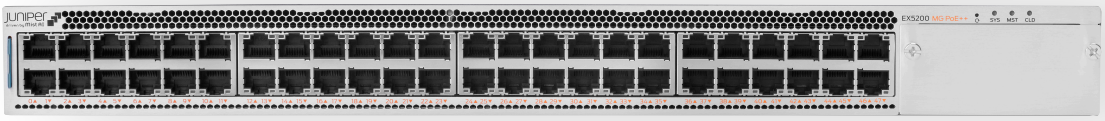
Data sheet



* Product configuration and appearance may vary

HPE NETWORKING EX5200 SWITCH SERIES

Product overview

The HPE Networking EX5200 Switch Series is a premium, high-performance access switching platform designed for enterprise campus and branch networks that require high-density multigigabit connectivity, advanced security, resilient stacking, and cloud-native operations.

As part of the underlying infrastructure for HPE Mist Wired Assurance, the EX5200 is purpose-built for, and managed by, the cloud. The switch leverages HPE Mist AI to simplify operations and provide better visibility into the experience of connected devices, delivering a refreshing, user experience-first approach to access layer switching.

Product description

The HPE Networking EX5200 Switch Series is a premium, high-performance access switching platform designed for enterprise campus and branch networks that require high-density multigigabit connectivity, advanced security, resilient stacking, and cloud-native operations. Built for the AI era, the EX5200 combines 100M/1G/2.5G/5G/10GbE access ports, IEEE 802.3bt PoE++ power, end-to-end Media Access Control Security (MACsec) AES-256 encryption, standards-based EVPN-VXLAN campus fabrics, and AI-driven operations through HPE Mist Wired Assurance.

The platform is well suited for Wi-Fi 7 access points, smart buildings, dense Internet of Things (IoT) environments, and large enterprise campuses. Its high routing, ARP/ND, MAC, VRF, and policy scale also make it suitable for demanding cloud access and service provider metro edge use cases.

Key features

— Cloud-ready, driven by HPE Mist AI with HPE Mist Wired Assurance and Marvis AI Assistant, provides zero-touch onboarding, template-driven provisioning, service-level insights, anomaly detection, and guided remediation

— End-to-end encryption using MACsec AES256 encryption helps protect switch-to-switch and switch-to-host traffic while preserving network visibility and policy enforcement

— High-density 10GbE multi-gig access with 24 and 48-port models provides 100M/1G/2.5G/5G/10GbE access for high-performance Wi-Fi, IP communications, smart buildings, and IoT endpoints

— Wi-Fi 7-ready switches with PoE models that support IEEE 802.3bt Class 8 up to 90W per port and up to 3400W aggregate PoE budget on the 48-port model

— EVPN-VXLAN enables scalable Layer 2 and Layer 3 overlays with standards-based Group-Based Policy for macro- and microsegmentation

— Large forwarding and policy tables support demanding enterprise, cloud access, and service provider edge environments

— Redundant hot-swappable power supplies and fans, fast PoE, perpetual PoE, nonstop bridging, active routing, and graceful failover help maintain uptime

— Up to 10 switches can operate as a single logical system with 400Gbps full-duplex Virtual Chassis bandwidth using dedicated 100GbE stacking ports

The EX5200 family includes four 1U access switch models for PoE and non-PoE deployments. All models provide 10GbE-capable multigigabit copper access ports, modular uplink choices, and dedicated high-speed Virtual Chassis / uplink ports.

