



Switch Engine™ Feature Support Matrix

For Switch Engine Version 32.6.x

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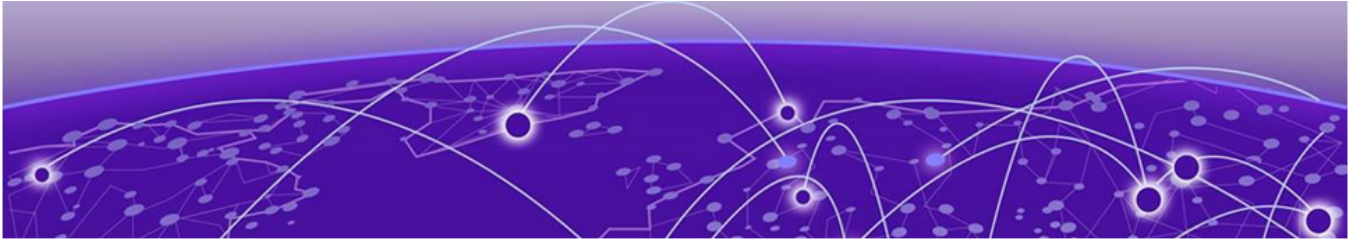


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About this Document

- [Purpose of this Document](#) on page 4
- [Documentation and Training](#) on page 4
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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:

- 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.

Documentation and Training

Find Extreme Networks product information at the following locations:

- [Current Product Documentation](#)
- [Release Notes](#)
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- 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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2. In the list of categories, expand the **Product Announcements** list.
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- Content errors, or confusing or conflicting information.
- Improvements that would help you find relevant information.
- Broken links or usability issues.

To send feedback, email us at documentation@extremenetworks.com.

Provide as much detail as possible including the publication title, topic heading, and page number (if applicable), along with your comments and suggestions for improvement.



Features A to C

Table 1: 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 1: 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 2: 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	Not supported
	7720 Series	Not supported

Table 3: 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 4: 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 4: 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 5: 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 5: 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 5: 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 5: 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 6: Bootstrap Protocol (BOOTP)

Feature	Product	Release introduced
	5320 Series	Switch Engine 31.6

Table 6: 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
	7720 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 7: 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 7: 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 8: 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 9: CLEAR-Flow

Feature	Product	Release introduced
CLEAR-Flow, threshold-based alerts and actions	5320 Series	Switch Engine 31.6
	5420 Series	EXOS 31.3
	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 10: Data Center

Feature	Product	Release introduced
Data Center Bridging eXchange (DCBX) (IEEE P802.1Qaz/D2.3)	5320 Series	Switch Engine 31.6
	5420 Series	EXOS 31.3
	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: Direct Attach

Feature	Product	Release introduced
Direct Attach (IEEE 802 VEPA)	5320 Series	Switch Engine 31.6
	5420 Series	EXOS 31.3
	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: Ethernet Automatic Protection Switching (EAPS)

Feature	Product	Release introduced
EAPS MIB supports get functions	5320 Series	Switch Engine 31.6
	5420 Series	EXOS 31.3
	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: Ethernet Automatic Protection Switching (EAPS) (continued)

Feature	Product	Release introduced
EAPS multiple rings	5320 Series	Switch Engine 31.6
	5420 Series	EXOS 31.3
	5520 Series	EXOS 31.1
	5720 Series	Switch Engine 32.1
	7520 Series	Switch Engine 32.4
	7720 Series	Switch Engine 32.4
EAPSV2 Shared ports	5320 Series	Switch Engine 31.6
	5420 Series	EXOS 31.3
	5520 Series	EXOS 31.1
	5720 Series	Switch Engine 32.1
	7520 Series	Switch Engine 32.4
	7720 Series	Switch Engine 32.4
RFC 3619 Ethernet Automatic Protection Switching (EAPS) Version 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

Table 13: Extreme Discover Protocol (EDP)

Feature	Product	Release introduced
EDP	5320 Series	Switch Engine 31.6
	5420 Series	EXOS 31.3
	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: Extreme Link State Monitoring (ELSM)

Feature	Product	Release introduced
	5320 Series	Switch Engine 31.6

Table 14: Extreme Link State Monitoring (ELSM) (continued)

Feature	Product	Release introduced
ELSM	5420 Series	EXOS 31.3
	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: Extreme Loop Recovery Protocol (ELRP)

Feature	Product	Release introduced
ELRP	5320 Series	Switch Engine 31.6
	5420 Series	EXOS 31.3
	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 Standby Router Protocol (ESRP)

Feature	Product	Release introduced
ESRP	5320 Series	Switch Engine 31.6
	5420 Series	EXOS 31.3
	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: Equal Cost Multi Paths (ECMP)

Feature	Product	Release introduced
	5320 Series	Switch Engine 31.6

Table 17: Equal Cost Multi Paths (ECMP) (continued)

Feature	Product	Release introduced
Static ECMP	5420 Series	EXOS 31.3
	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: Extended Edge Switching (VPEX)

Feature	Product	Release introduced
Extended Edge Switching Control Bridge	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 19: Fabric Attach

Feature	Product	Release introduced
Fabric Attach (interoperable with Extreme Fabric Connect)	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 20: Flow Monitor

Feature	Product	Release introduced
Flow Monitor	5320 Series	Not applicable
	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 21: Extreme Integrated Application Hosting (IAH)

Feature	Product	Release introduced
Extreme Integrated Application Hosting (IAH)	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 22: Internet Control Message Protocol (ICMP)

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

Table 22: Internet Control Message Protocol (ICMP) (continued)

Feature	Product	Release introduced
RFC 1256 IPv4 ICMP Router Discovery (IRDP)	5320 Series	Switch Engine 31.6
	5420 Series	EXOS 31.3
	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: Internet Group Management Protocol (IGMP)

Feature	Product	Release introduced
IGMP v1/v2 Snooping with Configurable Router Registration Forwarding	5320 Series	Switch Engine 31.6
	5420 Series	EXOS 31.3
	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	5320 Series	Switch Engine 31.6
	5420 Series	EXOS 31.3
	5520 Series	EXOS 31.1
	5720 Series	Switch Engine 32.1
	7520 Series	Switch Engine 32.4
	7720 Series	Switch Engine 32.4
IGMP Filters	5320 Series	Switch Engine 31.6
	5420 Series	EXOS 31.3
	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	5320 Series	Switch Engine 31.6
	5420 Series	EXOS 31.3
	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: Internet Group Management Protocol (IGMP) (continued)

Feature	Product	Release introduced
RFC 2236 IGMP 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
RFC 3376 IGMP v3	5320 Series	Switch Engine 31.6
	5420 Series	EXOS 31.3
	5520 Series	EXOS 31.1
	5720 Series	Switch Engine 32.1
	7520 Series	Switch Engine 32.4
	7720 Series	Switch Engine 32.4
RFC 2933 IGMP 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 1256 IPv4 ICMP Router Discovery (IRDP)	5320 Series	Switch Engine 31.6
	5420 Series	EXOS 31.3
	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	5320 Series	Switch Engine 31.6
	5420 Series	EXOS 31.3
	5520 Series	EXOS 31.1
	5720 Series	Switch Engine 32.1
	7520 Series	Switch Engine 32.4
	7720 Series	Switch Engine 32.4

Table 24: IP Security

Feature	Product	Release introduced
	5320 Series	Switch Engine 31.6

Table 24: IP Security (continued)

