

EX-series Switch Software Features Overview

Table 1 lists the EX-series switch software features and the JUNOS release in which they were introduced.

Table 1: Summary of Software Features Available on EX-series Switches

Feature Category	Feature	First Release EX 3200 and EX 4200 series	First Release EX 8200 series
Activity Logging and Monitoring	J-Web event view for system log messages	JUNOS 9.0R2	JUNOS 9.4R1
	Real-time performance monitoring (RPM)	JUNOS 9.3R2	Not supported
	System logging (syslog) over IPv4	JUNOS 9.0R2	JUNOS 9.4R1
	System logging (syslog) over IPv6	JUNOS 9.3R2	Not supported
	Traceroute tool in J-Web interface	JUNOS 9.0R2	JUNOS 9.4R1
Administration	Configuration rollback	JUNOS 9.0R2	JUNOS 9.4R1
	Confirmation of configuration changes	JUNOS 9.0R2	JUNOS 9.4R1
	Software upgrades	JUNOS 9.0R2	JUNOS 9.4R1
	Support for RADIUS external administrator databases	JUNOS 9.0R2	JUNOS 9.4R1
	Supports the following features for automating network operations and troubleshooting: <ul style="list-style-type: none">■ Commit scripts■ Operation scripts■ Event policies	JUNOS 9.0R2	JUNOS 9.4R1
Encapsulation	802.1Q encapsulation tags	JUNOS 9.0R2	JUNOS 9.4R1
	802.1Q filtering and forwarding	JUNOS 9.0R2	JUNOS 9.4R1
	Ethernet:	JUNOS 9.0R2	JUNOS 9.4R1
	<ul style="list-style-type: none">■ Media access control (MAC) encapsulation■ 802.1p tagging		

Table 1: Summary of Software Features Available on EX-series Switches *(continued)*

Feature Category	Feature	First Release EX 3200 and EX 4200 series	First Release EX 8200 series
High Availability and Resiliency	Graceful protocol restart for OSPF and BGP	JUNOS 9.0R2	JUNOS 9.4R1
	Graceful protocol restart for IS-IS	JUNOS 9.3R2	JUNOS 9.4R1
	Graceful Routing Engine switchover (GRES) for EX 4200 Virtual Chassis configurations	JUNOS 9.1R1	Not applicable
	Graceful Routing Engine switchover (GRES) for ARP entries	JUNOS 9.2R1	JUNOS 9.4R1
	Graceful Routing Engine switchover (GRES) for the forwarding database	JUNOS 9.2R1	JUNOS 9.4R1
	Graceful Routing Engine switchover (GRES) for port security	JUNOS 9.2R1	Not supported
	Link aggregation groups (LAGs)	JUNOS 9.0R2	JUNOS 9.4R1
	Link aggregation control protocol (LACP)	JUNOS 9.0R2	JUNOS 9.4R1
	Redundant trunk groups	JUNOS 9.0R2	JUNOS 9.4R1
	Virtual Chassis	JUNOS 9.3R2	Not applicable
	<ul style="list-style-type: none"> ■ Atomic software upgrade ■ Fast failover ■ Split and merge 		
	Virtual Chassis	JUNOS 9.5R1	Not applicable
	<ul style="list-style-type: none"> ■ Autoprovisioning of Virtual Chassis Ports (VCPs) 		
	Virtual Chassis support for SFP uplink module ports	JUNOS 9.2R1	Not applicable
	Virtual Router Redundancy Protocol (VRRP)	JUNOS 9.0R2	JUNOS 9.4R1
Interfaces	Power over Ethernet (PoE)	JUNOS 9.0R2	Not applicable
	VLAN-tagged Layer 3 subinterfaces	JUNOS 9.2R1	JUNOS 9.4R1
Internet Protocols	IPv4	JUNOS 9.0R2	JUNOS 9.4R1
	IPv6 (except multicast protocols)	JUNOS 9.3R2	Not supported
	A separate software license is required for IPv6. See Understanding Software Licenses for the EX Series Switch.		

