

# CHANGE

*the way sensitive data traverses  
the network with agile, high  
performance switches.*

HP 3800 Switch Series

Brochure



SOLO NETWORK





The HP 3800 Switch Series, as part of the FlexCampus module of the HP FlexNetwork architecture, is a family of next-generation gigabit Layer 3/4 enterprise-class access layer switches. The HP 3800, designed with a custom HP ProVision ASIC architecture, delivers unmatched performance and scalability to meet the needs of the most demanding enterprise networks. With meshed stacking technology, the HP 3800 offers modular chassis-like performance, scalability, and resiliency in a flexible stackable form factor. In addition, the HP 3800 integrates 10 Gb connectivity for high-performance links to the network aggregation and core. The HP 3800 Switch Series is backed by an HP lifetime warranty with next-business-day advance replacement.<sup>1</sup>

### Responding to real-world needs

Enterprise businesses are demanding more from their networking infrastructures. Specifically, there are several key issues facing many enterprises today:

- Organizations are seeking solutions that are based on open standards and can be used in multivendor environments. Businesses want to avoid costly vendor lock-in that limits choice and flexibility.

- As new media-rich applications are being deployed across networks, businesses need to ensure that their network is prepared to deliver the performance and scale, which are needed to support these applications today and in the future.
- With the proliferation of IT infrastructure and network devices, the number of tools needed to deploy, manage, and monitor have increased as well. Businesses are seeking solutions that provide a more simplified and common management experience.
- With the increasing threats to electronic information and networks that are the critical path for information flow, businesses need to secure their information assets.
- With the increasing number of mission-critical applications running on the network, it is important to reduce costly network downtime by deploying a highly agile and resilient networking infrastructure.

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<sup>1</sup>The hardware warranty replacement is for as long as you own the product, with next-business-day advance replacement (available in most countries). For details, refer to the HP Software License, Warranty, and Support booklet at <http://www.hp.com/networking/warranty>.

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## Built on the HP FlexNetwork Architecture

The HP 3800 Switch Series helps enterprises overcome some of the challenges that their networks face by delivering on the HP FlexNetwork Architecture promise with key capabilities that address these issues:

### Interoperability

- Interoperability with other standards-based devices with support for IEEE 802.3az energy-efficient Ethernet that delivers reduced power consumption across IT ecosystems that support this IEEE standard.
- Reduced cost and complexity delivered by 10GBase-T uplinks that support 10 Gb speeds over standard copper cabling.

### Scalability

- Proliferation of always-on network-connected devices are driving the need for scalable networks, and the HP 3800 Switch Series provides industry-leading port density with up to 480 1G ports and 40 10G ports. In addition, modular stacking provides expandability as the network grows.
- Increasingly, media-rich network applications are demanding higher levels of performance, and the HP 3800 Switch Series provides very low latency and very high throughput to provide reliable traffic delivery. In addition, with meshed stacking, the HP 3800 Switch Series delivers on the FlexCampus promise of flatter, two-tier networks that provide higher levels of performance while decreasing cost and complexity.

### Common experience

- With the growing number of IT infrastructure devices, consolidation and consistent management help increase productivity and simplify common task. With meshed stacking, the HP 3800 Switch Series provides a single consistent management interface for up to 10 switches, reducing the number of management interfaces.

- In addition, HP Intelligent Management Center support, provides a single pane of glass view of the entire IT infrastructure reducing swivel chair management.

### Improved security

- Networks are carrying more sensitive data and are more critical to business operations than ever before. Network administrators have the responsibility to ensure networks are safe from both internal and external threats. With the ability to control network access with features like IEEE 802.1x, Web authentication, media access control (MAC) authentication, and the ability to mitigate active threats to the network with virus throttling and traffic storm suppression, the HP 3800 can ensure the network is protected.
- With the variety of applications running on today's networks, visibility into network traffic is essential for any network administrator. With support for key features such as traffic mirroring, sFlow, SNMP, and more, the HP 3800 Switch Series provides network administrators the tools they need to monitor their networks.
- With geographically distributed networks, administrators need to be able to manage and access their IT infrastructure in a reliable manner and even in the event of a failure. With out-of-band Ethernet management support, the HP 3800 provides a management interface that is segmented from the data plane to provide a high level of reliability while reducing the need for third-party terminal servers.