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

Table 25: Internet Protocol, Version 4 (IPv4) Host Services

Feature	Product	Release introduced
	5320 Series	Not supported

Table 25: Internet Protocol, Version 4 (IPv4) Host Services (continued)

Feature	Product	Release introduced
IPv4 Network Address Translation	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	5320 Series	Switch Engine 31.6
	5420 Series	EXOS 31.3
	5520 Series	EXOS 31.1
	5720 Series	Switch Engine 32.1
	7520 Series	Switch Engine 32.4
Multicast VLAN Registration (MVR)	5320 Series	Switch Engine 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 768 User Datagram Protocol (UDP)	5320 Series	Switch Engine 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 791 Internet Protocol (IP)	5320 Series	Switch Engine 31.6
	5420 Series	EXOS 31.3
	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: Internet Protocol, Version 4 (IPv4) Host Services (continued)

Feature	Product	Release introduced
RFC 793 Transmission Control Protocol (TCP)	5320 Series	Switch Engine 31.6
	5420 Series	EXOS 31.3
	5520 Series	EXOS 31.1
	5720 Series	Switch Engine 32.1
	7520 Series	Switch Engine 32.4
	7720 Series	Switch Engine 32.4
RFC 826 Address Resolution Protocol (ARP)	5320 Series	Switch Engine 31.6
	5420 Series	EXOS 31.3
	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	5320 Series	Switch Engine 31.6
	5420 Series	EXOS 31.3
	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	5320 Series	Switch Engine 31.6
	5420 Series	EXOS 31.3
	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	5320 Series	Switch Engine 31.6
	5420 Series	EXOS 31.3
	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: Internet Protocol, Version 4 (IPv4) Host Services (continued)

Feature	Product	Release introduced
RFC 1812 Requirements for IP Version 4 Routers	5320 Series	Switch Engine 31.6
	5420 Series	EXOS 31.3
	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	5320 Series	Switch Engine 31.6
	5420 Series	EXOS 31.3
	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	5320 Series	Switch Engine 31.6
	5420 Series	EXOS 31.3
	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	5320 Series	Switch Engine 31.6
	5420 Series	EXOS 31.3
	5520 Series	EXOS 31.1
	5720 Series	Switch Engine 32.1
	7520 Series	Switch Engine 32.4
	7720 Series	Switch Engine 32.4
RFC 3587, Global Unicast Address Format	5320 Series	Switch Engine 31.6
	5420 Series	EXOS 31.3
	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: Internet Protocol, Version 4 (IPv4) Host Services (continued)

Feature	Product	Release introduced
RFC 4632 An architecture for IP Address allocation with CIDR	5320 Series	Switch Engine 31.6
	5420 Series	EXOS 31.3
	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	5320 Series	Switch Engine 31.6
	5420 Series	EXOS 31.3
	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	5320 Series	Switch Engine 31.6
	5420 Series	EXOS 31.3
	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 Protocol, Version 6 (IPv6) Host Services

Feature	Product	Release introduced
Ping over IPv6 transport	5320 Series	Switch Engine 31.6
	5420 Series	EXOS 31.3
	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	5320 Series	Switch Engine 31.6
	5420 Series	EXOS 31.3
	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 Protocol, Version 6 (IPv6) Host Services (continued)

Feature	Product	Release introduced
RFC 2460, Internet Protocol, Version 6 (IPv6) Specification	5320 Series	Switch Engine 31.6
	5420 Series	EXOS 31.3
	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	5320 Series	Switch Engine 31.6
	5420 Series	EXOS 31.3
	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	5320 Series	Switch Engine 31.6
	5420 Series	EXOS 31.3
	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	5320 Series	Switch Engine 31.6
	5420 Series	EXOS 31.3
	5520 Series	EXOS 31.1
	5720 Series	Switch Engine 32.1
	7520 Series	Switch Engine 32.4
	7720 Series	Switch Engine 32.4
RFC 2465, IPv6 MIB, General Group and Textual Conventions	5320 Series	Switch Engine 31.6
	5420 Series	EXOS 31.3
	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 Protocol, Version 6 (IPv6) Host Services (continued)

Feature	Product	Release introduced
RFC 2466, MIB for ICMPv6	5320 Series	Switch Engine 31.6
	5420 Series	EXOS 31.3
	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	5320 Series	Switch Engine 31.6
	5420 Series	EXOS 31.3
	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	5320 Series	Switch Engine 31.6
	5420 Series	EXOS 31.3
	5520 Series	EXOS 31.1
	5720 Series	Switch Engine 32.1
	7520 Series	Switch Engine 32.4
	7720 Series	Switch Engine 32.4
RFC 4193, Unique Local IPv6 Unicast Addresses	5320 Series	Switch Engine 31.6
	5420 Series	EXOS 31.3
	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)	5320 Series	Switch Engine 31.6
	5420 Series	EXOS 31.3
	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 Protocol, Version 6 (IPv6) Host Services (continued)

Feature	Product	Release introduced
RFC 4861, Neighbor Discovery for IPv6	5320 Series	Switch Engine 31.6
	5420 Series	EXOS 31.3
	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	5320 Series	Switch Engine 31.6
	5420 Series	EXOS 31.3
	5520 Series	EXOS 31.1
	5720 Series	Switch Engine 32.1
	7520 Series	Switch Engine 32.4
	7720 Series	Switch Engine 32.4
RFC 5722, Handling of Overlapping IPv6	5320 Series	Switch Engine 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	5320 Series	Switch Engine 31.6
	5420 Series	EXOS 31.3
	5520 Series	EXOS 31.1
	5720 Series	Switch Engine 32.1
	7520 Series	Switch Engine 32.4
	7720 Series	Switch Engine 32.4
Telnet server over IPv6 transport	5320 Series	Switch Engine 31.6
	5420 Series	EXOS 31.3
	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 Protocol, Version 6 (IPv6) Host Services (continued)

Feature	Product	Release introduced
Traceroute over IPv6 transport	5320 Series	Switch Engine 31.6
	5420 Series	EXOS 31.3
	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: IPv6 Interworking and Migration

Feature	Product	Release introduced
RFC 2893, Configured Tunnels	5320 Series	Switch Engine 31.6
	5420 Series	EXOS 31.3
	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	5320 Series	Switch Engine 31.6
	5420 Series	EXOS 31.3
	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: IPv6 Router Services

Feature	Product	Release introduced
draft-ietf-vrrp-unified-mib-08.txt - Definitions of Managed Objects for VRRPv3	5320 Series	Switch Engine 31.6
	5420 Series	EXOS 31.3
	5520 Series	EXOS 31.1
	5720 Series	Switch Engine 32.1
	7520 Series	Switch Engine 32.4

Table 28: IPv6 Router Services (continued)

Feature	Product	Release introduced
RFC 1981, Path MTU Discovery for IPv6, August 1996 – Router Requirements	5320 Series	Switch Engine 31.6
	5420 Series	EXOS 31.3
	5520 Series	EXOS 31.1
	5720 Series	Switch Engine 32.1
	7520 Series	Switch Engine 32.4
	7720 Series	Switch Engine 32.4
RFC 2080, RIPng	5320 Series	Switch Engine 31.6
	5420 Series	EXOS 31.3
	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	5320 Series	Switch Engine 31.6
	5420 Series	EXOS 31.3
	5520 Series	EXOS 31.1
	5720 Series	Switch Engine 32.1
	7520 Series	Switch Engine 32.4
	7720 Series	Switch Engine 32.4
RFC 2740 OSPFv3, OSPF for IPv6	5320 Series	Switch Engine 31.6
	5420 Series	EXOS 31.3
	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	5320 Series	Switch Engine 31.6
	5420 Series	EXOS 31.3
	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: IPv6 Router Services (continued)