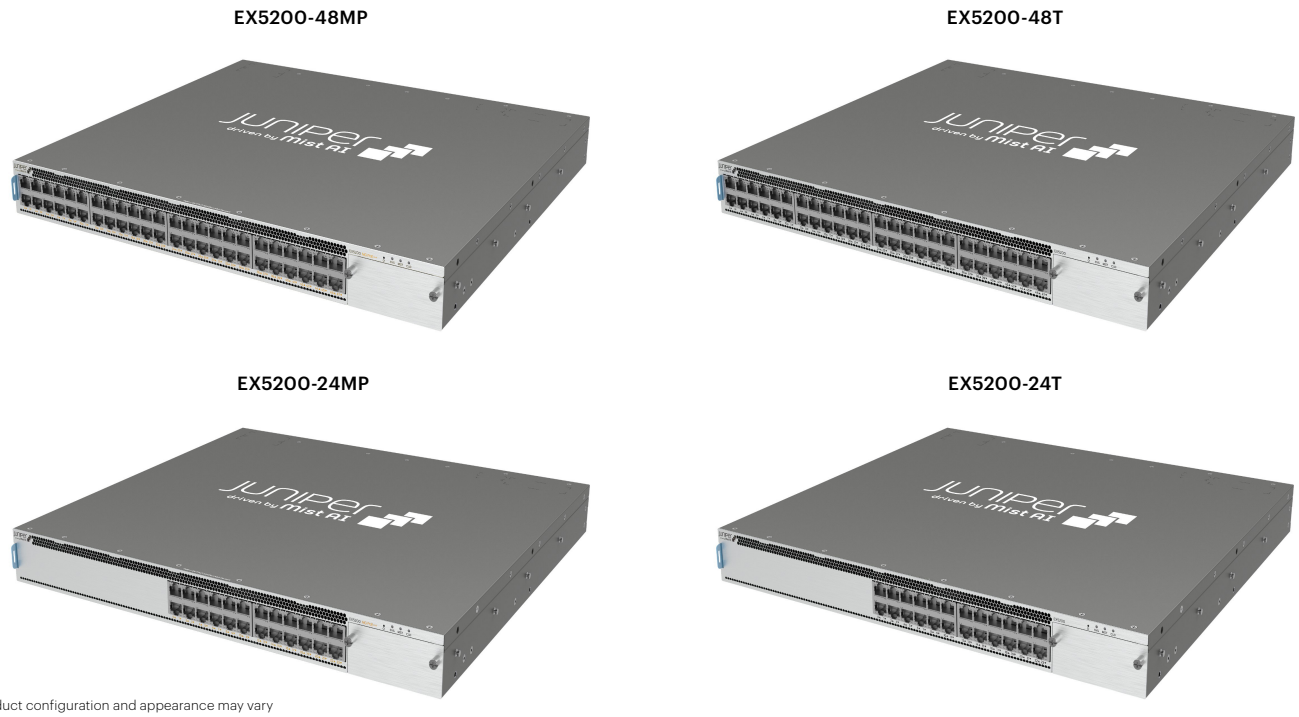


Figure 1. HPE Networking EX5200 Switch Series family

The EX5200 line consists of four base SKUs:

— The EX5200-48MP, offering 48x 100M/1G/2.5G/5G/10GbE multigigabit PoE access ports, delivering up to 90W per PoE port with an overall total 3400W of PoE power budget (using two power supplies)

— The EX5200-24MP, offering 24x 100M/1G/2.5G/5G/10GbE multigigabit PoE access ports, delivering up to 90W per PoE port with an overall total 2160W of PoE power budget (using two power supplies)

— The EX5200-48T, offering 48x 100M/1G/2.5G/5G/10GbE multigigabit non-PoE ports

— The EX5200-24T, offering 24x 100M/1G/2.5G/5G/10GbE multigigabit non-PoE ports

Architecture and key components

Cloud management with HPE Mist Wired Assurance, driven by HPE Mist AI EX5200 switches can be quickly and easily onboarded (day 0), provisioned (day 1), and managed (day 2+) from the cloud with HPE Mist Wired Assurance, which brings AI-powered automation and insights that optimize experiences for end users and connected devices. EX5200 is designed for cloud-first operations with HPE Mist Wired Assurance. It provides telemetry and automation for campus access networks and helps operations teams simplify deployment, improve visibility, and shorter mean time to repair (MTTR), and streamline troubleshooting. For more information, read the HPE Mist Wired Assurance data sheet.