Table 1: Summary of Software Features Available on EX-series Switches *(continued)*

Feature Category	Feature	First Release EX 3200 and EX 4200 series	First Release EX 8200 series
IP Address Management	Dynamic Host Configuration Protocol (DHCP)	JUNOS 9.0R2	JUNOS 9.4R1
	DHCPv6 and IPv6 DNS	JUNOS 9.3R2	Not supported
	DHCP server and relay with option 82 for Layer 2 VLANs	JUNOS 9.3R2	JUNOS 9.4R1
	Local DHCP server	JUNOS 9.3R2	JUNOS 9.4R1
	Static addresses	JUNOS 9.0R2	JUNOS 9.4R1
Layer 2 Network Protocols	BPDU protection for spanning-tree protocols	JUNOS 9.1R1	JUNOS 9.4R1
	GARP VLAN Registration Protocol (GVRP)	JUNOS 9.1R1	JUNOS 9.4R1
	Link Layer Discovery Protocol (LLDP)	JUNOS 9.0R2	JUNOS 9.4R1
	Link Layer Discovery Protocol Media-Endpoint Discovery (LLDP-MED) with voice over IP (VoIP) integration	JUNOS 9.0R2	Not supported
	Loop protection for spanning-tree protocols	JUNOS 9.1R1	JUNOS 9.4R1
	Private VLANs	JUNOS 9.3R2	Not supported
	Q-in-Q tunneling	JUNOS 9.3R2	Not supported
	Root protection for spanning-tree protocols	JUNOS 9.1R1	JUNOS 9.4R1
	Routed VLAN interfaces (RVIs)	JUNOS 9.0R2	JUNOS 9.4R1
	Spanning tree:	JUNOS 9.0R2	JUNOS 9.4R1
	■ Spanning Tree Protocol (STP)		
	■ Rapid Spanning Tree Protocol (RSTP)		
	■ Multiple Spanning Tree Protocol (MSTP)		
	Spanning tree:	JUNOS 9.4R1	Not supported
	■ VLAN Spanning Tree Protocol (VSTP)		
	Storm control	JUNOS 9.1R1	JUNOS 9.4R1
	Unknown Layer 2 unicast forwarding	JUNOS 9.3R2	Not supported
	Virtual routing and forwarding (VRF)—virtual routing instances	JUNOS 9.2R1	Not supported
	VLAN range	JUNOS 9.2R1	JUNOS 9.4R1

Table 1: Summary of Software Features Available on EX-series Switches (continued)

Feature Category	Feature	First Release EX 3200 and EX 4200 series	First Release EX 8200 series
Layer 3 Protocols	Bidirectional Forwarding Detection (BFD)	JUNOS 9.0R2	JUNOS 9.4R1
	Border Gateway Protocol (BGP)	JUNOS 9.0R2	JUNOS 9.4R1
	A separate software license is required for BGP and MBGP. See Understanding Software Licenses for the EX Series Switch.		
	Intermediate System-to-Intermediate System (IS-IS)	JUNOS 9.0R2	JUNOS 9.4R1
	A separate software license is required for IS-IS. See Understanding Software Licenses for the EX Series Switch.		
	Internet Group Management Protocol (IGMP)	JUNOS 9.0R2	JUNOS 9.4R1
	IGMPv3	JUNOS 9.3R2	JUNOS 9.4R1
	IGMPv1 and IGMPv2	JUNOS 9.1R1	JUNOS 9.4R1
	IGMP snooping with routed VLAN interfaces (RVIs)	JUNOS 9.2R1	JUNOS 9.4R1
	IPv6 protocols: Open Shortest Path First version 3 (OSPFv3), RIPv6, IS-IS for IPv6, IPv6 BGP	JUNOS 9.3R2	Not supported
	Jumbo frames on routed VLAN interfaces (RVIs)	JUNOS 9.4R1	JUNOS 9.4R1
	Multicast Source Discovery Protocol (MSDP)	JUNOS 9.4R1	JUNOS 9.4R1
	See the <i>JUNOS Software Routing Protocols Guide</i> at http://www.juniper.net/techpubs/software/junos/junos95/index.html .		
	OSPFv2	JUNOS 9.0R2	JUNOS 9.4R1
	OSPF Multitopology Routing (MT-OSPF)	JUNOS 9.5R1	JUNOS 9.5R1
	Protocol Independent Multicast sparse mode (PIM SM)	JUNOS 9.0R2	JUNOS 9.4R1
	See the <i>JUNOS Software Multicast Configuration Guide</i> at http://www.juniper.net/techpubs/software/junos/ .		
	Protocol Independent Multicast dense mode (PIM DM)	JUNOS 9.2R1	JUNOS 9.4R1
	See the <i>JUNOS Software Multicast Configuration Guide</i> at http://www.juniper.net/techpubs/software/junos/ .		
	Protocol Independent Multicast source specific multicast (PIM SSM)	JUNOS 9.2R1	Not supported
	See the <i>JUNOS Software Multicast Configuration Guide</i> at http://www.juniper.net/techpubs/software/junos/ .		
	Routing Information Protocol version 1 (RIPv1) and RIPv2	JUNOS 9.0R2	JUNOS 9.4R1