Feature	Product	Release introduced
RFC 4443, Internet Control Message Protocol (ICMPv6) for the Internet Protocol Version 6 (IPv6) Specification	5320 Series	Switch Engine 31.6
	5420 Series	EXOS 31.3
	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	5320 Series	Switch Engine 31.6
	5420 Series	EXOS 31.3
	5520 Series	EXOS 31.1
	5720 Series	Switch Engine 32.1
	7520 Series	Switch Engine 32.4
	7720 Series	Switch Engine 32.4
RFC 5798 Virtual Router Redundancy Protocol (VRRP) Version 3 for IPv4 and IPv6	5320 Series	Switch Engine 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	5320 Series	Switch Engine 31.6
	5420 Series	EXOS 31.3
	5520 Series	EXOS 31.1
	5720 Series	Switch Engine 32.1
	7520 Series	Switch Engine 32.4
	7720 Series	Switch Engine 32.4
RFC 6164, Using 127-Bit IPv6 Prefixes on Inter-Router Links	5320 Series	Switch Engine 31.6
	5420 Series	EXOS 31.3
	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: IPv6 Router Services (continued)

Feature	Product	Release introduced
RFC 7166 Authentication Trailer	5320 Series	Switch Engine 31.6
	5420 Series	EXOS 31.3
	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	5320 Series	Switch Engine 31.6
	5420 Series	EXOS 31.3
	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: Intermediate System to Intermediate System (IS-IS)

Feature	Product	Release introduced
Draft-ietf-isis-ipv6-06 Routing IPv6 with IS-IS	5320 Series	Switch Engine 31.6
	5420 Series	EXOS 31.3
	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-restart-02 Restart Signaling for IS-IS	5320 Series	Switch Engine 31.6
	5420 Series	EXOS 31.3
	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	5320 Series	Switch Engine 31.6
	5420 Series	EXOS 31.3
	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: Intermediate System to Intermediate System (IS-IS) (continued)

Feature	Product	Release introduced
IOS 10589 OSI IS-IS Intra-Domain Routing Protocol (RFC 1142)	5320 Series	Switch Engine 31.6
	5420 Series	EXOS 31.3
	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)	5320 Series	Switch Engine 31.6
	5420 Series	EXOS 31.3
	5520 Series	EXOS 31.1
	5720 Series	Switch Engine 32.1
	7520 Series	Switch Engine 32.4
	7720 Series	Switch Engine 32.4
RFC 2763 Dynamic Hostname Exchange Mechanism for IS-IS	5320 Series	Switch Engine 31.6
	5420 Series	EXOS 31.3
	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	5320 Series	Switch Engine 31.6
	5420 Series	EXOS 31.3
	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	5320 Series	Switch Engine 31.6
	5420 Series	EXOS 31.3
	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: Intermediate System to Intermediate System (IS-IS) (continued)

Feature	Product	Release introduced
RFC 3373 Three-way Handshake for IS-IS Point-to-Point Adjacencies	5320 Series	Switch Engine 31.6
	5420 Series	EXOS 31.3
	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 30: Keychain Manager

Feature	Product	Release introduced
Keychain Manager	5320 Series	Switch Engine 31.6
	5420 Series	EXOS 31.3
	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: Layer 3 Virtual Private Networks (VPN)

Feature	Product	Release introduced
RFC 4364 BGP/MPLS IP Virtual Private Networks (VPNs)	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 31: Layer 3 Virtual Private Networks (VPN) (continued)

Feature	Product	Release introduced
RFC 4382 MPLS/BGP Layer 3 VPN MIB	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 32: Licensing

Feature	Product	Release introduced
Ability to extend the Factory Default Premier Trial License	5320 Series	Switch Engine 31.6
	5420 Series	EXOS 31.3
	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.	5320 Series	Switch Engine 31.6
	5420 Series	EXOS 31.3
	5520 Series	EXOS 31.1
	5720 Series	Switch Engine 32.1
	7520 Series	Switch Engine 32.4
	7720 Series	Switch Engine 32.4
Universal Hardware licenses	5320 Series	Switch Engine 31.6
	5420 Series	EXOS 31.3
	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: Link Aggregation Control Protocol (LACP)

Feature	Product	Release introduced
	5320 Series	Switch Engine 31.6

Table 33: Link Aggregation Control Protocol (LACP) (continued)

Feature	Product	Release introduced
IEEE 802.1AX-2008 Link Aggregation	5420 Series	EXOS 31.3
	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	5320 Series	Switch Engine 31.6
	5420 Series	EXOS 31.3
	5520 Series	EXOS 31.1
	5720 Series	Switch Engine 32.1
	7520 Series	Switch Engine 32.4
LACP	7720 Series	Switch Engine 32.4
	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

Table 34: Link Layer Discovery Protocol (LLDP)

Feature	Product	Release introduced
IEEE 802.1AB – LLDP	5320 Series	Switch Engine 31.6
	5420 Series	EXOS 31.3
	5520 Series	EXOS 31.1
	5720 Series	Switch Engine 32.1
	7520 Series	Switch Engine 32.4
	7720 Series	Switch Engine 32.4

Table 34: Link Layer Discovery Protocol (LLDP) (continued)

Feature	Product	Release introduced
LLDP Media Endpoint Discovery (LLDP-MED), ANSI/TIA-1057, draft 08	5320 Series	Switch Engine 31.6
	5420 Series	EXOS 31.3
	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: Linux kernel version

Feature	Product	Release introduced
Linux kernel version	5320 Series	5.4 as of Switch Engine 32.1
	5420 Series	5.4 as of Switch Engine 32.1
	5520 Series	5.4 as of Switch Engine 32.1
	5720 Series	5.4 as of Switch Engine 32.1
	7520 Series	5.4 as of Switch Engine 32.4
	7720 Series	5.4 as of Switch Engine 32.4



Features M to O

Table 36: MACsec

Feature	Product	Release introduced
IEEE 802.1AE MACsec Link Encryption	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	5320 Series	Switch Engine 31.6
	5420 Series	EXOS 31.4
	5520 Series	EXOS 31.1
	5720 Series	Switch Engine 32.1
	7520 Series	Not supported
	7720 Series	Not supported
MAC Security – Lockdown and Limit	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 36: MACsec (continued)

Feature	Product	Release introduced
MACsec Key Agreement	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 37: Management and traffic analysis

Feature	Product	Release introduced
Application Telemetry	5320 Series	Switch Engine 31.6
	5420 Series	EXOS 31.3
	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	5320 Series	Switch Engine 31.6
	5420 Series	EXOS 31.3
	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-hubmib-mau-mib-v3-02.txt	5320 Series	Switch Engine 31.6
	5420 Series	EXOS 31.3
	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	5320 Series	Switch Engine 31.6
	5420 Series	EXOS 31.3
	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: Management and traffic analysis (continued)

Feature	Product	Release introduced
ENTERASYS-POLICY-PROFILE-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
ENTERASYS-UPN-TC-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
ENTERASYS-CLASS-OF-SERVICE-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
ENTERASYS-RADIUS-ACCT-CLIENT-EXT-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
ENTERASYS-RADIUS-AUTH-CLIENT-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 37: Management and traffic analysis (continued)