In addition to HPE Mist Wired Assurance, Marvis AI—a key part of the self-driving network—makes the HPE Mist AI engine interactive. A digital extension of the IT team, Marvis offers automatic fixes or recommended actions, allowing IT teams to streamline how they troubleshoot and manage their network operations.

— **Day 0 operations:** Claim and activate switches with zero-touch onboarding and activation workflows

— **Day 1 operations:** Use templates to standardize standalone, Virtual Chassis, and campus fabric deployments while retaining site-level flexibility

— **Day 2+ operations:** Monitor switch health, successful connects, throughput, bandwidth, and client experience using service-level insights

— **AI-assisted troubleshooting:** Marvis Actions can identify issues such as missing VLANs, DHCP failures, authentication issues, bad cables, port negotiation mismatches, and L2 loops

— **Remote troubleshooting:** Secure packet capture and cloud-based workflows simplify escalation and issue isolation

EVPN-VXLAN campus fabric

An EVPN-VXLAN fabric is a simple, programmable, highly scalable architecture built on open standards. This technology can be applied in both data centers and campuses for architectural consistency. A campus EVPN-VXLAN architecture uses a Layer 3 IP-based underlay network and an EVPN-VXLAN overlay network. A flexible overlay network based on a VXLAN overlay with an EVPN control plane efficiently provides Layer 2 and/or Layer 3 connectivity throughout the network.

EX5200 supports standards-based EVPN-VXLAN campus fabric architectures that decouple logical network services from physical topology. This enables flexible segmentation, resilient scale-out, and simpler network expansion.

— EVPN multihoming for collapsed core or distribution designs

— Campus fabric core distribution for incremental fabric adoption across core and distribution layers

— Campus fabric IP Clos for end-to-end fabric designs that extend VXLAN termination and policy enforcement to the access layer

— Group-based policy for consistent macro- and microsegmentation across wired and wireless environments

The main advantages of EVPN-VXLAN in campus networks are:

— **Flexibility of consistent VLANs across the network:** Endpoints can be placed anywhere in the network and remain connected to the same logical L2 network, enabling a virtual topology to be decoupled from the physical topology

— **Microsegmentation using group-based policy:** Group-based policies (GBP) with EVPN-VXLAN-based architecture lets you deploy a common set of policies and services across campuses with support for L2 and L3VPNs

— **Scalability:** With an EVPN control plane, enterprises can scale out easily by adding more core, aggregation, and access layer devices as the business grows without having to redesign the network or perform a forklift upgrade. Using an L3 IP-based underlay coupled with an EVPN-VXLAN overlay, campus network operators can deploy much larger and more resilient networks than would otherwise be possible with traditional L2 Ethernet-based architectures.

Virtual Chassis technology

Virtual Chassis technology from HPE allows multiple interconnected switches to operate as a single, logical unit, enabling users to manage all platforms as one virtual device.

Up to 10 EX5200 switches can be interconnected as a Virtual Chassis switch to operate as a single logical device, simplifying management while delivering resilient, scalable access-layer designs.

— Fast 10-member Virtual Chassis support

— 400 Gbps full-duplex stacking bandwidth per switch using two dedicated 100GbE ports

— Single management plane with one configuration and one operational view for the stack

— Graceful routing engine switchover, nonstop bridging, and nonstop active routing for high availability

— Dedicated 100GbE ports can be used for Virtual Chassis or high-speed uplink connectivity, where supported