Table 1: Summary of Software Features Available on EX-series Switches *(continued)*

Feature Category	Feature	First Release EX 3200 and EX 4200 series	First Release EX 8200 series
	Single-source multicast	JUNOS 9.0R2	JUNOS 9.4R1
	Static routes	JUNOS 9.0R2	JUNOS 9.4R1
	MPLS with RSVP-based label switched paths (LSPs) and MPLS-based circuit cross-connects (CCCs)	JUNOS 9.5R1	Not supported
Multiprotocol Label Switching	A separate software license is required for MPLS. See Understanding Software Licenses for the EX Series Switch.		
Network Management and Monitoring	Class of service (CoS)—Class-based queuing with prioritization	JUNOS 9.0R2	JUNOS 9.4R1
	Class of service (CoS)—DHCP, and IEEE 801.p or INET packet rewrites are enabled on routed VLAN interfaces (RVIs) on EX 3200 and EX 4200 switches.	JUNOS 9.5R1	Not supported
	Class-of-service (CoS) support on LAGs	JUNOS 9.2R1	JUNOS 9.4R1
	Class-of-service (CoS) support on routed VLAN interfaces (RVIs)	JUNOS 9.4R1	JUNOS 9.4R1
	Ethernet OAM link fault management (LFM)	JUNOS 9.4R1	Not supported
	Interface-specific CoS rewrite rules	JUNOS 9.4R1	Not supported
	JUNOS EZQoS for CoS	JUNOS 9.3R2	JUNOS 9.4R1
	Policing	JUNOS 9.0R2	JUNOS 9.4R1
	Port shaping and queue shaping	JUNOS 9.3R2	Not supported
	Port mirroring	JUNOS 9.0R2	JUNOS 9.4R1
	RMON	JUNOS 9.0R2	JUNOS 9.4R1
	Real-time performance monitoring (RPM)	JUNOS 9.3R2	Not supported
	sFlow monitoring technology	JUNOS 9.3R2	Not supported
	Simple Network Management Protocol version 1 (SNMPv1), SNMPv2, and SNMPv3	JUNOS 9.0R2	JUNOS 9.4R1
	Transparent bridging	JUNOS 9.0R2	JUNOS 9.4R1

Table 1: Summary of Software Features Available on EX-series Switches *(continued)*