Feature	Product	Release introduced
ENTERASYS-MULTI-AUTH-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
ENTERASYS-MAC-AUTHENTICATION-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
ENTERASYS-MULTI-USER-8021X-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
ENTERASYS-VLAN-AUTHORIZATION-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
Extreme Networks vendor MIBs (includes statistics, FDB, PoE, CPU, Memory, ACL, CLEAR-Flow etc MIBs)	5320 Series	Switch Engine 31.6
	5420 Series	EXOS 31.3
	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: Management and traffic analysis (continued)

Feature	Product	Release introduced
IEEE 802.1AB LLDP Basic MIB, LLDP-EXT-DOT1-MIB, LLDP-EXT-DOT3-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
IEEE-8021-PAE-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
IEEE802.1 Q BRIDGE 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
IEEE-8021x-EXTENSIONS-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
IP Route Compression	5320 Series	Switch Engine 31.6
	5420 Series	EXOS 31.3
	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: Management and traffic analysis (continued)

Feature	Product	Release introduced
Multiple Images, Multiple Configs	5320 Series	Switch Engine 31.6
	5420 Series	EXOS 31.3
	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	5320 Series	Switch Engine 31.6
	5420 Series	EXOS 31.3
	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	5320 Series	Switch Engine 31.6
	5420 Series	EXOS 31.3
	5520 Series	EXOS 31.1
	5720 Series	Switch Engine 32.1
	7520 Series	Switch Engine 32.4
	7720 Series	Switch Engine 32.4
RFC 1155 Structure of Management Information (SMIPv1)	5320 Series	Switch Engine 31.6
	5420 Series	EXOS 31.3
	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	5320 Series	Switch Engine 31.6
	5420 Series	EXOS 31.3
	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: Management and traffic analysis (continued)

Feature	Product	Release introduced
RFC 1350 TFTP Protocol (revision 2)	5320 Series	Switch Engine 31.6
	5420 Series	EXOS 31.3
	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	5320 Series	Switch Engine 31.6
	5420 Series	EXOS 31.3
	5520 Series	EXOS 31.1
	5720 Series	Switch Engine 32.1
	7520 Series	Switch Engine 32.4
	7720 Series	Switch Engine 32.4
RFC 1591 DNS (client operation)	5320 Series	Switch Engine 31.6
	5420 Series	EXOS 31.3
	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	5320 Series	Switch Engine 31.6
	5420 Series	EXOS 31.3
	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	5320 Series	Switch Engine 31.6
	5420 Series	EXOS 31.3
	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: Management and traffic analysis (continued)

Feature	Product	Release introduced
RFC 1757 RMON 4 groups: Stats, History, Alarms and Events	5320 Series	Switch Engine 31.6
	5420 Series	EXOS 31.3
	5520 Series	EXOS 31.1
	5720 Series	Switch Engine 32.1
	7520 Series	Switch Engine 32.4
	7720 Series	Switch Engine 32.4
RFC 2021 RMON2 (probe configuration)	5320 Series	Switch Engine 31.6
	5420 Series	EXOS 31.3
	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	5320 Series	Switch Engine 31.6
	5420 Series	EXOS 31.3
	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)	5320 Series	Switch Engine 31.6
	5420 Series	EXOS 31.3
	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	5320 Series	Switch Engine 31.6
	5420 Series	EXOS 31.3
	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: Management and traffic analysis (continued)

Feature	Product	Release introduced
RFC 2665 – Definitions of Managed Objects for the Ethernet-like Interface types	5320 Series	Switch Engine 31.6
	5420 Series	EXOS 31.3
	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	5320 Series	Switch Engine 31.6
	5420 Series	EXOS 31.3
	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	5320 Series	Switch Engine 31.6
	5420 Series	EXOS 31.3
	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	5320 Series	Switch Engine 31.6
	5420 Series	EXOS 31.3
	5520 Series	EXOS 31.1
	5720 Series	Switch Engine 32.1
	7520 Series	Switch Engine 32.4
	7720 Series	Switch Engine 32.4
RFC 3315, Dynamic Host Configuration Protocol for IPV6 (DHCPv6), Client and Relay Function(Secondary IP address only) support	5320 Series	Switch Engine 31.6
	5420 Series	EXOS 31.3
	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: Management and traffic analysis (continued)

Feature	Product	Release introduced
RFC 3917 IPFIX	5320 Series	Switch Engine 31.6
	5420 Series	EXOS 31.3
	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	5320 Series	Switch Engine 31.6
	5420 Series	EXOS 31.3
	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	5320 Series	Switch Engine 31.6
	5420 Series	EXOS 31.3
	5520 Series	EXOS 31.1
	5720 Series	Switch Engine 32.1
	7520 Series	Switch Engine 32.4
	7720 Series	Switch Engine 32.4
Secure FTP (SFTP) 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
	7720 Series	Switch Engine 32.4
SFF-8472 DDMI (Digital Diagnostics Monitoring Interface)	5320 Series	Switch Engine 31.6
	5420 Series	EXOS 31.3
	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: Management and traffic analysis (continued)

Feature	Product	Release introduced
sFlow version 5	5320 Series	Switch Engine 31.6
	5420 Series	EXOS 31.3
	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	5320 Series	Switch Engine 31.6
	5420 Series	EXOS 31.3
	5520 Series	EXOS 31.1
	5720 Series	Switch Engine 32.1
	7520 Series	Switch Engine 32.4
	7720 Series	Switch Engine 32.4
XML APIs over Telnet/SSH and HTTP/HTTPS	5320 Series	Switch Engine 31.6
	5420 Series	EXOS 31.3
	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: Message Session Relay Protocol (MSRP)

Feature	Product	Release introduced
MSRP	5320 Series	Switch Engine 31.6
	5420 Series	EXOS 31.3
	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: Multi-Switch Link Aggregation Groups (MLAG)

Feature	Product	Release introduced
	5320 Series	Switch Engine 31.6

Table 39: Multi-Switch Link Aggregation Groups (MLAG) (continued)

Feature	Product	Release introduced
MLAG	5420 Series	EXOS 31.3
	5520 Series	EXOS 31.1
	5720 Series	Switch Engine 32.1
	7520 Series	Switch Engine 32.4
	7720 Series	Switch Engine 32.4

Table 40: Multi-User, Multi-method authentication and policy

Feature	Product	Release introduced
Multi-User, Multi-method authentication and policy	5320 Series	Switch Engine 31.6
	5420 Series	EXOS 31.3
	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: MultiProtocol Label Switching (MPLS)

Feature	Product	Release introduced
RFC 2961 RSVP Refresh Overhead Reduction Extensions	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 3031 Multiprotocol Label Switching Architecture	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 41: MultiProtocol Label Switching (MPLS) (continued)

Feature	Product	Release introduced
RFC 3032 MPLS Label Stack Encoding	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	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)	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 3813 MPLS Label Switching Router (LSR) MIB	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)	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 41: MultiProtocol Label Switching (MPLS) (continued)

Feature	Product	Release introduced
RFC 4379 Detecting MPLS (MPLS) Data Plane Failures (LSP Ping)	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 4448 Encapsulation Methods for Transport of Ethernet over MPLS Networks	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 42: Multicast Listener Discovery (MLD)

Feature	Product	Release introduced
MLD	5320 Series	Switch Engine 31.6
	5420 Series	EXOS 31.3
	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	5320 Series	Switch Engine 31.6
	5420 Series	EXOS 31.3
	5520 Series	EXOS 31.1
	5720 Series	Switch Engine 32.1
	7520 Series	Switch Engine 32.4
	7720 Series	Switch Engine 32.4
RFC 2710, IPv6 MLDv1 Protocol	5320 Series	Switch Engine 31.6
	5420 Series	EXOS 31.3
	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: Multicast Listener Discovery (MLD) (continued)

