

Solution overview

HPE aruba
networking

Global service providers

 **Hewlett Packard**
Enterprise

Managed networking services powered by HPE Aruba Networking Edge Services Platform

Empowering service providers to deliver modern networking services quickly and efficiently

Businesses today are becoming more digitally driven, with distributed workforces accessing more cloud-based applications and tools than ever before. New technologies enable increased productivity and business agility, but realizing their true potential requires a network architecture designed to provide secure high-performance, low latency connectivity, and quality of service at scale. Budget constraints, staffing challenges, and network complexities are driving many companies to consider more efficient ways to acquire, manage, and maintain the network architecture they need to support their business objectives now and in the future.

For global service providers (GSPs) interested in building a managed networking services practice there is a huge opportunity to open new revenue streams, by offering customers a Network-as-a-Service alternative that adapts to new and evolving needs. However, delivering an easily expandable set of services requires offerings to be built upon a modern network architecture that supports a broad selection of solutions that can be easily integrated into network operations centers (NOC).

Introducing HPE Aruba Networking Edge Services Platform (ESP)

HPE Aruba Networking ESP is the industry’s first AI-powered platform designed to unify, secure, and automate the edge. It combines AIOps, edge-to-cloud security, and the unified management of wired, wireless, and WAN across data center, campus, branch office, microbranch, and remote locations. With enterprise-class network hardware, a comprehensive set of APIs, integration with hundreds of solutions offered by our technology partners, and flexible financing and delivery options, HPE Aruba Networking ESP provides a foundation for a broad set of network services that GSPs can deliver to meet the evolving business needs of their customers.

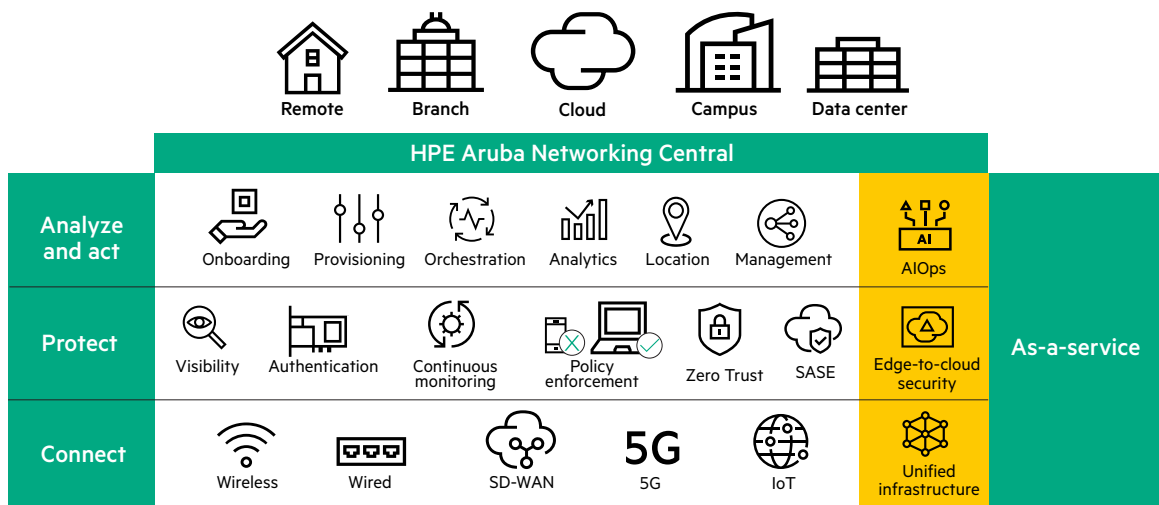
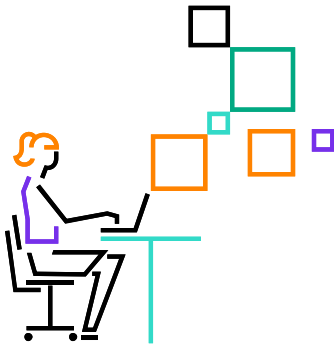


Figure 1. HPE Aruba Networking ESP architecture

The diagram above illustrates the functional layers of the HPE Aruba Networking ESP architecture:

- **Connect:** The connect layer supports a comprehensive range of transport technologies for all end point locations and devices. HPE Aruba Networking ESP supports WLAN, LAN, SD-WAN, 5G, and IoT protocols, and the platform has been designed so that new technologies can be added as they become relevant.
- **Protect:** The protect layer provides complete visibility of all devices and clients and automatically applies Zero Trust network security policies across the entire network.





