HPE aruba networking

Solution brief

STAY AHEAD WITH AI-POWERED WI-FI

HPE

What is Wi-Fi 7?

Wi-Fi 7 (IEEE 802.11be) is the newest Wi-Fi standard that delivers the highest performance Wi-Fi available. It uses 320 MHz channels, multi-link operations (MLO) for greater reliability, and 4096 QAM (4K QAM) for higher peak data rates. Wi-Fi 7 is ideal for organizations who are leveraging the network to innovate business operations. Like Wi-Fi 6E, it takes advantage of the 6 GHz band to double the available wireless spectrum.

Whether you're outfitting new spaces or refreshing existing Wi-Fi infrastructure, it's essential to consider a Wi-Fi solution that meets the needs of both today and tomorrow. Growing demands from AI workloads, more IoT devices, and the continuing trend of distributed workplace raise the question—is your wireless network ready?

HPE Aruba Networking's Wi-Fi solutions help you stay ahead. Our Wi-Fi CERTIFIED solutions are designed to boost user and IoT experiences. They combine the latest radio and antenna technologies with AI-powered network management for improved performance, security, app visibility, location-based services, energy savings, and deployment options. Leverage the latest Wi-Fi innovations and AI capabilities to supercharge user experiences, and take advantage of connected IoT location-based services with unified, flexible management that spans wired, wireless, and SD-WAN.

Wherever Wi-Fi is needed, HPE Aruba Networking Wi-Fi access points are ready to provide fast, reliable, and secure coverage. Our portfolio includes indoor, outdoor, ruggedized, and remote Wi-Fi access points to address a wide range of enterprise use cases and price points, with solutions backed by a limited lifetime warranty.

Wi-Fi 7 that goes beyond the standard

Critical user and IoT applications and AI workloads depend on secure, seamless connectivity. HPE Aruba Networking AI-powered Wi-Fi 7 delivers the high performance, high-capacity coverage needed—managed by HPE Aruba Networking Central—for unified management, observability, and security across distributed wired and wireless environments.

HPE Aruba Networking Wi-Fi 7 access points optimize coverage and performance for both legacy devices and today's most demanding use cases with customizable tri-band radio configurations[1] for the 2.4 GHz, 5 GHz, and 6 GHz bands. Patented ultra tri-band (UTB) filtering enables full use of the high end of 5 GHz with the lower end of 6 GHz, without interference or limiting channels. Powerful IoT support includes dual IoT radios (BLE and Zigbee) and two USB connectors. Dual wired ports, one with MACsec support,[1] provide secure, high-speed, and redundant wired connectivity. Precision locationing with sub-one meter accuracy supports a wide range of applications with floor-level mapping.

In addition, series specific features include:

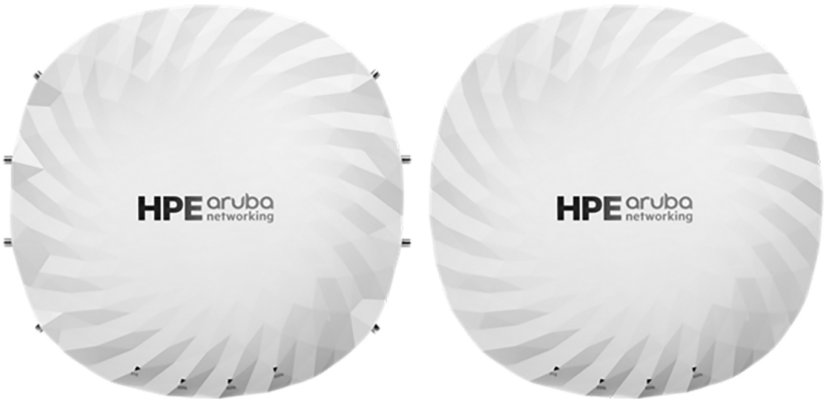


Figure 1. Flagship HPE Aruba Networking 750 Series Campus Access Points deliver up to 28.8 Gbps maximum aggregate data rate

[1] Available in future software release

AI-powered endpoint security

HPE Aruba Networking Central Client Insights provides accurate telemetry and behavior analysis, enabling effective mobile and IoT detection and profiling based on various features such as time on network and application usage. It ensures a seamless and secure wireless experience for users by enhancing network security and optimizing policy management.

— Flagship HPE Aruba Networking 750 Series Campus Access Points have three 4x4 MIMO radios, dual 10 Gbps multigigabit ports, and deliver up to 28.8 Gbps combined peak data rate.

