HP Cloud-Managed and Unified Wired and Wireless Solutions
SDN-enabled solutions that deliver greater simplicity, agility, and business value

Executive summary
HP is introducing new solutions that enhance the existing HP unified wired and wireless portfolio, including a new cloud-managed networking solution, IEEE 802.11ac wireless access points (APs), and new SDN applications that help organizations generate new revenue opportunities.

The new solutions are designed to support SMB and enterprise mobility initiatives by delivering increased flexibility, lower cost, and a better mobile end-user experience—with three times the speed of 802.11n.\(^1\) HP is also future-proofing the network and delivering investment protection by extending SDN to the wireless LAN.

Faster deployment with HP Cloud-Managed Networking
HP Cloud-Managed Networking provides a simple and easy-to-manage network solution for SMB and remote offices. The solution simplifies day-to-day operations by helping eliminate the need for onsite IT and brings users online faster. It provides enterprise-class reliability and performance and works with HP cloud-enabled APs to deliver:

- 30 percent lower upfront costs with a pay-as-you-use cloud-service model
- 100 percent uptime in case of WAN-link failures
- Optimal user experience with HP Motion Aware roaming and HP Wi-Fi Clear Connect
- Easy multisite management with the HP Cloud Network Manager
- Always-on service with a redundant cloud architecture

Figure 1: HP Cloud-Managed Networking

A high-performance solution with built-in redundancy
HP Cloud-Managed Networking delivers enterprise-class scalability and resiliency for increasing client densities. Built-in application awareness helps ensure priority handling of delay-sensitive voice and multimedia traffic. The solution provides integrated device fingerprinting capabilities to support a variety of smartphones, tablets, and laptops.

HP cloud-managed APs come with the Wi-Fi Clear Connect technology, which delivers advanced Radio Resource Management (RRM). This technology helps optimize the reliability and performance of the wireless network and automatically mitigates RF interference to enhance the mobile user experience.

Wi-Fi Clear Connect enables high-quality client throughput in dense deployments by intelligently balancing the client load across APs. It also delivers faster client performance in mixed client environments, with airtime fairness.

Motion Aware roaming leverages radio and network information to improve the way traffic is distributed across the network. It helps clients discover the best AP to improve the roaming experience and the overall throughput of the network.

Integrated wireless IDS allows HP cloud-managed APs to use time slicing to simultaneously provide client services and act as security sensors to detect rogue devices.

HP cloud-managed APs offer increased resiliency with wired uplink failovers in case of WAN-link failures.

HP Cloud Network Manager
The HP cloud-hosted management platform speeds deployments by configuring APs from the cloud. This streamlines provisioning, management, and troubleshooting of multiple distributed sites from a single platform. It also helps reduce costs by doing away with the need to maintain an onsite management platform.

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\(^1\) Based on wireless standards: 802.11n offers 450 Mb/s of throughput and the new 802.11ac offers 1.3 Gb/s of throughput.
Key features include:

**Monitoring**
- Enables quick views of the health of the network, APs, connected devices, and alerts
- Provides detailed views of the AP status and client data

**Remote troubleshooting**
- Speeds problem resolution across multiple sites with easy drill-down menus
- Enables IT to perform troubleshooting commands from the cloud

**Simplified deployment**
- Simplifies configuration by applying consistent configurations and firmware to a group of APs
- Offers flexible one-click firmware upgrades for all APs or a group of APs, using a cloud-hosted firmware server

**Reporting**
- Creates scheduled or on-demand network and security reports
- Delivers PCI-compliance reports for compliance

**One-click provisioning**
- Downloads AP configurations from the cloud automatically
- Requires no local IT support; any person onsite can plug in and power up the APs

**HP cloud-managed APs**

HP provides a range of indoor cloud-enabled APs, including two- and three-spatial-stream 802.11n APs and three-spatial-stream 802.11ac APs. The APs come with internal antennas, Wi-Fi Clear Connect, integrated IDS, and flexible ceiling- and wall-mounting options.

**HP 365 802.11ac Cloud-Managed Access Points**
Offer 802.11ac performance to support increasing mobile-device densities and video applications
- 3x3 MIMO; three spatial streams
- Up to 1.3 Gb/s for 5 GHz radio and 450 Mb/s for 2.4 GHz radio

**HP 355 802.11n Cloud-Managed Access Points**
Delivers a high-performance solution for voice and multimedia applications
- 3x3 MIMO; up to 450 Mb/s
- 2.4 and 5 GHz radios

**HP 350 802.11n Cloud-Managed Access Points**
Provides a cost-effective solution for reliable wireless connectivity
- 2x2 MIMO; up to 300 Mb/s
- 2.4 and 5 GHz radios

**HP 560 802.11ac Access Points and HP 517 802.11ac Unified Wall Jack**
With more mobile devices being used in the workplace and congesting the network, IT professionals struggle to provide a high-quality end-user experience. The new HP 560 and 517 IEEE 802.11 ac wireless APs offer network agility, enabling organizations to support the growing number of mobile devices, while improving the user experience—with speeds three times faster than 802.11n.

The HP 560 802.11ac Dual-Radio Access Point Series brings 1.3GbE performance, faster application processing, and increased range to 802.11 clients. As the APs can be powered by PoE, they are ideal for dense client environments and high-bandwidth applications. And they offer full compatibility with legacy 802.11 clients and existing HP wireless controllers.