A better way to offer managed network services

HPE Aruba Networking ESP's comprehensive, secure, and cost-effective [multi-tenant cloud management](#) for HPE Aruba Networking wired, wireless, and SD-WAN networks empowers GSPs to take a new approach to building and selling managed network services. Instead of productizing individual point products and managing large portfolios of disparate solutions with varying levels of maturity, complexity, and integration capabilities, HPE Aruba Networking ESP offers GSPs a comprehensive platform that lays a foundation to create a broad set of competitive network services that can be offered to customers based on the service sets in which they are interested. As customer business needs grow, incremental services can be easily added without significant cost, complex integration, or substantial management overhead.

The HPE Aruba Networking ESP ecosystem is complementary to broadband, wireless, MPLS, and security services, and allows GSPs to build NaaS offerings that augment existing services with new revenue streams and provide customers with the next-generation technology options they are looking for.

- **Analyze and act:** The analyze and act layer provides simplified onboarding, orchestration, and management workflows, advanced intelligence for automated troubleshooting and remediation, and location services to simplify IT maintenance and provide additional intelligence to business applications.

The functional layers of the HPE Aruba Networking ESP architecture are centrally controlled within HPE Aruba Networking Central, our cloud-native network management console. Central is an extensible platform with a full suite of RESTful APIs for integration with back-end systems and multi-cloud environments, as well as pre-integrated technology partner solutions that make productizing targeted solutions possible.

Key products

- [HPE Aruba Networking Central](#): An all-in-one network management solution built on cloud-native microservices and features. Multi-tenant views of multi-national customers, intuitive dashboards, full reporting, built-in AI-powered troubleshooting and optimization insights, as well as detailed profiling and authentication features are included. Cost-effective licensing simplifies deploying, monitoring, and maintaining multiple customer networks at scale. Central on premises is available as an option.
- [HPE Aruba Networking Access Points](#): Indoor and outdoor enterprise-class wireless connectivity for campus, branch, and work-from-home environments. Delivers superior performance, resiliency, and flexibility with zero touch deployment, built-in and enhanced policy-based security, native voice and video optimization, application visibility, and RF optimization features.
- [HPE Aruba Networking CX Switches](#): Market-leading scalable, high performance Ethernet switches designed to meet the challenges of the mobile-cloud and IoT era where visibility, automation, and security are critical. Our CX switch portfolio provides high availability from the data center to the edge, utilizes a single operating system, leverages network analytics for real-time network-wide insights, and employs software-defined orchestration and change-management flexibility.
- [HPE Aruba Networking Gateways](#): Edge appliances optimized to provide high-performance traffic and data routing, dynamic segmentation, and role-based access at branch locations.
- [User Experience Insight](#): Cloud-based platform to test and monitor applications across wired, wireless, and WAN networks. Tightly integrated with Central for extended visibility beyond the network environment.
- [ClearPass Device Insight](#): AI-powered visibility and classification of all devices on your network. Integrates with Central and ClearPass Policy manager for management and secure policy enforcement.
- [ClearPass Policy Manager](#): Dynamic enforcement of identity-based access across wired, wireless, and WAN networks, automated policy control and response, and secure access for guests, corporate devices, IoT, and BYOD.
- [EdgeConnect SD-WAN solutions](#): A single SD-WAN fabric that allows enterprise organizations to securely connect users to applications across the entire business: from edge to cloud.

Key differentiators of HPE Aruba Networking ESP

A comprehensive portfolio of solutions that offers an adaptable and scalable architecture for indoor and outdoor connectivity and WAN services that can be paired together to meet the requirements of customers in any industry. The breadth of the HPE Aruba Networking portfolio empowers GSPs to take a land and expand approach, delivering services that meet immediate customer needs and offering incremental services as their network requirements evolve.





Unified infrastructure management provides complete network visibility with a single point of control to oversee every aspect of wired, wireless, WAN, and network security across campus, branch, remote, and data center locations. HPE Aruba Networking enables faster time to value by hosting and maintaining the cloud-managed networking platform, allowing service providers to focus on delivering value-added services with higher margin potential.

Scalable SD-WAN fabric the HPE Aruba Networking EdgeConnect fabric provides any-to-any mesh Secure Access Service Edge (SASE) connectivity across locations of any size, including data centers, hybrid clouds, IaaS, and SaaS. The HPE Aruba Networking EdgeConnect fabric uses advanced capabilities like tunnel bonding, path conditioning, adaptive internet breakout, and WAN optimization to deliver the highest levels of application performance and availability. HPE Aruba Networking EdgeConnect solutions integrate easily into multi-cloud environments and with leading cloud security solutions to enable service providers to deliver a best-in-breed SASE solution available.