Feature	Product	Release introduced
RFC 3810, IPv6 MLDv2 Protocol	5320 Series	Switch Engine 31.6
	5420 Series	EXOS 31.3
	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	5320 Series	Switch Engine 31.6
	5420 Series	EXOS 31.3
	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: Multicast Source Discovery Protocol (MSDP)

Feature	Product	Release introduced
RFC 3618 MSDP	5320 Series	Switch Engine 31.6
	5420 Series	EXOS 31.3
	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: Multiple Spanning Tree Protocol (MSTP)

Feature	Product	Release introduced
IEEE 802.1Q – 2003 (formerly IEEE 802.1s)	5320 Series	Switch Engine 31.6
	5420 Series	EXOS 31.3
	5520 Series	EXOS 31.1

Table 44: Multiple Spanning Tree Protocol (MSTP) (continued)

Feature	Product	Release introduced
Multiple Instances of STP, MSTP	5720 Series	Switch Engine 32.1
	7520 Series	Switch Engine 32.4
	7720 Series	Switch Engine 32.4

Table 45: Multiple CLI Users

Feature	Product	Release introduced
Multiple CLI users per role	5320 Series	Switch Engine 31.6
	5420 Series	EXOS 31.3
	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: Network Login

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

Feature	Product	Release introduced
RFC 1866 HTML – used for Web-based Network Login and ExtremeXOS Chalet	5320 Series	Switch Engine 31.6
	5420 Series	EXOS 31.3
	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	5320 Series	Switch Engine 31.6
	5420 Series	EXOS 31.3
	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: Network operating system personality

Feature	Product	Release introduced
Dual-boot personalities	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 48: Network Time Protocol (NTP)

Feature	Product	Release introduced
NTPv4 client for IPv4	5320 Series	Switch Engine 31.6
	5420 Series	EXOS 31.3
	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: Network Time Protocol (NTP) (continued)

Feature	Product	Release introduced
NTPv4 client for IPv6	5320 Series	Switch Engine 31.6
	5420 Series	EXOS 31.3
	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	5320 Series	Switch Engine 31.6
	5420 Series	EXOS 31.3
	5520 Series	EXOS 31.1
	5720 Series	Switch Engine 32.1
	7520 Series	Switch Engine 32.4
	7720 Series	Switch Engine 32.4
NTP Authentication Key Obfuscation	5320 Series	Switch Engine 31.6
	5420 Series	EXOS 31.3
	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)	5320 Series	Switch Engine 31.6
	5420 Series	EXOS 31.3
	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	5320 Series	Switch Engine 31.6
	5420 Series	EXOS 31.3
	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: ONEPolicy

Feature	Product	Release introduced
	5320 Series	Switch Engine 31.6

Table 49: ONEPolicy (continued)

Feature	Product	Release introduced
ONEPolicy	5420 Series	EXOS 31.3
	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	5320 Series	Switch Engine 31.6
	5420 Series	EXOS 31.3
	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: OpenFlow

Feature	Product	Release introduced
OpenFlow	5320 Series	Switch Engine 31.6
	5420 Series	EXOS 31.3
	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: Open vSwitch Database (OVSDB)

Feature	Product	Release introduced
OVSDB	5320 Series	Switch Engine 31.6
	5420 Series	EXOS 31.3
	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: Open Shortest Path First (OSPF)

Feature	Product	Release introduced
	5320 Series	Switch Engine 31.6

Table 52: Open Shortest Path First (OSPF) (continued)

Feature	Product	Release introduced
OSPF	5420 Series	EXOS 31.3
	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	5320 Series	Switch Engine 31.6
	5420 Series	EXOS 31.3
	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	5320 Series	Switch Engine 31.6
	5420 Series	EXOS 31.3
	5520 Series	EXOS 31.1
	5720 Series	Switch Engine 32.1
	7520 Series	Switch Engine 32.4
	7720 Series	Switch Engine 32.4
RFC 1850 OSPFv2 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 2328 OSPF v2 (Edge-mode)	5320 Series	Switch Engine 31.6
	5420 Series	EXOS 31.3
	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: Open Shortest Path First (OSPF) (continued)

Feature	Product	Release introduced
RFC 1587 OSPF NSSA Option	5320 Series	Switch Engine 31.6
	5420 Series	EXOS 31.3
	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	5320 Series	Switch Engine 31.6
	5420 Series	EXOS 31.3
	5520 Series	EXOS 31.1
	5720 Series	Switch Engine 32.1
	7520 Series	Switch Engine 32.4
	7720 Series	Switch Engine 32.4
RFC 2370 OSPF Opaque LSA Option	5320 Series	Switch Engine 31.6
	5420 Series	EXOS 31.3
	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	5320 Series	Switch Engine 31.6
	5420 Series	EXOS 31.3
	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	5320 Series	Switch Engine 31.6
	5420 Series	EXOS 31.3
	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: Open Shortest Path First version 3 (OSPFv3)

Feature	Product	Release introduced
	5320 Series	Switch Engine 31.6

Table 53: Open Shortest Path First version 3 (OSPFv3) (continued)

Feature	Product	Release introduced
OSPFv3	5420 Series	EXOS 31.3
	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	5320 Series	Switch Engine 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	5320 Series	Switch Engine 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)	5320 Series	Switch Engine 31.6
	5420 Series	EXOS 31.3
	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 54: Port Mirroring

Feature	Product	Release introduced
Egress mirroring (port-based)	5320 Series	Switch Engine 31.6
	5420 Series	EXOS 31.3
	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)	5320 Series	Switch Engine 31.6
	5420 Series	EXOS 31.3
	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: Power over Ethernet (PoE)

Feature	Product	Release introduced
Fast PoE	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

Table 55: Power over Ethernet (PoE) (continued)

Feature	Product	Release introduced
		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	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 55: Power over Ethernet (PoE) (continued)

Feature	Product	Release introduced
PoE/PoE+ allocation using LLDP	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 55: Power over Ethernet (PoE) (continued)

Feature	Product	Release introduced
Perpetual PoE	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 55: Power over Ethernet (PoE) (continued)

Feature	Product	Release introduced
RFC 3621 PoE-MIB (PoE switches only)	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 56: Precision Time Protocol v2 (PTPv2)

Feature	Product	Release introduced
Transparent Clock	5320 Series	Not supported
	5420 Series	Not supported
	5520 Series	EXOS 32.6.1
	5720 Series	Not supported
	7520 Series	Not supported
	7720 Series	Not supported

Table 57: Priority Flow Control

Feature	Product	Release introduced
	5320 Series	Switch Engine 31.6

Table 57: Priority Flow Control (continued)

Feature	Product	Release introduced
Priority Flow Control (IEEE 802.1Qbb)	5420 Series	EXOS 31.3
	5520 Series	EXOS 31.1
	5720 Series	Switch Engine 32.1
	7520 Series	Switch Engine 32.4
	7720 Series	Switch Engine 32.4

Table 58: Protocol Independent Multicast (PIM)

Feature	Product	Release introduced
PIM ECMP Load Splitting	5320 Series	Switch Engine 31.6
	5420 Series	EXOS 31.3
	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	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
PIM Snooping	5320 Series	Switch Engine 31.6
	5420 Series	EXOS 31.3
	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	5320 Series	Switch Engine 31.6
	5420 Series	EXOS 31.3
	5520 Series	EXOS 31.1
	5720 Series	Switch Engine 32.1
	7520 Series	Switch Engine 32.4
	7720 Series	Switch Engine 32.4

