feature | Product | Release introduced |
|---------------------------------|-------------|--------------------|
| Zero Touch Fabric Configuration | 4120 | Switch Engine 32.7 |
| | 4220 | Switch Engine 32.7 |
| | 5320 Series | Switch Engine 31.6 |
| | 5420 Series | EXOS 31.3 |
| | 5520 Series | EXOS 31.1 |
| | 5720 Series | Switch Engine 32.1 |
| | 7520 Series | Switch Engine 32.4 |
| | 7720 Series | Switch Engine 32.4 |