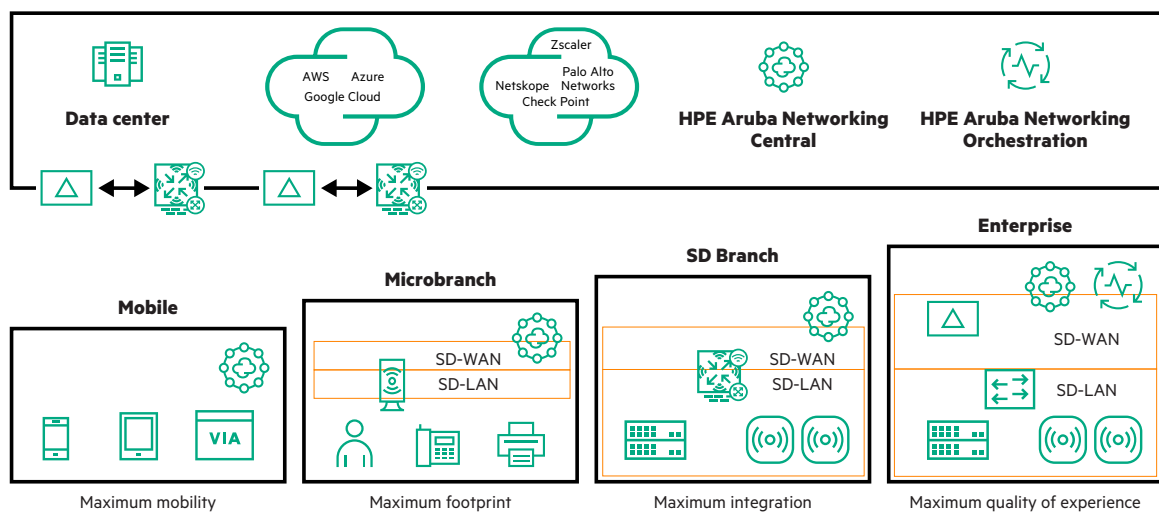


Figure 2. Scalable SD-WAN fabric





- **Remote work:** EdgeConnect Microbranch combines Wi-Fi and SD-WAN on a single access point to extend the corporate WAN to remote workers in homes or small offices. It integrates well with leading cloud security providers and eliminates gateway hardware at small sites.
- **Distributed environments:** EdgeConnect SD-Branch Orchestration empowers IT to centrally manage virtual, headend, and branch gateways and route traffic over MPLS, broadband, and cellular links from Central. Full-featured and cost-effective, EdgeConnect SD-Branch is an optimal solution for distributed enterprises looking to implement SD-WAN capabilities in many locations.
- **Enterprise:** EdgeConnect Enterprise is HPE Aruba Networking's flagship premium SD-WAN solution that offers unique flexibility, enabling service providers to differentiate their managed SD-WAN services. It can be deployed using physical or virtual SD-WAN gateways in branch offices to create a secure, virtual network overlay. An intuitive interface employs a rich set of features including orchestration, WAN optimization, business intent overlays, path conditioning, tunnel bonding, and UTM. With metered billing, integration with leading cloud security solutions, and flexible deployment models, service providers can leverage advanced software automation to rapidly create and deploy varying tiers of new and customized managed SD-WAN and SASE services.

Simplified onboarding and provisioning accelerates the deployment process with an easy setup wizard, flexible configuration options, and zero touch provisioning, further aided by an intuitive mobile installer app. These tools minimize deployment schedules and greatly reduce time to value for customers — particularly those with many distributed sites.

AI-powered monitoring and troubleshooting automates management activities, reduces IT support tickets and associated costs, and enables significantly higher SLAs. The AIOps features are based on machine learning models that are consistently trained with network performance data collected from tens of thousands of HPE Aruba Networking customers across every vertical, market segment, and network type. AI-powered features include:

- **AI Insights** automatically identifies and diagnoses an array of common network-impacting issues by using dynamic, per-site baselines that are continuously tuned as conditions change
- **AI Search** is the natural language processing (NLP) engine of the Central data lake that points to solution guides, troubleshooting tips, and more
- **AI Assist** uses event-driven automation to collect diagnostics, post them to a shared location, and even notify HPE Aruba Networking TAC for proactive customer support
- **Self-healing workflows** enable automatic configuration updates as needed, helping IT fix issues without manual intervention



- **Monitoring dashboards** detailing network health and assurance, application visibility, UCC analytics, client health, and AI-based connectivity insights provide IT administrators with summary views of the most sought-after and relevant information needed to assess network performance

Patented mobility features

Optimizes radio frequency operations and delivers reliable and high performance connectivity. HPE Aruba Networking access points are equipped with advanced AI and machine learning capabilities that keep Wi-Fi networks performing at peak levels. This enables GSPs to provide a premium connectivity experience to customers that will differentiate their services from competitive offerings.