Table 58: Protocol Independent Multicast (PIM) (continued)

Feature	Product	Release introduced
RFC 3446 Anycast RP using PIM and MSDP	5320 Series	Switch Engine 31.6
	5420 Series	EXOS 31.3
	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: Protocol Independent Multicast-Source Specific Mode (PIM-SSM)

Feature	Product	Release introduced
draft-ietf-pim-mib-v2-01.txt	5320 Series	Switch Engine 31.6
	5420 Series	EXOS 31.3
	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	5320 Series	Switch Engine 31.6
	5420 Series	EXOS 31.3
	5520 Series	EXOS 31.1
	5720 Series	Switch Engine 32.1
	7520 Series	Switch Engine 32.4
	7720 Series	Switch Engine 32.4
PIM-DM Draft IETF PIM Dense Mode draft-ietf-idmr-pim-dm-05.txt, draft-ietf-pim-dm-new-v2-04.txt	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

**Table 59: Protocol Independent Multicast-Source Specific Mode (PIM-SSM)
(continued)**

Feature	Product	Release introduced
RFC 3569, draft-ietf-ssm-arch-06.txt PIM-SSM PIM Source Specific Multicast	5320 Series	Switch Engine 31.6
	5420 Series	EXOS 31.3
	5520 Series	EXOS 31.1
	5720 Series	Switch Engine 32.1
	7520 Series	Switch Engine 32.4
	7720 Series	Switch Engine 32.4

Table 60: Protocol Independent Multicast - Sparse Mode (PIM-SM)

Feature	Product	Release introduced
PIM Infinite Threshold for IPv4 and IPv6	5320 Series	Switch Engine 31.6
	5420 Series	EXOS 31.3
	5520 Series	EXOS 31.1
	5720 Series	Switch Engine 32.1
	7520 Series	Switch Engine 32.4
	7720 Series	Switch Engine 32.4
PIM-SM for IPv4	5320 Series	Switch Engine 31.6
	5420 Series	EXOS 31.3
	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)	5320 Series	Switch Engine 31.6
	5420 Series	EXOS 31.3
	5520 Series	EXOS 31.1
	5720 Series	Switch Engine 32.1
	7520 Series	Switch Engine 32.4
	7720 Series	Switch Engine 32.4

Table 61: Pseudowire

Feature	Product	Release introduced
	5320 Series	Not applicable

Table 61: Pseudowire (continued)

Feature	Product	Release introduced
Pseudowire LSP Loadsharing	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 4447 Pseudowire Setup and Maintenance using the Label Distribution Protocol (LDP)	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)	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	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	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 61: Pseudowire (continued)

Feature	Product	Release introduced
RFC 5603 Ethernet Pseudowire MIB	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 62: Quality of Service (QoS) and Voice-over-IP (VoIP)

Feature	Product	Release introduced
Automatic QoS	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	5320 Series	Switch Engine 31.6
	5420 Series	EXOS 31.3
	5520 Series	EXOS 31.1
	5720 Series	Switch Engine 32.1
	7520 Series	Switch Engine 32.4
	7720 Series	Switch Engine 32.4
RFC 2474 DiffServ Precedence, including 8 queues/port	5320 Series	Switch Engine 31.6
	5420 Series	EXOS 31.3
	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)	5320 Series	Switch Engine 31.6
	5420 Series	EXOS 31.3
	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: Quality of Service (QoS) and Voice-over-IP (VoIP) (continued)

Feature	Product	Release introduced
RFC 2597 DiffServ Assured Forwarding (AF)	5320 Series	Switch Engine 31.6
	5420 Series	EXOS 31.3
	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	5320 Series	Switch Engine 31.6
	5420 Series	EXOS 31.3
	5520 Series	EXOS 31.1
	5720 Series	Switch Engine 32.1
	7520 Series	Switch Engine 32.4
	7720 Series	Switch Engine 32.4
Weighted Random Early Detection (WRED)	5320 Series	Switch Engine 31.6
	5420 Series	EXOS 31.3
	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: Queue Profiles

Feature	Product	Release introduced
QoS per queue rate limiting	5320 Series	Switch Engine 31.6
	5420 Series	EXOS 31.3
	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: RADIUS

Feature	Product	Release introduced
	5320 Series	Switch Engine 31.6

Table 64: RADIUS (continued)

Feature	Product	Release introduced
RADIUS (IPv6)	5420 Series	EXOS 31.3
	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)	5320 Series	Switch Engine 31.6
	5420 Series	EXOS 31.3
	5520 Series	EXOS 31.1
	5720 Series	Switch Engine 32.1
	7520 Series	Switch Engine 32.4
RADIUS over TLS	5320 Series	Switch Engine 31.6
	5420 Series	EXOS 31.3
	5520 Series	EXOS 31.1
	5720 Series	Switch Engine 32.1
	7520 Series	Switch Engine 32.4
RADIUS Security (RADSec)	5320 Series	Switch Engine 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 2865 RADIUS Authentication	5320 Series	Switch Engine 31.6
	5420 Series	EXOS 31.3
	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: RADIUS (continued)

Feature	Product	Release introduced
RFC 2866 RADIUS Accounting	5320 Series	Switch Engine 31.6
	5420 Series	EXOS 31.3
	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	5320 Series	Switch Engine 31.6
	5420 Series	EXOS 31.3
	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	5320 Series	Switch Engine 31.6
	5420 Series	EXOS 31.3
	5520 Series	EXOS 31.1
	5720 Series	Switch Engine 32.1
	7520 Series	Switch Engine 32.4
	7720 Series	Switch Engine 32.4
RADIUS Per-command Authentication	5320 Series	Switch Engine 31.6
	5420 Series	EXOS 31.3
	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	5320 Series	Switch Engine 31.6
	5420 Series	EXOS 31.3
	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: RADIUS (continued)

Feature	Product	Release introduced
RFC 4668 RADIUS Authentication Client MIB for IPv6	5320 Series	Switch Engine 31.6
	5420 Series	EXOS 31.3
	5520 Series	EXOS 31.1
	5720 Series	Switch Engine 32.1
	7520 Series	Switch Engine 32.4
	7720 Series	Switch Engine 32.4
RFC 4670 RADIUS Accounting Client MIB for IPv6	5320 Series	Switch Engine 31.6
	5420 Series	EXOS 31.3
	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: Representational State Transfer Configuration Protocol (RESTCONF)

Feature	Product	Release introduced
RESTCONF	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

Table 66: Routing Information Protocol (RIP)

Feature	Product	Release introduced
RIP	5320 Series	Switch Engine 31.6
	5420 Series	EXOS 31.3
	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: Routing Information Protocol (RIP) (continued)

Feature	Product	Release introduced
RIPng	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	5320 Series	Switch Engine 31.6
	5420 Series	EXOS 31.3
	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	5320 Series	Switch Engine 31.6
	5420 Series	EXOS 31.3
	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	5320 Series	Switch Engine 31.6
	5420 Series	EXOS 31.3
	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 67: Secure Shell (SSH)

Feature	Product	Release introduced
SSH-2 client and 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
	7720 Series	Switch Engine 32.4
Secure Copy (SCP-2) client and 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
	7720 Series	Switch Engine 32.4
SSH-2, Secure Copy (SCP-2), and SFTP client/server with encryption/authentication	5320 Series	Switch Engine 31.6
	5420 Series	EXOS 31.3
	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: Secure Shell (SSH) (continued)