## Agility

- Mission-critical applications such as communications and collaborations are driving the need for increasingly reliable networks. With meshed stacking technology, the HP 3800 Switch Series provides the industry's highest level of resiliency in a stacking solution. With the ability to fully mesh stack up to five switches, the HP 3800 Switch Series achieves true chassis-like resiliency with the flexibility of a 1U stackable form factor. With each switch directly connected to another, a switch or link failure results in minimal to no impact on the performance of the remaining network.
- In addition, other key capabilities such as dual redundant hot-swappable power supplies and a field-replaceable fan tray enhance the resiliency of the HP 3800 Switch Series.

## HP 3800 Switch Series with meshed stacking

The HP 3800 Switch, which has meshed stacking technology, provides the following key capabilities:

- Chassis-like resiliency in a flexible stackable form factor
- Simplified management—stack appears as single switch entity
- Single forwarding and routing plane
- Easy to configure—just plug and play
- Very high performance with up to 336 Gb/s stacking throughput and very low latency
- Supports ring of up to 10 switches
- Supports mesh of up to five switches
- Stack with 0.5 m, 1 m, and 3 m cables
- Up to 480 1G port and 40 10G port density



## A wide range of models to suit any network

Thanks to their versatility, the HP 3800 Switch Series can be deployed in a wide range of network designs. Important features are highlighted in the following table.

HP Switch	3800-24-2SFP+	3800-48-4SFP+	3800-24-PoE+-2SFP+	3800-48-PoE+-4SFP+	3800-24-2XG	3800-48-4XG	3800-24-PoE+-2XG	3800-48-PoE+-4XG	3800-24SFP-2SFP+
Form factor	Fixed-configuration stackable	Fixed-configuration stackable	Fixed-configuration stackable	Fixed-configuration stackable	Fixed-configuration stackable	Fixed-configuration stackable	Fixed-configuration stackable	Fixed-configuration stackable	Fixed-configuration stackable
Height (rack unit)	1U	1U	1U	1U	1U	1U	1U	1U	1U
10/100/1000 ports	24	48	-	-	24	48	-	-	24 SFP
10/100/000 ports with PoE	-	-	24	48	-	-	24	48	-
10GbE ports	2 SFP+	4 SFP+	2 SFP+	4 SFP+	2 10GBase-T	4 10GBase-T	2 10GBase-T	4 10GBase-T	2 SFP+
HP Stacking Module Slot	Yes, 336 Gb/s	Yes, 336 Gb/s	Yes, 336 Gb/s	Yes, 336 Gb/s	Yes, 336 Gb/s	Yes, 336 Gb/s	Yes, 336 Gb/s	Yes, 336 Gb/s	Yes, 336 Gb/s
Power for PoE	-	-	Up to 720 W	Up to 1080 W	-	-	Up to 720 W	Up to 1080 W	-
Performance (Mpps)	65.4	130.9	65.4	130.9	65.4	130.9	65.4	130.9	65.4
Out-of-band Ethernet management	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Removable fan tray	Yes (hot-swap)	Yes (hot-swap)	Yes (hot-swap)	Yes (hot-swap)	Yes (hot-swap)	Yes (hot-swap)	Yes (hot-swap)	Yes (hot-swap)	Yes (hot-swap)