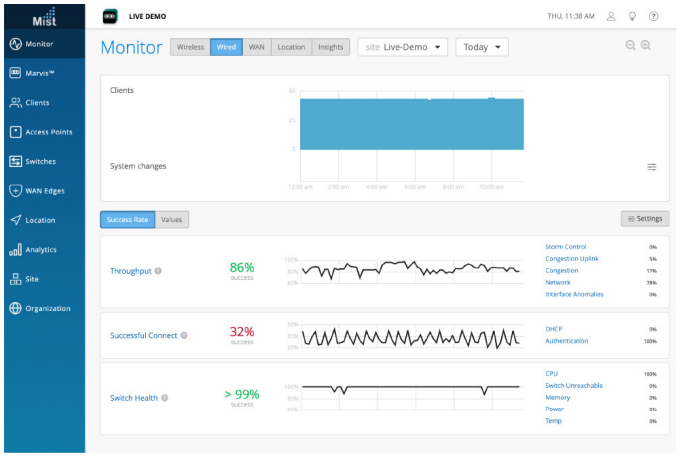


Figure 2. HPE Mist Wired Assurance service-level expectations

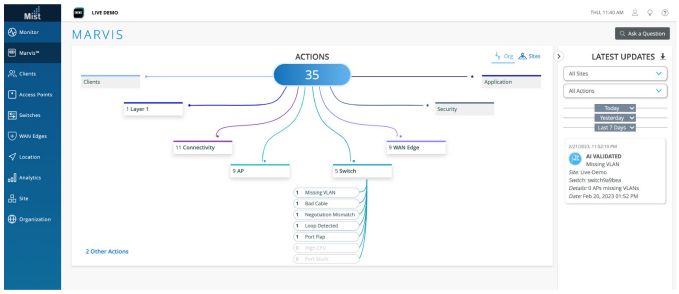


Figure 3. Marvis Actions for wired switches

Features and benefits

Simplified operations with HPE Mist Wired Assurance

The EX5200 is fully cloud onboarded, provisioned, and managed by HPE Mist Wired Assurance. The EX5200 is designed from the ground up to deliver the rich telemetry that enables AI for IT operations (AIOps) with simplified operations from day 0 to day 2 and beyond. HPE Mist Wired Assurance provides detailed switch insights for easier troubleshooting and improved time to resolution by offering the following features:

— **Day 0 operations:** Onboard switches seamlessly by claiming a greenfield switch or all purchased switches with a single activation code for true plug-and-play simplicity. You may also onboard brownfield switches with the adopt switch process.

— **Day 1 operations:** Implement a template-based configuration model for bulk rollouts of traditional and campus fabric deployments while retaining the flexibility and control required to apply custom site- or switch-specific attributes. Automate provisioning of ports via Dynamic Port Profiles.

— **Day 2 operations:** Leverage the AI in HPE Mist Wired Assurance to meet service-level expectations such as throughput, successful connects, switch health, and switch bandwidth with key pre- and post-connection metrics. Add the self-driving capabilities in Marvis Actions to detect needle in the haystack issues such as missing VLANs, DHCP failure scopes, wired authentication failures, bad cables, port negotiation mismatches, persistently failing clients, detection of L2 loops, misconfigured ports, and traffic loops. Perform software upgrades easily through HPE Mist cloud.

MACsec AES256 encryption

The EX5200 supports IEEE 802.1AE MACsec with AES-256 encryption to protect Layer 2 traffic on user-facing and uplink interfaces. MACsec helps protect against passive wiretapping, replay, and man-in-the-middle attacks while enabling the switch to apply policy, quality of service, and telemetry internally.

PoE++ Power, fast PoE, and perpetual PoE

EX5200 PoE models support IEEE 802.3bt PoE++ with up to 90W per port for Wi-Fi 7 access points, smart lighting, IP cameras, building automation systems, and other high-power endpoints.

— Fast PoE helps deliver power to connected endpoints shortly after switch power is applied

— Perpetual PoE helps maintain endpoint power through switch software restarts or upgrades

Telemetry, security, and operations

Flow-based telemetry

The EX5200 supports hardware-accelerated flow-based telemetry for visibility into traffic behavior and anomaly detection. Flow telemetry helps identify security threats, policy violations, and abnormal traffic patterns without placing unnecessary load on the CPU.