Feature	Product	Release introduced
Access Policies for Telnet/SSH-2/SCP-2	5320 Series	Switch Engine 31.6
	5420 Series	EXOS 31.3
	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: Security, switch, and network protection

Feature	Product	Release introduced
Secure Shell (SSH-2), Secure Copy (SCP-2), and SFTP client/server with encryption/authentication	5320 Series	Switch Engine 31.6
	5420 Series	EXOS 31.3
	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	5320 Series	Switch Engine 31.6
	5420 Series	EXOS 31.3
	5520 Series	EXOS 31.1
	5720 Series	Switch Engine 32.1
	7520 Series	Switch Engine 32.4
	7720 Series	Switch Engine 32.4
Access Policies for Telnet/SSH-2/SCP-2	5320 Series	Switch Engine 31.6
	5420 Series	EXOS 31.3
	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)	5320 Series	Switch Engine 31.6
	5420 Series	EXOS 31.3
	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: Security, switch, and network protection (continued)

Feature	Product	Release introduced
Guest VLAN for 802.1x	5320 Series	Switch Engine 31.6
	5420 Series	EXOS 31.3
	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	5320 Series	Switch Engine 31.6
	5420 Series	EXOS 31.3
	5520 Series	EXOS 31.1
	5720 Series	Switch Engine 32.1
	7520 Series	Switch Engine 32.4
	7720 Series	Switch Engine 32.4
IP Broadcast Forwarding Control	5320 Series	Switch Engine 31.6
	5420 Series	EXOS 31.3
	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	5320 Series	Switch Engine 31.6
	5420 Series	EXOS 31.3
	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	5320 Series	Switch Engine 31.6
	5420 Series	EXOS 31.3
	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: Security, switch, and network protection (continued)

Feature	Product	Release introduced
IEEE 802.1Q – 1998 Virtual Bridged Local Area Networks	5320 Series	Switch Engine 31.6
	5420 Series	EXOS 31.3
	5520 Series	EXOS 31.1
	5720 Series	Switch Engine 32.1
	7520 Series	Switch Engine 32.4
	7720 Series	Switch Engine 32.4
Software Redundant Ports	5320 Series	Switch Engine 31.6
	5420 Series	EXOS 31.3
	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	5320 Series	Switch Engine 31.6
	5420 Series	EXOS 31.3
	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	5320 Series	Switch Engine 31.6
	5420 Series	EXOS 31.3
	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	5320 Series	Switch Engine 31.6
	5420 Series	EXOS 31.3
	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: Security, switch, and network protection (continued)

Feature	Product	Release introduced
IEEE 802.3ah Ethernet OAM – Unidirectional Link Fault 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
ITU G.8032 Ethernet Ring Protection Switching	5320 Series	Switch Engine 31.6
	5420 Series	EXOS 31.3
	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: Security, router protection

Feature	Product	Release introduced
Routing protocol MD5 authentication	5320 Series	Switch Engine 31.6
	5420 Series	EXOS 31.3
	5520 Series	EXOS 31.1
	5720 Series	Switch Engine 32.1
	7520 Series	Switch Engine 32.4
	7720 Series	Switch Engine 32.4
Identity Manager	5320 Series	Switch Engine 31.6
	5420 Series	EXOS 31.3
	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: Simple Network Management Protocol (SNMP)

Feature	Product	Release introduced
	5320 Series	Switch Engine 31.6
	5420 Series	EXOS 31.3

Table 70: Simple Network Management Protocol (SNMP) (continued)

Feature	Product	Release introduced
MEF-36 Y.1731 Compliant Performance Monitoring SNMP MIB	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	5320 Series	Switch Engine 31.6
	5420 Series	EXOS 31.3
	5520 Series	EXOS 31.1
	5720 Series	Switch Engine 32.1
	7520 Series	Switch Engine 32.4
	7720 Series	Switch Engine 32.4
RFC 1650 Ethernet-Like MIB (update of RFC 1213 for SNMPv2)	5320 Series	Switch Engine 31.6
	5420 Series	EXOS 31.3
	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	5320 Series	Switch Engine 31.6
	5420 Series	EXOS 31.3
	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	5320 Series	Switch Engine 31.6
	5420 Series	EXOS 31.3
	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	5320 Series	Switch Engine 31.6
	5420 Series	EXOS 31.3
	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: Simple Network Management Protocol (SNMP) (continued)

Feature	Product	Release introduced
RFC 3410 – 3415 SNMPv3, user based security, encryption and authentication	5320 Series	Switch Engine 31.6
	5420 Series	EXOS 31.3
	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	5320 Series	Switch Engine 31.6
	5420 Series	EXOS 31.3
	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	5320 Series	Switch Engine 31.6
	5420 Series	EXOS 31.3
	5520 Series	EXOS 31.1
	5720 Series	Switch Engine 32.1
	7520 Series	Switch Engine 32.4
	7720 Series	Switch Engine 32.4
SNMPv3 user based security, with encryption/ authentication	5320 Series	Switch Engine 31.6
	5420 Series	EXOS 31.3
	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: Simple Network Time Protocol (SNTP)

Feature	Product	Release introduced
	5320 Series	Switch Engine 31.6

Table 71: Simple Network Time Protocol (SNTP) (continued)

Feature	Product	Release introduced
RFC 2030 SNTP v4	5420 Series	EXOS 31.3
	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: Spanning Tree Protocol (STP)

Feature	Product	Release introduced
Draft-ietf-bridge-rstpmib-03.txt – Definitions of Managed Objects for Bridges with Rapid STP	5320 Series	Switch Engine 31.6
	5420 Series	EXOS 31.3
	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 – 1998 STP	5320 Series	Switch Engine 31.6
	5420 Series	EXOS 31.3
	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)	5320 Series	Switch Engine 31.6
	5420 Series	EXOS 31.3
	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	5320 Series	Switch Engine 31.6
	5420 Series	EXOS 31.3
	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: Spanning Tree Protocol (STP) (continued)

Feature	Product	Release introduced
IEEE 802.1Q – 2003 (formerly IEEE 802.1s) Multiple Instances of STP, MSTP	5320 Series	Switch Engine 31.6
	5420 Series	EXOS 31.3
	5520 Series	EXOS 31.1
	5720 Series	Switch Engine 32.1
	7520 Series	Switch Engine 32.4
	7720 Series	Switch Engine 32.4
EMISTP, Extreme Multiple Instances of STP	5320 Series	Switch Engine 31.6
	5420 Series	EXOS 31.3
	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)	5320 Series	Switch Engine 31.6
	5420 Series	EXOS 31.3
	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: Stacking

Feature	Product	Release introduced
Stacking auto-discovery	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 73: Stacking (continued)

Feature	Product	Release introduced
SummitStack-V	5320 Series	Not supported
	5420 Series	Not supported
	5520 Series	Switch Engine 31.6 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	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	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
SummitStack-V160	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

Table 73: Stacking (continued)

Feature	Product	Release introduced
SummitStack-V200	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	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.
SummitStack-V400 Alternative Configuration	5320 Series	Not supported
	5420 Series	Not supported
	5520 Series	Not supported
	5720 Series	Switch Engine 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 74: Syslog

Feature	Product	Release introduced
RFC 3164 BSD Syslog Protocol with Multiple Syslog Servers – 999 Local	5320 Series	Switch Engine 31.6
	5420 Series	EXOS 31.3
	5520 Series	EXOS 31.1

Table 74: Syslog (continued)