**Figure 2: HP 560 Access Points**

The HP 517 Unified Wall Jack converges wired and wireless connectivity into a low-profile design that can be quickly and discretely installed in a standard wall-outlet box. It is ideal for educational and hospitality environments, such as guest rooms or dorms; and it provides:
- Four Gigabit Ethernet ports
- A dual-band single-radio 802.11a/b/g/n/ac wireless AP
- Pass-through RJ-45 connection to support a range of service and user-connectivity options; one of the Ethernet ports can be configured as an IEEE 802.3af-compliant PSE port to enable devices such as IP telephones to be powered directly from the unit
- Delivers voice, data, and entertainment services in a single PoE cable drop helping eliminate the need for separate cabling, switch ports, and power sourcing

**Figure 3: HP 517 Unified Wall Jack**

These are the key highlights of both APs:
- Helps optimize WLAN coverage and reliability with Wi-Fi Clear Connect automatic power adjustment, real-time interference identification, and intelligent channel switching
- Locks out unauthorized wireless access by authenticating users prior to granting network access; and secures data integrity of wireless traffic with Advanced Encryption Standard (AES) or Temporal Key Integrity Protocol (TKIP)
- Comes with Lifetime Warranty 2.0 with 24x7 phone support for three years
OpenFlow support for wireless APs

With over 50 switch models supporting OpenFlow, a complete SDN architecture, and an open SDN ecosystem, HP continues to lead SDN enablement. By extending SDN to the wireless LAN through OpenFlow-enabled APs, HP is enabling organizations to leverage new SDN applications across the wired and wireless network. OpenFlow support also delivers investment protection, as it does not require you to rip and replace your existing infrastructure. OpenFlow is enabled with a free software update.

Figure 4: Extending SDN to the wireless LAN

HP Intelligent Management Center and Mobile Device Management (MDM) Integration

Intelligent Management Center (IMC) Endpoint Admission Defense (EAD), a critical module in the IMC BYOD solution, now integrates with two leading mobile device management applications—Citrix XenMobile and MobileIron—to provide a complete BYOD solution. These two applications provide the mobile device posturing required to verify that all endpoint devices accessing the corporate network are healthy and compliant with access policies. IMC relies on the posturing data returned from the MDM server to determine compliance and extend consistent access policies.

HP Network Protector and HP Network Optimizer SDN Applications

HP is leading the industry in developing and deploying campus SDN applications. With two new offerings, HP is enabling real-world SDN use cases for unified wired and wireless networks.

The HP Network Optimizer SDN Application for Microsoft® Lync® delivers up to 270 percent increase in call quality, improving the user experience while reducing network configuration by 80 percent.2

The HP Network Protector SDN Application provides real-time threat detection, protecting organizations from more than 1.5 million threats per day, while lowering the cost of securing the network.

HP Location Aware SDN Application

HP unified wired and wireless solutions open the door for new business models that allow organizations to derive more business value from network activity. Our new Location Aware SDN Application leverages patented HP Labs technologies to provide deterministic real-time location of wireless devices and assets on the network. You can benefit from increased Wi-Fi location accuracy (down to one square meter) and fewer APs, reducing CapEx by up to 60 percent.3

The Location Aware SDN Application allows organizations to:

- Locate assets and key personnel quickly
- Reduce loss of stolen assets with asset tracking and recovery services
- Improve network management and resource planning
- Enhance monitoring and physical security (especially in hospitals and educational institutions)
- Add new context applications such as search, location-based advertising, and consumer analytics

Existing Wi-Fi positioning systems are error prone and lack accuracy (approximately 10 meter accuracy). They also require extensive site surveys.

 Compared to traditional Wi-Fi positioning solutions, the Location Aware SDN Application offers these benefits:

- Five times accuracy improvement (less than 2 meter accuracy)4
- No manual calibration required
- No periodic fingerprinting required
- Less density of APs required

Figure 5: The HP Location Aware SDN Application compared to traditional Wi-Fi positioning solution

HP Smart Shopper

HP has developed a proof-of-concept technology demonstration called the HP Smart Shopper, which leverages the Location Aware technology and enables retail businesses to improve the customer experience by delivering real-time, dynamic retail analytics.

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2 Based on internal HP testing.
3 Based on the number of access points required versus traditional Wi-Fi positioning systems (with a PoC testing conducted at the customer site).
4 Based on technology developed by HP Labs and on PoC testing conducted at the customer site.
The Smart Shopper application is an aggregate solution, consisting of technologies from multiple HP business segments. The HP inventive in-store shopping experience combines our highly accurate Location Aware Application with contextually rich profile information from the HP Smart Profile Server (SPS) and virtual-reality implementations from Autonomy Aurasma. Shoppers are tracked in real time through an indoor shopping environment and are provided information based on their exact location and active user profile.

The SPS collects and analyzes data in real time from customer information sources, including voice and data networks and application portals. Data is statistically analyzed to produce in-depth subscriber insights—including preferences, interests, browsing behavior, satisfaction index, and loyalty—and churn scores to providing a 360-degree view of subscribers in real time. This high-value information provides effective delivery of personalized services and targeted ads that enhance the customer experience.

### Pricing and availability

- HP Cloud-Managed Network Solution to be available in June, 2014; the pricing yet to be announced
- HP 560 802.11ac Access Points available now; price: $1,199 USD
- OpenFlow support on select APs to be available in 2015; free software upgrade offered
- HP 517 Unified 802.11ac Wall Jack to be available in May, 2014; price: $499 USD
- HP Network Optimizer SDN Application available now; price: starting at $2,500 USD
- HP Network Protector SDN Application available now; price: starting at $2,500 USD per year
- HP Location Aware SDN Application pricing and availability yet to be announced

Learn more at [hp.com/go/networking](http://hp.com/go/networking)