— Monitor up to 256K concurrent flows

— Export IPFIX flow records and alerts to external collectors

— Enable operations teams to automate investigation or quarantine workflows for affected endpoints

High availability

— Redundant hot-swappable power supplies and field-replaceable fan modules

— Graceful routing engine switchover for Virtual Chassis resiliency

— Nonstop bridging and nonstop active routing. Fast PoE and perpetual PoE on PoE models

— Link aggregation, VRRP, BFD, ERPS, and other resiliency features for campus access designs

Security and access control

— 802.1X, MAC authentication, and captive portal workflows for wired access control

— Dynamic policy assignment with standards-based VLANs and group-based policy. Role-based administrator access, secure management, syslog, SNMPv3, and secure application programming interfaces (APIs)

— IPv4 and IPv6 ACLs for policy enforcement

— DHCP snooping, dynamic ARP inspection, IP source guard, and IPv6 neighbor discovery protections

— MACsec AES-256 for encrypted Layer 2 connectivity

EVPN-VXLAN for campus core, distribution, and access

HPE offers complete flexibility in choosing any of the following validated EVPN-VXLAN campus fabrics that cater to networks of different sizes, scales, and segmentation requirements:

— **EVPN multihoming (collapsed core or distribution):** A collapsed core architecture combines the core and distribution layers into a single switch, turning the traditional three-tier hierarchical network into a two-tier network. EVPN multihoming on a collapsed core eliminates the need for Spanning Tree Protocol (STP) across campus networks by providing link aggregation capabilities from the access layer to the core layer. This topology is best suited for small to medium-sized distributed enterprise networks and allows for consistent VLANs across the network. This topology uses (Ethernet Segment Identifier) ESI (Link Aggregation) LAG and is a standards-based protocol.

— **Campus fabric core distribution:** When EVPN VXLAN is configured across core and distribution layers, it becomes a campus fabric core distribution architecture that can be configured in two modes: centrally or edge-routed bridging overlay. This architecture provides an opportunity for an administrator to move toward campus-fabric IP Clos without a forklift upgrade of all access switches in the existing network while bringing in the advantages of moving to a campus fabric and providing an easy way to scale out the network.

— **Campus fabric IP Clos:** When EVPN VXLAN is configured on all layers, including access, it is called the campus fabric IP Clos architecture. This model is also referred to as end-to-end, given that VXLAN tunnels are terminated at the access layer. The availability of VXLAN at access layer provides the opportunity to bring policy enforcement and microsegmentation to the access layer (closest to the source) using standards-based GBP to segment traffic even within a VLAN. GBP tags are assigned dynamically to clients as part of a RADIUS transaction by HPE Mist Access Assurance (NAC). This topology works for small, medium, and large campus architectures that need macro and microsegmentation.

In all these EVPN-VXLAN deployment modes, EX5200 switches can be used in standalone or Virtual Chassis configurations. All three topologies are standards-based and interoperable with third-party vendors.