Feature Category	Feature	First Release EX 3200 and EX 4200 series	First Release EX 8200 series
Security	802.1X authentication	JUNOS 9.0R2	Not supported
	Denial-of-service (DoS) and distributed DoS (DDoS) protection	JUNOS 9.0R2	JUNOS 9.4R1
	Dynamic firewall filters for 802.1X authentication	JUNOS 9.0R2	Not supported
	Filter-based forwarding	JUNOS 9.4R1	Not supported
	Firewall filters and rate limiting	JUNOS 9.0R2	JUNOS 9.4R1
	Firewall filters on LAGs	JUNOS 9.0R2	Not supported
	Firewall filter on loopback interface	JUNOS 9.2R1	Not supported
	Firewall filter processing points, additional	JUNOS 9.3R2	Not applicable
	Interface-specific CoS classifiers on routed VLAN interfaces (RVIs)	JUNOS 9.4R1	Not supported
	Local proxy ARP	JUNOS 9.3R2	Not supported
	Port security: ■ DHCP option 82	JUNOS 9.3R2	Not supported
	Port security: ■ IP source guard	JUNOS 9.2R1	Not supported
	Port security: ■ DHCP snooping ■ Dynamic ARP inspection (DAI) ■ MAC limiting ■ MAC move limiting	JUNOS 9.0R2	Not supported
	Port security: ■ Persistent storage for DHCP snooping	JUNOS 9.4R1	Not supported
	Port security: ■ Static ARP support	JUNOS 9.0R2	JUNOS 9.4R1
	MAC-based VLAN	JUNOS 9.2R1	Not supported
	MAC RADIUS authentication	JUNOS 9.3R2	Not supported
	Server fail fallback	JUNOS 9.3R2	JUNOS 9.4R1
	TACACS +	JUNOS 9.0R2	JUNOS 9.4R1

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Feature Category	Feature	First Release EX 3200 and EX 4200 series	First Release EX 8200 series
	Unicast reverse-path forwarding (RPF)	JUNOS 9.3R2	JUNOS 9.4R1
System Management	Autoinstallation	JUNOS 9.4R1	Not supported
	IP directed broadcast	JUNOS 9.4R1	JUNOS 9.4R1
	JUNOS command-line interface (CLI)—For switch configuration and management through the console, Telnet, SSH, or J-Web CLI editor	JUNOS 9.0R2	JUNOS 9.4R1
	J-Web enhancements— <ul style="list-style-type: none"> ■ The Interface Configuration page displays details about the port role configuration. ■ The Link Aggregation Configuration page supports aggregating interfaces with any speed setting. ■ The ability to configure spanning tree protocols, GVRP, IGMP snooping, and redundant trunk groups. ■ The ability to monitor Ethernet switching, spanning tree protocols, GVRP, and IGMP snooping. ■ Supports setting up Real Time Performance monitoring and viewing monitoring results. 	JUNOS 9.5R1	JUNOS 9.5R1
	J-Web interface enhancements— <ul style="list-style-type: none"> ■ The dashboard displays the DC power supply. ■ The Monitoring Chassis Information page displays details about the DC power supply. ■ The Virtual Chassis monitoring page displays the details of the Virtual Chassis port (VCP) error and drop counts. The Virtual Chassis monitoring page also displays the maximum bandwidth and actual bandwidth of the VCP. 	JUNOS 9.4R1	Not applicable
	J-Web interface—For switch configuration and management	JUNOS 9.0R2	JUNOS 9.4R1
	J-Web license-management tool	JUNOS 9.1R1	JUNOS 9.4R1
	J-Web Port Troubleshooting tool	JUNOS 9.2R1	JUNOS 9.4R1
	Platform-specific JUNOS software installation packages—EX-series switches now have specific installation packages for each family of switches, and the names of the JUNOS software installation packages have been changed to include the switch family name.	JUNOS 9.4R1	JUNOS 9.4R1
	Power over Ethernet (PoE) power management mode	JUNOS 9.3R2	Not supported

- Related Topics**
- High Availability Features for EX Series Switches Overview
 - Layer 3 Protocols Supported on EX Series Switches
 - Layer 3 Protocols Not Supported on EX Series Switches
 - EX3200 and EX4200 Switches Hardware Overview
 - EX8208 Switch Hardware Overview
 - EX8216 Switch Hardware Overview

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