- **Optimized client connectivity:** [ClientMatch](#) uses AI and advanced analytics to monitor radio frequency, AP to client density, channel saturation, bandwidth capabilities, sticky client tendencies, and other environmental factors to dynamically direct clients to the best available AP for an optimal connectivity experience.
- **Automated RF management:** [AirMatch](#) uses machine learning techniques to provide radio frequency optimization, enabling the network to automatically adapt in real time to changing RF conditions such as changes in the number of connected endpoint clients, high noise, and radar interference.
- **SLA-grade application QoS:** Air Slice monitors network usage and automatically allocates and dynamically adjusts radio resources as new users connect and application sessions begin or end. Air Slice helps guarantee stringent application performance for latency-sensitive and high-bandwidth uses including voice and video.
- **Cellular roaming:** [Air Pass](#) creates a roaming network across the HPE Aruba Networking enterprise customer footprint, extending cellular coverage and enhancing the visitor and subscriber experience to deliver a great experience for your clients. It enables the creation and sale of new services offerings to customers looking for DAS alternatives.

Location-aware access points

Use a combination of built-in GPS receivers, Wi-Fi location support for fine timing measurement (FTM), and intelligent software to enable highly accurate, automated WLAN AP deployments that minimize manual mapping techniques in HPE Aruba Networking Wi-Fi 7 APs. The accurate location of the Wi-Fi 5 and Wi-Fi 6 access points enables GSPs to easily develop or enhance unique services related to asset tracking, safety/compliance, facility planning, venue experience apps, or other location-aware services.

Automated edge-to-cloud security

Delivered by HPE Aruba Networking Central [NetConductor](#) provides advanced, cloud-native configuration, management, and security capabilities, including intent-based policy automation and orchestration, intuitive network access and authentication controls, and AI-based discovery and profiling of all connected clients. These built-in capabilities enable GSPs to deliver comprehensive security network services with lower cost and maintenance overhead. Key attributes include:

- **Global policy automation and orchestration** empowers IT to define and maintain global policies at scale with ease, using UI-driven intent-based workflows that automatically map user roles for employees, contractors, guests, and devices to their proper access privileges. This ensures automatic enforcement of policies enterprise-wide, reducing implementation and maintenance effort and lowering risk.
- **Cloud-based user and device authentication** simplifies IT network access management while providing a frictionless experience for end users who need connectivity. It eliminates the need for onsite authentication servers, lowering cost and reducing hardware footprint at end-user locations.
- **AI-based client profiling** employs machine learning-based classification of all clients using dynamic comparisons against crowdsourced fingerprints of known clients and MAC range classification. It provides complete visibility of all mobile and IoT devices associated to the network and enables accurate policy enforcement.
- **Dynamic Segmentation** unifies role-based access and policy enforcement across LAN, WLAN, and SD-WAN networks with centralized policy definition and dedicated enforcement points, ensuring that users and devices can communicate with destinations consistent with their role only, keeping traffic secure and separate. It eliminates VLAN sprawl, simplifies IT management of policy enforcement, and lowers risk of intrusion.





Shared pool of devices and licenses

Allows HPE Aruba Networking's GSP partners to own and control all devices and licenses assigned to their respective customer accounts, and under their multi-tenant account GSPs can easily move them from one account to another based on customer needs. Up to 90-day delayed activation is available for all new licenses, and licensing seats from specific license keys can be assigned to customer devices, allowing GSPs to co-terminate licenses for individual accounts and upgrade features mid-contract term for greater agility, flexibility, and faster deployments.

Powerful extensibility

Provided by HPE Aruba Networking ESP, supports a full set of APIs and is integrated with hundreds of technology partner solutions that make enable GSPs to build out custom service sets more easily.

- **Comprehensive set of RESTful APIs** that support all Central services. Service providers can leverage these APIs to create custom applications or integrate with back-end systems, such as external data lakes, ticketing and billing software, and configuration automation systems. HPE Aruba Networking also offers webhooks for ServiceNow, as well as the HPE Aruba Networking Integration Manager (AIM) that simplifies integration between Central and ConnectWise.
- **Deep bench of integrated technology partner solutions** are available to customize and differentiate service offerings to meet any customer need by incorporating edge, location-based, and security solutions from our over 400 technology partners. Browse the full list of solutions available on [HPE Aruba Networking's Technology Partner Finder](#).