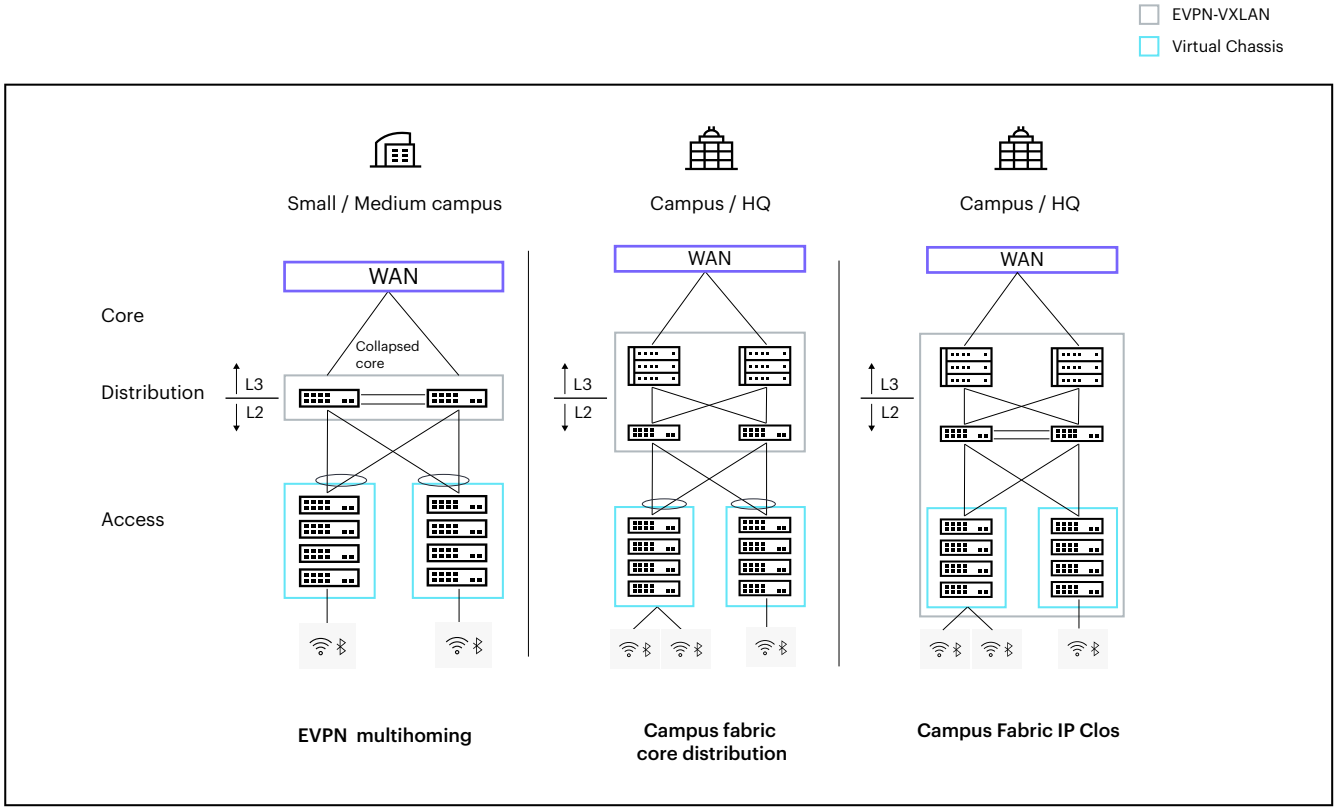


Figure 4. Campus fabrics showing Virtual Chassis and EVPN-VXLAN-based architecture

Managing AI-driven Campus Fabric with the HPE Mist platform cloud

HPE Mist Wired Assurance brings cloud management and HPE Mist AI to campus fabrics. It sets a new standard that moves away from traditional network management toward AI-Native operations, while delivering better experiences to connected devices. The HPE Mist cloud streamlines deployment and management of campus fabric architectures by allowing:

— Automated deployment and zero touch deployment (ZTD)

— Anomaly detection

— Root cause analysis

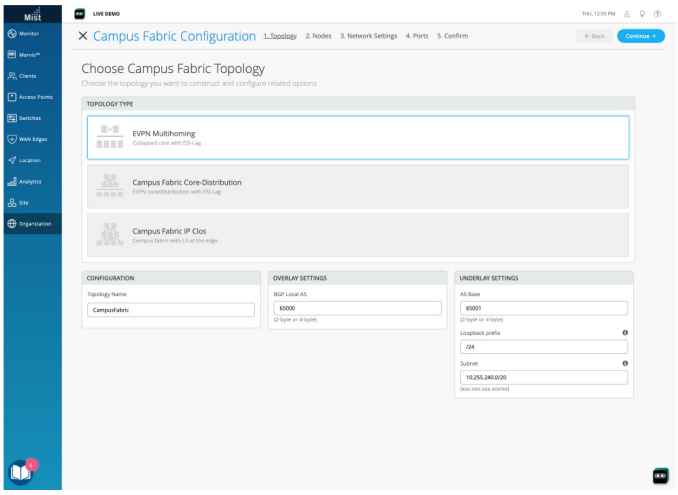


Figure 5. EVPN multihoming configuration via the HPE Mist Cloud

Deployment scenarios

— Premium campus access for large sites, headquarters, and higher-education environments