## Key features

- **Comprehensive software features:** The HP 3800 Switch Series comes with advanced networking Layer 2/3 protocols and features (for example: open shortest path first [OSPF] v2/v3, Personal Information Manager [PIM], Virtual Router Redundancy Protocol [VRRP], and QinQ) uniquely suited for large-scale enterprise solutions. Because features are built into the switch, no expensive license upgrades are required to realize support for advanced capabilities.
- **Advanced management and monitoring tools:** These include innovative remote intelligent mirroring, Remote Network Monitoring (RMON), Extended RMON (XRMON), and sFlow on every port.
- **Choice of connectivity:** These switches offer a choice of 24 or 48 10/100/1000 ports with Power over Ethernet+ (PoE+) and non-PoE connectivity options. The 10/100/1000 copper ports with PoE+ capability support advanced converged devices and enable granular power control. In addition, models are available with either small form-factor pluggable+ (SFP+) or 10GBase-T 10G uplinks offering ultimate flexibility in deploying high-speed connectivity. 10GBase-T is ideal for lower-cost 10G connectivity up to 100 m using standard copper cabling and without the need for costly fiber optic transceivers.
- **Energy efficiency:** Switches in this series offer highly efficient power supplies. In addition, these switches offer features like intelligent physical layer power management, LED power-save mode, IEEE 802.3az energy-efficient Ethernet, and dynamic PoE power allocation to intelligently conserve power consumption based on utilization.
- IEEE 802.1ad QinQ increases Ethernet's scalability and allows multiple LANs in different locations to be connected in a campus or metro network.
- OSPF equal cost multipath 9 (ECMP9) dynamically load balances across multiple, active, equal-cost paths in a Layer 3 environment.
- IEEE 802.1s multiple spanning tree protocol (MSTP) provides high link availability in multiple VLAN environments.
- IEEE 802.3ad Link Aggregation Control Protocol (LACP) supports up to eight links (ports) per trunk; trunking across a stack is also supported.
- It includes hot-swappable components, including fan tray, power supplies and stacking module.
- It has dual flash images and multiple configuration files.
- Unidirectional link detection (UDLD) prevents network downtime from fiber link break.

## HP ProVision ASIC provides improved security, convergence, and mobility benefits.

The ProVision ASIC is a continuation of HP ASIC innovation over the past 10 years, starting with the HP AdvanceStack Switch 2000 and continuing through the HP 3500 Switch Series, and now offering the HP 3800 Switch Series.

The raw performance of the ProVision ASIC architecture provides better intelligence at the port than competitors provide.

More specifically, the HP ProVision ASIC offers the following benefits:

**Wire speed policy enforcement engine**—The ProVision ASIC enables users to deploy more secured and granular policy at wire-speed across all ports for better protection of information assets and better support for applications that require bandwidth and quality of service (QoS) control. The ProVision ASIC's policy engine is superior because of implementation of a multistage classifier and ternary content addressable memory (TCAM). The multistage classifier allows the traffic to be processed efficiently, and the ProVision ASIC's TCAM can match more policy rules simultaneously at wire-speed than competitive offerings in this class. This capability results in more granular and better-performing policy enforcement.

**Built-in resiliency**—The HP ProVision ASIC is architected to operate nearly continuously and withstand error conditions and malicious network attacks. The HP 3800 Switch Series uses a combination of software and ProVision ASIC functionality to verify whether all the data packets are sent to the CPU. Excessive packets from malicious attacks or network misconfiguration can be identified and demoted to lower-priority queues before they overwhelm and shut down the CPU and the switch.

In addition, the ProVision ASIC has built-in processes that include end-to-end data checking, embedded RAM error correction, and ECC on an external DRAM. These processes facilitate the integrity of the traffic as it passes through the switch, protecting the traffic from environmental elements.

**Investment protection**—The ProVision ASIC confers investment protection through a programmable network processor feature that allows some future requirements to be accommodated. The network processor is based on patented technology from HP. New algorithms can be programmed into the ASIC to support new traffic classifications by inspecting deep into the data packets; this enables the HP switches based on ProVision ASIC to support applications and policy rules that do not yet exist.

**Higher reliability and lower TCO**—The ProVision ASIC integrates with components that are normally found on separate chips, such as the embedded processor, memory (for example, TCAM and input), packet classifier, MAC, and network processor. Because it is so highly integrated, the ProVision ASIC leads to a reduced number of components needed throughout the switch, which translates into increased reliability, lower power consumption, and lower TCO. It also means higher port density due to the smaller, overall form factor.

## Operational excellence

The ProVision ASIC and Versatile Intelligent Port allow plug-and-play solutions across the HP 3800 Switch Series. Along with a comprehensive, unified set of configuration management tools, this capability yields efficiency in deployment, operation, and maintenance, which in turn leads to reduced costs and increased productivity.