— Midrange HPE Aruba Networking 740 Series Campus Access Points have three 2x2 MIMO radios, dual 5 Gbps multigigabit ports, and deliver up to 14.4 Gbps combined data rate.

These game-changing access points go beyond the standard to strengthen network security, provide precise location-based services, and create an IoT platform with enterprise-grade security, enabling enterprises to fully realize the value of their wireless investment and gain operational efficiencies.

AI-powered orchestration and management

HPE Aruba Networking access points work in tandem with the HPE Aruba Networking Central network management system to securely orchestrate users, apps, and IoT connections. HPE Aruba Networking Central provides observability that extends to third-party devices and management of campus wired and wireless assets, powered by purpose-built AI.

Leveraging one of the industry's largest data lakes to train both classification and GenAI, HPE Aruba Networking Central provides enhanced device and application flow recommendations, stronger security, and optimized configurations for your Wi-Fi access points.

With the ability to monitor over 3,700 apps through its Policy Enforcement Firewall (PEF), real time applications such as Microsoft Teams can be monitored for jitter, latency, and packet loss. Intelligent traffic management and QoS tagging optimize voice and video quality for uninterrupted, high-quality communication.

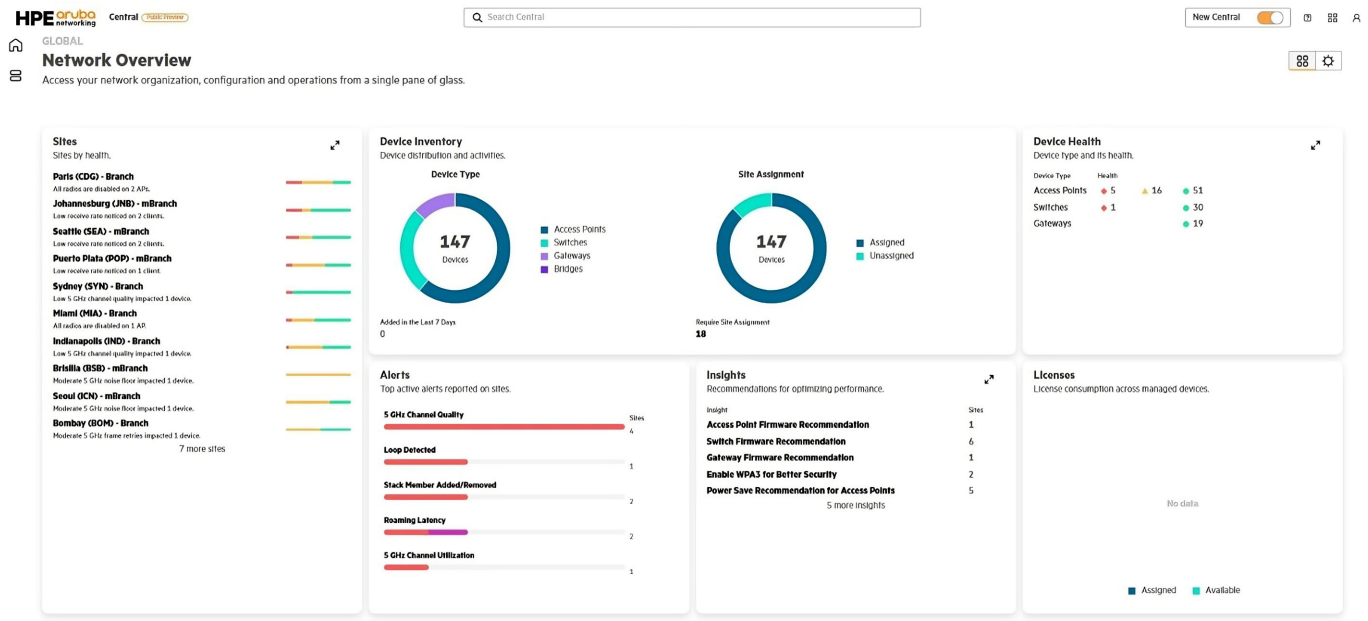


Figure 2. HPE Aruba Networking Central enables networking teams to access configurations and management from a single pane of glass and apply AI insights to optimize performance

Seamless, energy-saving Wi-Fi coverage

Providing reliable Wi-Fi across diverse environments is challenging. Our access points enhance roaming and connectivity with patented technology that direct clients to the best access point for the strongest signal, improving user experience. To further improve coverage, automated Wi-Fi radio frequency management uses machine learning for dynamic bandwidth adjustments to support changing device density. And it enhances roaming using an even distribution of Effective Isotropic Radiated Power (EIRP) to radios and real-time channel assignments to mitigate co-channel interference.