Ease of doing business with HPE Aruba Networking

Beyond an industry-leading portfolio of solutions with vast opportunities for services delivery, HPE Aruba Networking makes doing business easy with account support, financing options, and training solutions that enable GSPs to accelerate time to market.

Strong culture and values

HPE Aruba Networking is a unique company born from a strong set of core values that drives our product roadmap, our market approach, and how we build relationships both internally and externally. There are three core values we live by:

- **Customer first, customer last:** We don't develop technology for technology's sake. Everything we do starts and ends with our customers, which includes our partners and how we engage with them. We succeed if our partners succeed and forging strong working relationships allows us to build joint value and accelerate time to revenue as a team.
- **Unconventional and innovative:** We have never been a traditional networking company; since the beginning we've had to change the rules to survive. This is reflected in everything we do. Through our innovation we empower GSPs to take a platform approach to selling services that can be packaged to meet immediate customer demands and expanded as requirements grow.
- **Biggest, small company:** Over the years, we've maintained our core value of being the biggest, small company — treating our customers, partners and employees like family while remaining nimble and ahead of market shifts.

Dedicated, experienced account teams

Our success depends on the success of our service provider partners, and we are here to support them every step of the way. HPE Aruba Networking has a team of account managers and systems engineers around the globe that are knowledgeable about the





service provider business and are dedicated to ensuring the success of each of our service provider partners. Additionally, HPE Aruba Networking has regional and global marketing resources that assist our account teams and service provider partners to bring new service offerings to market.

Flexible finance and service partnership options

Whether they choose to build out their own network operations center (NOC), take advantage of cash-back and financing options, and/or leverage HPE GreenLake service offerings to accelerate time-to-revenue, HPE Aruba Networking's flexible financial engines and services partnership models allow GSPs to build an acquisition and delivery strategy that works best for them. Our account teams are well versed on the wealth of tools available and can guide partners on the best options.

Comprehensive support, services and training

All managed software subscriptions include full 24x7x365 phone and online support services for hardware and software. SOW integration & onboarding is also available as a custom service.

Standardized self-paced and instructor-led training and certification programs are also available, providing the background & insight required to build and successfully manage a network services business. HPE Aruba Networking can also collaborate with GSP partners to develop customized training programs that support specific business objectives.

Partner with a proven industry leader

Launched in 2003, HPE Aruba Networking has long been considered by the industry's leading analyst firms as a leader in the Enterprise wired, wireless, and WAN networking business. HPE Aruba Networking has been placed as a leader in the Gartner® Magic Quadrant for Wired and Wireless LAN Infrastructure for 16 consecutive years, and as a leader in the Gartner® Magic Quadrant for WAN Edge Infrastructure for 4 consecutive years.

This recognition represents a level of consistency unmatched by any competitor and highlights our innovation, vision, and ability to deliver the exceptional solutions, experience, and value that customers deserve. Service providers can be confident that our leadership will complement their own services expertise and empower a strong joint value proposition to customers.

The bottom line

HPE Aruba Networking ESP provides the most comprehensive set of industry-leading networking technologies and technology partner solutions GSPs need to create and deliver networking services that increase revenue potential and complement existing broadband service offerings.



Solution overview

18

consecutive years as a leader in the Gartner® Magic Quadrant for **Wired and Wireless LAN Infrastructure**

4

consecutive years as a leader in the Gartner® Magic Quadrant for **WAN Edge Infrastructure**



ESP is not a point solution. It is a solid foundation for competitive network service solutions that can be delivered and expanded upon to create new revenue opportunities. ESP offers:

- Cost-effective and scalable network solutions for data center, campus, branch, and remote locations in any vertical
- A modular “land & expand” sales approach
- Highly accurate AIOPs intelligence for efficient network operations and higher SLA delivery
- Patented performance features for best-in-class customer experiences
- The best-in-class edge-to-cloud/SASE solution available
- Flexible financing and partnership models for services delivery to accelerated time to revenue

In practice, many GSPs who have established managed networking service offers with HPE Aruba Networking are realizing 5 to 10x additional revenue potential for services delivered upon our hardware and software solutions.

The bottom line is that HPE Aruba Networking is the only vendor that combines industry leadership, a modern extensible network platform, focused account support, and financing and service partnership alternatives that empower GSPs to accelerate quickly to create competitive network services offerings that scale.

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