Feature	Product	Release introduced
Messages (criticals stored across reboots)	5720 Series	Switch Engine 32.1
	7520 Series	Switch Engine 32.4
	7720 Series	Switch Engine 32.4
Syslog	5320 Series	Switch Engine 31.6
	5420 Series	EXOS 31.3
	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: Terminal Access Controller Access Control System (TACACS)

Feature	Product	Release introduced
RFC 1492 TACACS+	5320 Series	Switch Engine 31.6
	5420 Series	EXOS 31.3
	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 76: Virtual LAN Services (VLAN) Services: VLANs, VMANs

Feature	Product	Release introduced
IEEE 802.1ad Provider Bridge Network, virtual MANs (vMANs)	5320 Series	Switch Engine 31.6
	5420 Series	EXOS 31.3
	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	5320 Series	Switch Engine 31.6
	5420 Series	EXOS 31.3
	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	5320 Series	Switch Engine 31.6
	5420 Series	EXOS 31.3
	5520 Series	EXOS 31.1
	5720 Series	Switch Engine 32.1
	7520 Series	Switch Engine 32.4
	7720 Series	Switch Engine 32.4
IEEE 802.1v: VLAN classification by Protocol and Port	5320 Series	Switch Engine 31.6
	5420 Series	EXOS 31.3
	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: Virtual LAN Services (VLAN) Services: VLANs, VMANs (continued)

Feature	Product	Release introduced
MAC-based VLANs	5320 Series	Switch Engine 31.6
	5420 Series	EXOS 31.3
	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	5320 Series	Switch Engine 31.6
	5420 Series	EXOS 31.3
	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	5320 Series	Switch Engine 31.6
	5420 Series	EXOS 31.3
	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 VLAN Aggregation	5320 Series	Switch Engine 31.6
	5420 Series	EXOS 31.3
	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	5320 Series	Switch Engine 31.6
	5420 Series	EXOS 31.3
	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: Virtual LAN Services (VLAN) Services: VLANs, VMANs (continued)

Feature	Product	Release introduced
Port-Specific VLAN tag	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	5320 Series	Switch Engine 31.6
	5420 Series	EXOS 31.3
	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	5320 Series	Switch Engine 31.6
	5420 Series	EXOS 31.3
	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	5320 Series	Switch Engine 31.6
	5420 Series	EXOS 31.3
	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	5320 Series	Switch Engine 31.6
	5420 Series	EXOS 31.3
	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: Virtual LAN Services (VLAN) Services: VLANs, VMANs (continued)

Feature	Product	Release introduced
VLAN Bridging	5320 Series	Switch Engine 31.6
	5420 Series	EXOS 31.3
	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: Virtual Router Redundancy Protocol (VRRP)

Feature	Product	Release introduced
IPv6 VRRP	5320 Series	Switch Engine 31.6
	5420 Series	EXOS 31.3
	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	5320 Series	Switch Engine 31.6
	5420 Series	EXOS 31.3
	5520 Series	EXOS 31.1
	5720 Series	Switch Engine 32.1
	7520 Series	Switch Engine 32.4
	7720 Series	Switch Engine 32.4
RFC 2787 VRRP 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 3768 VRRPv2	5320 Series	Switch Engine 31.6
	5420 Series	EXOS 31.3
	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: Virtual Router Redundancy Protocol (VRRP) (continued)

Feature	Product	Release introduced
VRRP	5320 Series	Switch Engine 31.6
	5420 Series	EXOS 31.3
	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	5320 Series	Switch Engine 31.6
	5420 Series	EXOS 31.3
	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 IPv6	5320 Series	Switch Engine 31.6
	5420 Series	EXOS 31.3
	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: 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 	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 78: Virtual Routing and Forwarding (VRF) (continued)

Feature	Product	Release introduced
IBGP over user-created VRFs	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"> • 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 	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 	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 79: Virtual eXtensible Local Area Network (VXLAN)

Feature	Product	Release introduced
	5320 Series	Switch Engine 31.6
	5420 Series	EXOS 31.3

Table 79: Virtual eXtensible Local Area Network (VXLAN) (continued)

Feature	Product	Release introduced
Address Resolution Protocol (ARP) Learning over Tunnels	5520 Series	EXOS 31.1
	5720 Series	Switch Engine 32.1
	7520 Series	Switch Engine 32.4
	7720 Series	Switch Engine 32.4
Address Resolution Protocol (ARP) Suppression	5320 Series	Switch Engine 31.6
	5420 Series	EXOS 31.3
	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	5320 Series	Switch Engine 31.6
	5420 Series	EXOS 31.3
	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	5320 Series	Switch Engine 31.6
	5420 Series	EXOS 31.3
	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	5320 Series	Switch Engine 31.6
	5420 Series	EXOS 31.3
	5520 Series	EXOS 31.1
	5720 Series	Switch Engine 32.1
	7520 Series	Switch Engine 32.4
	7720 Series	Switch Engine 32.4
Load Balancing	5320 Series	Switch Engine 31.6
	5420 Series	EXOS 31.3
	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: Virtual eXtensible Local Area Network (VXLAN) (continued)

Feature	Product	Release introduced
Multiprotocol Border Gateway Protocol (MBGP) support for VXLAN	5320 Series	Switch Engine 31.6
	5420 Series	EXOS 31.3
	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	5320 Series	Switch Engine 31.6
	5420 Series	EXOS 31.3
	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	5320 Series	Switch Engine 32.6.1
	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
OSPFv2 VXLAN Extensions	5320 Series	Switch Engine 31.6
	5420 Series	EXOS 31.3
	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	5320 Series	Switch Engine 31.6
	5420 Series	EXOS 31.3
	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: Virtual eXtensible Local Area Network (VXLAN) (continued)

Feature	Product	Release introduced
Quality of Service	5320 Series	Switch Engine 31.6
	5420 Series	EXOS 31.3
	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	5320 Series	Switch Engine 31.6
	5420 Series	EXOS 31.3
	5520 Series	EXOS 31.1
	5720 Series	Switch Engine 32.1
	7520 Series	Switch Engine 32.4
	7720 Series	Switch Engine 32.4
Underlay multicast (multicast tunnel)	5320 Series	Switch Engine 31.6
	5420 Series	EXOS 31.3
	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	5320 Series	Switch Engine 31.6
	5420 Series	EXOS 31.3
	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	5320 Series	Switch Engine 31.6
	5420 Series	EXOS 31.3
	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: Virtual eXtensible Local Area Network (VXLAN) (continued)

Feature	Product	Release introduced
VXLAN + VMAN Customer Edge Ports	5320 Series	Switch Engine 31.6
	5420 Series	EXOS 31.3
	5520 Series	EXOS 31.1
	5720 Series	Switch Engine 32.1
	7520 Series	Switch Engine 32.4
	7720 Series	Switch Engine 32.4
VXLAN 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

Table 80: Virtual Private LAN Services (VPLS)

Feature	Product	Release introduced
draft-ietf-l2vpn-vpls-mib-02.txt VPLS MIB	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
draft-ietf-l2vpn-vpls-mib-02.txt VPLS MIB	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 80: Virtual Private LAN Services (VPLS) (continued)

Feature	Product	Release introduced
RFC 4762 VPLS using Label Distribution Protocol (LDP) Signaling	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 81: ExtremeXOS Network Virtualization (XNV)

Feature	Product	Release introduced
XNV	5320 Series	Switch Engine 31.6
	5420 Series	EXOS 31.3
	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 82: Zero Touch Deployment

Feature	Product	Release introduced
Zero Touch Deployment	5320 Series	Switch Engine 31.6
	5420 Series	EXOS 31.3
	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: Zero Touch Fabric Configuration

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