As with all products operating on unlicensed frequencies, interference can impact radio throughput. One way we've addressed this is with built-in filtering to automatically minimize the impact of interference from cellular networks, distributed antenna systems, and commercial small cell or femtocell equipment.

To support sustainability goals and help reduce power consumption, our APs support the AI-powered dynamic power save feature enables wakes up based on capacity needs, lowering the energy footprint. An Intelligent Power Monitoring (IPM) feature provides insights into energy consumption, with both network management software and access points continuously monitoring and reporting hardware energy usage. HPE Aruba Networking access points can also be configured to enable or disable capabilities based on available PoE power—ideal when wired switches have exhausted their power budget.

Uncompromised security

From top secret federal facilities to the largest financial and health institutions, HPE Aruba Networking wireless infrastructure supports many highly-sensitive data networks. Enhanced security is layered throughout the entire wireless solution. Each wireless application connection can be automatically segmented, removing the time-consuming and error-prone task of managing complex and static VLANs, ACLs, and subnets by dynamically assigning policies and keeping traffic protected and separated.

HPE Aruba Networking access points offer stronger encryption and authentication with WPA3, protected credentials/keys storage for guest access with Enhanced Open, and user and IoT access policy enforcement firewalls. The access points simplify policy enforcement by using the Policy Enforcement Firewall (PEF) to encapsulate all traffic from the access point to the gateway (or mobility controller) for end-to-end encryption and inspection.

AI-powered classification of all Wi-Fi clients and IoT devices through HPE Aruba Networking Central combines advanced fingerprinting, data lake learning, and deep packet inspection to provide behavioral context that helps ensure devices receive proper policy enforcement and continuous monitoring.

And for enhanced device assurance, HPE Aruba Networking Access Points include an installed Trusted Platform Module (TPM) for protected storage of credentials, keys, and boot code.

IoT connectivity made easy and secure

Bolster network security, connect a broad range of IoT devices, and eliminate the complexity of IoT device network overlays by using access points as IoT platforms. Our indoor and outdoor access points are IoT ready with integrated Bluetooth, Zigbee, and USB port extensions that cover a wide range of IoT applications and devices, and our Wi-Fi 7 access points include more processing power to support IoT runtime container apps at the edge.

IoT operations are secured and orchestrated through HPE Aruba Networking Central. IoT device monitoring of BLE, Zigbee, and USB protocol devices unifies the operations and visibility of IT and OT infrastructure within the network.

A broad ecosystem of technology partners provides interoperability for easier installations and operations. Certified solutions are available to help digital transformation and extend capabilities of network infrastructure.

Location-aware services

Indoor location services shouldn't require guesswork or costly overlay technologies. HPE Aruba Networking access points help organizations leverage their wireless investment to deliver indoor location services—everywhere. HPE Aruba Networking access points include built-in GPS receivers and intelligent software to allow them to automatically locate themselves accurately within the universal framework of latitude longitude, and altitude and place themselves on floor plan maps in HPE Aruba Networking Central. As part of the HPE Aruba Networking indoor location solution, our access points broadcast their location to client devices using fine-time measurements and other location technologies enabling application developers to rapidly create location-aware services. Select Wi-Fi 7 access points include built-in barometric sensor for altitude locationing within multi-story buildings for floor-level mappings.

Access points also support Open Locate, an emerging standard that allows access points to share their location over the air and through cloud-based APIs, enabling mobile devices to locate themselves and applications to support network analytics.

Figure 3. HPE Aruba Networking 600R Series Remote Access Points provide fast Wi-Fi 6E with optional 4G LTE for mission-critical remote work or branch connectivity

Wi-Fi for everywhere

Today's enterprises operate across a variety of environments that demand seamless and secure high performance Wi-Fi. HPE Aruba Networking access points provide broad network observability, improve mobile client coverage, optimize Wi-Fi bandwidth, and increase operational efficiencies with a choice of cloud or on-premises deployment options. Our portfolio of Wi-Fi 7, Wi-Fi 6E, and Wi-Fi 6 access points are designed for the following environments:

— Campus and indoor workspaces

— Stadiums and large public venues

— Branch offices, remote sites, and hospitality

— Outdoor, warehouse facilities, and hazardous environments

Figure 4. HPE Aruba Networking 670 Series Outdoor and Hazardous Location Access Points provide Wi-Fi 6E to environmentally challenging environments

Seamless, simplified, and secure remote work

HPE Aruba Networking access points make it simpler to provide secure, reliable connectivity for remote workers, especially those using contact centers and other mission-critical applications. Microbranch capabilities combine Wi-Fi and SD-WAN to extend the WAN to remote workers—without requiring gateways. Using a single access point, IT can secure the home office by applying unified policy-based routing and cloud security inspection. IT gains comprehensive visibility into campus, branch, and remote work environments in a combined dashboard that streamlines operations and accelerates problem resolution.

Robust connectivity for outdoor and hazardous locations

Purpose-built for the outdoors, HPE Aruba Networking outdoor and hazardous location access points are fully sealed to withstand harsh weather, extreme temperatures, persistent moisture, salt spray, and high winds—helping ensure they deliver high performance and range, no matter the conditions. Built with industrial-rated components and backed by a limited lifetime warranty, the outdoor access points feature the latest Wi-Fi standards, AI capabilities, and dynamic segmentation, and are IoT ready with Bluetooth and Zigbee radio support. Select models are designed for hazardous environments and meet Class 1 Division 2 or ATEX Zone 2 requirements.

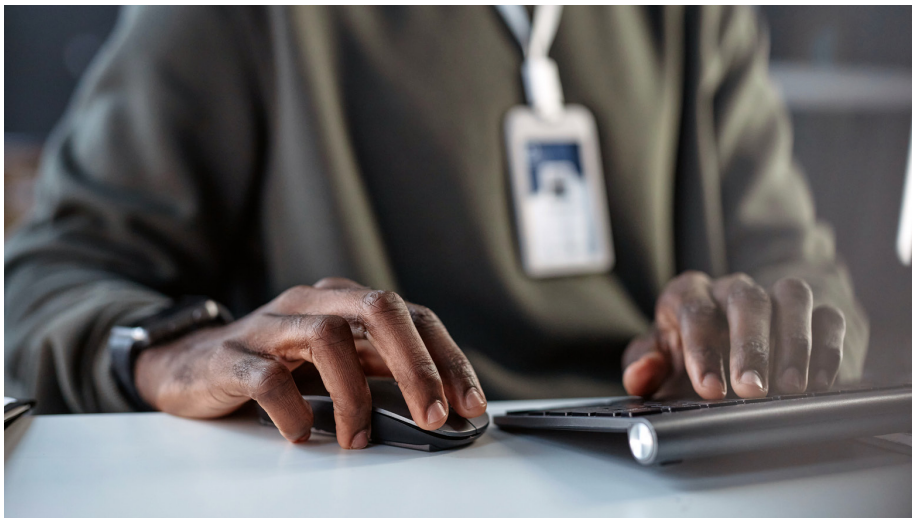
Deploy quickly and flexibly

Embrace the ultimate in deployment flexibility. HPE Aruba Networking Wi-Fi infrastructure can be managed in the cloud, on-prem, or as a service so you can maximize the power of AI and ensure the best deployment option for your use case.

For installations across multiple sites, access points can be factory shipped and activated with zero touch provisioning using your choice of deployment options—reducing deployment time, centralizing configuration, and simplifying inventory management

Enjoy customer first, customer last support

Partner with our product experts to increase your team's productivity, keep pace with technology advances and software releases, and obtain break-fix support. We offer flexible options to meet your needs based on your wireless architecture. Our HPE Foundational Care services include priority access to Technical Assistance Center (TAC) engineers 24x7x365, flexible hardware and on-site support options, and total coverage for HPE Aruba Networking products. Add HPE Aruba Networking Pro Care for fast access to a senior TAC engineer who will be assigned as your single point of contact to reduce the time you spend on issues.



Why choose HPE solutions?

With proven Wi-Fi leadership and innovation, HPE's access points and related Wi-Fi solutions deliver greater efficiency, higher performance, and better user and IoT experiences across indoor and outdoor campus, branch, and remote work sites. So stay ahead and leverage the latest Wi-Fi innovations and AI capabilities to supercharge your enterprise Wi-Fi. We also offer complementary coverage with HPE Aruba Networking Private 5G, which makes it easier to purchase, deploy, and manage private networks to provide connectivity for challenging use cases.

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