The command authorization and universal serial bus (USB) autorun features in the HP 3800 Switch Series also improve productivity in deploying, managing, and operating networks. These features allow less experienced or remote network managers to participate in installing and managing the switches.

Another important component of operational excellence is investment protection. All the HP 3800 Switches support the next-generation Internet protocol—Internet protocol version 6 (IPv6) host, IPv4/IPv6 dual stack, multicast listener discover snooping, access control list, QoS, and OSPF v3. To meet current and future IPv6 requirements, these switches have been certified with IPv6 Ready Logo Phase-2 from IPv6 forum—a worldwide IPv6 advocacy consortium. The HP 3800 Switch Series has modular stacking to allow for future expandability that adds investment protection. Finally, industry-leading warranties of HP and support policies help lower operation and maintenance costs, making the 3800 Switch Series a wise long-term investment.

## The next generation, now

The next-generation HP 3800 Switch Series is built on an advanced ProVision ASIC architecture, enhancing control of the network and providing increased intelligence, versatility, and operational excellence.

The ProVision ASIC architecture and open-standards based features, such as the 10GBase-T for 10G medium distance (100 m) connectivity, reduce the need for expensive transceivers. Investments made today in these next-generation switches are likely to last well into the future.

### Switch models:

J9573A HP 3800-24G-PoE+-2SFP+ Switch  
 J9574A HP 3800-48G-PoE+-4SFP+ Switch  
 J9575A HP 3800-24G-2SFP+ Switch  
 J9576A HP 3800-48G-4SFP+ Switch  
 J9584A HP 3800-24SFP-2SFP+ Switch  
 J9585A HP 3800-24G-2XG Switch  
 J9586A HP 3800-48G-4XG Switch  
 J9587A HP 3800-24G-PoE+-2XG Switch  
 J9588A HP 3800-48G-PoE+-4XG Switch

### HP Stacking accessories:

J9577A HP 3800 4-port Stacking Module  
 J9578A HP 3800 0.5 m Stacking Cable  
 J9665A HP 3800 1 m Stacking Cable  
 J9579A HP 3800 3 m Stacking Cable

### Power supplies and other accessories:

J9580A HP X312 1000 W 100-240 VAC to 54 VDC PS  
 J9581A HP X311 400 W 100-240 VAC to 12 VDC PS  
 J9582A HP 3800 Switch Fan Tray  
 J9583A HP X410 1U Universal 4-Post Rack Mounting Kit

**Mini-GBICs/transceivers/direct attach cables:**

J9153A: HP 10G SFP+ LC ER Transceiver

J9054B: HP 100-FX SFP-LC Transceiver

J9099B: HP 100-BX-D SFP-LC Transceiver

J9100B: HP 100-BX-U SFP-LC Transceiver

J8177C: HP Gigabit 1000Base-T Mini-GBIC

J4858C: HP Gigabit-SX-LC Mini-GBIC

J4859C: HP Gigabit-LX-LC Mini-GBIC

J4860C: HP Gigabit-LH-LC Mini-GBIC

J9142B: HP 1000-BX-D SFP-LC Mini-GBIC

J9143B: HP 1000-BX-U SFP-LC Mini-GBIC

J9150A: HP 10GbE SFP+ SR Transceiver

J9151A: HP 10GbE SFP+ LR Transceiver

J9152A: HP 10GbE SFP+ LRM Transceiver

J9281B: HP 10GbE SFP+ 1m Direct Attach Cable

J9283B: HP 10GbE SFP+ 3m Direct Attach Cable

J9285B: HP 10GbE SFP+ 7m Direct Attach Cable

J9300A: HP 10GbE XFP-SFP+ 1m Direct Attach Cable

J9301A: HP 10GbE XFP-SFP+ 3m Direct Attach Cable

J9302A: HP 10GbE XFP-SFP+ 5m Direct Attach Cable

**Global citizenship at HP**

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To achieve versatility and operational excellence with HP 3800 Switch Series, visit <http://h17007.www1.hp.com/us/en/products/switches/index.aspx>.

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