— Wi-Fi 7 access switching with 10GbE multigigabit ports and high-power PoE++

— Smart buildings with PoE-powered lighting, sensors, cameras, and building automation devices

— Branch consolidation where compact, resilient, AI-managed access switching is required

— Cloud access and service provider edge deployments that need high forwarding scale in a 1U platform

Junos operating system

The EX5200 switches run Junos OS, HPE powerful and robust network operating system that powers all HPE Juniper Networking switches, routers, and firewalls. By utilizing a common operating system, HPE delivers a consistent implementation and operation of control plane features across all products.

To maintain that consistency, Junos OS adheres to a highly disciplined development process that uses a single source code and employs a highly available modular architecture that prevents isolated failures from bringing down an entire system. Junos OS supports automation, telemetry, consistent command line interface (CLI) and API workflows, and a broad set of Layer 2 and Layer 3 services.

These attributes are fundamental to the core value of the software, enabling all Junos OS powered products to be updated simultaneously with the same software release. All features are fully regression tested, making each new release a true superset of the previous version. Customers can deploy the software with complete confidence that all existing capabilities are maintained and operate in the same way.

Flex licensing

HPE Juniper Flex licensing offers a common, simple, and flexible licensing model for EX series access switches, enabling customers to purchase features based on their network and business needs.

Flex licensing is offered in standard, advanced, and premium tiers. Standard tier features are available with the Junos OS image that ships with HPE Networking EX Series Switches. Additional features can be accessed with the purchase of a Flex Advanced or Flex Premium license.

The Flex and Premium licenses for the EX series platforms are class-based, determined by the number of access ports on the switch. Class 1 (C1) switches have 12 ports, class 2 (C2) switches have 24 ports, and class 3 (C3) switches have 32 or 48 ports.

The EX5200 switches support both subscription and perpetual Flex licenses. Subscription licenses are offered for three- and five-year terms. In addition to Junos OS features, the Flex Advanced and Premium subscription licenses include HPE Mist Wired Assurance. Flex Advanced and Premium subscription licenses also allow portability across the same tier and class of switches, providing investment protection for the customer.

For a complete list of features supported by the Flex Standard, Advanced, and Premium tiers, or to learn about HPE Networking EX Switch Series licenses, visit Software Licenses for EX Series Switches.

Warranty and support

The EX5200 switches are designed for enterprise-grade supportability with field-replaceable components, redundant power and cooling, and operational workflows integrated with HPE Mist and Junos OS. Customers can select support options aligned to deployment criticality, sparing strategy, and required replacement service levels

EX5200 switches include an enhanced limited lifetime hardware warranty that provides return-to-factory switch replacement for as long as the original purchaser owns the product. The warranty includes lifetime software updates, advanced shipping of spares within one business day, and 24x7 Juniper Technical Assistance Center support for 90 days after the purchase date. Power supplies and fan trays are covered for a period of five years.

For complete details, visit Product Warranty Policy.

Quality of service

— Eight hardware queues for traffic prioritization

— Classification and marking based on Layer 2, Layer 3, and Layer 4 fields

— Strict priority and weighted scheduling options

— Ingress and egress rate limiting and shaping

— Jumbo frames up to 9216 bytes

About HPE

HPE is a leader in essential enterprise technology, bringing together the power of AI, cloud, and networking to help organizations achieve more. As pioneers of possibility, our innovation and expertise advance the way people live and work. We empower our customers across industries to optimize operational performance, transform data into foresight, and maximize their impact. Unlock your boldest ambitions, with HPE. Discover more at HPE.com

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