Next generation network operations with HPE Aruba Networking Central

Supercharge your IT organization with AI-powered, operator-centric Day 0 to Day N network management

HPE aruba networking

What is a network operator?

A network operator is a person or team responsible for the lifecycle management of a network and its security, IoT connectivity, and associated software. Network operator responsibilities include design, deployment, configuration, and maintenance activities.

Only 27%

of enterprises are fully successful with NetOps, down from **47%** in 2018[1]

#1

Insufficient skill is the **number 1** challenge and will compound further in the next 12 months[2]

[1] Source: EMA Network Management Megatrends 2022

[2] Source: Gartner Leadership Vision for 2023: Infrastructure & Operations

Network as a business-critical resource

Today's IT leaders know that to foster differentiation and growth, you must deliver an exceptional user experience. Networks are a business-critical resource in this equation, providing the high availability, performance, and security required to ensure the highest quality user experience.

The network operator experience is pivotal

The network operations team plays a critical role in ensuring experience level agreements are met. To meet demanding metrics such as "five 9s," "always on," and "zero call drops"—while making sure security and compliance requirements are fulfilled—network operators must be equipped with the right set of data and capabilities.

Network operations challenges

Today's network operations teams are under tremendous socio-economic and technology pressure:

- **IT skill shortages:** A limited talent pool with advanced skills such as cloud and WAN transformation, artificial intelligence (AI), large-scale automation, and the prevalence of IT generalists puts greater demand on a small group of highly skilled personnel.

- **Data complexity:** Exponentially growing data and the variety of data sources increase complexity, which makes deriving inferences from data highly expertise dependent.

- **Fragmented operations:** Independent management of wired, wireless, WAN, and access control solutions leads to greater risk of human errors due to siloed tools.

- **Security risks:** Rapid IoT adoption and limited endpoint visibility creates an increasing cybersecurity risk.

Overwhelmed with to-do lists and repetitive tasks, network teams are often focused on putting out fires and keeping the lights on.

Next generation HPE Aruba Networking Central

HPE Aruba Networking Central is a powerful cloud-managed networking solution that unifies the management of wired and wireless LANs, WANs, and VPNs. As the management and orchestration console for Aruba ESP (Edge Services Platform), Central provides a single point of control and visibility across campus, branch, remote, and data center locations.

Lower cost of network administration by

Lower total cost of ownership (TCO) by
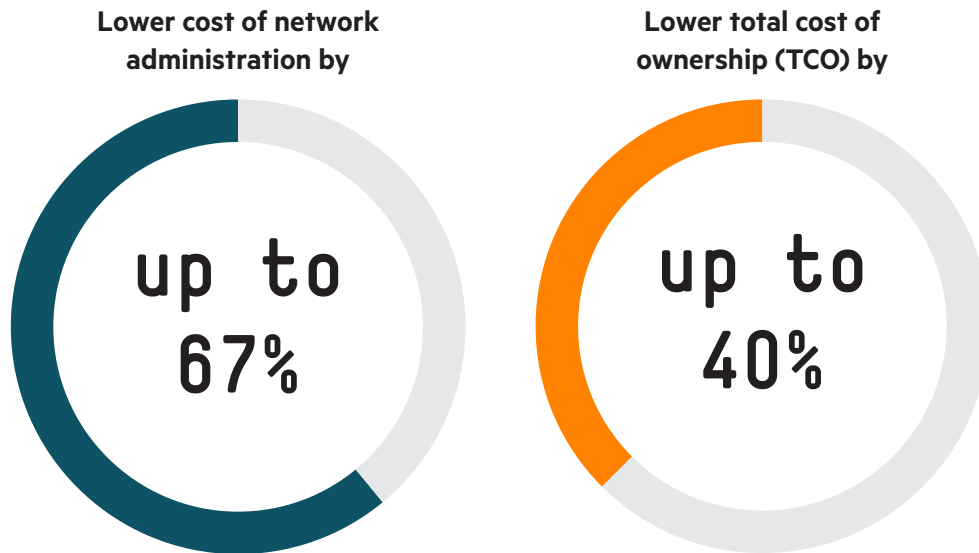
up to
67%

up to
40%

Figure 1. Enterprise Strategy Group (ESG) Economic Validation of HPE Aruba Networking Central (November 2022)

HPE Aruba Networking Central
Is built on a cloud-native, microservices architecture and is integrated with HPE GreenLake, enabling IT executives to view and manage their compute, storage, and networking infrastructure from a single platform.

Day 0 and Day 1 operations refer to the initial network setup, deployment, configuration, change management, and policy management.

Day 2 to N operations refer to the ongoing operations of a network involving monitoring, troubleshooting, performance optimization, and reporting.

Amplifying the value of unified cloud-managed networking (Figure1),

Next-generation Central maximizes productivity and streamlines operations with a modern, intuitive user experience that is AI-powered and operator-centric. It is designed with a deep understanding of network operator needs and goals.

Highly efficient and scalable data processing for AI helps unlock the value of data by making it more accessible, organized, near real-time, and insightful. This forms the foundation for the next generation of Central, transforming the way operators interact with the network.

A range of capabilities such as intuitive navigation, graphical visualization, natural language processing (NLP), 100% API support, and unified intent-based workflows empowers operators across skill levels with data-driven intelligence to streamline Day 0 to Day N operations.

For ease of adoption, users can toggle between the classic HPE Aruba Networking Central view and the new HPE Aruba Networking Central view, offering the flexibility to experiment without risk and to provide valuable feedback as we continue to innovate.

Realize the power of AI and automation

HPE Aruba Networking Central includes built-in AIOps features that leverage a massive, diverse data lake and uniquely combine network, security, and user-centric analytics to provide:

- **Contextual, full-stack visibility** across wired, wireless, WAN, IoT, security and state of applications for greater observability – eliminating siloes and network blind spots. This is made possible by deep instrumentation within our network devices.

- **Relevant, actionable, and continuously enhanced telemetry** of 1000+ fields including states, stats, events, flows, and configurations, offering comprehensive coverage for multi-dimensional analysis across Day 0 to Day N operations and identifying 'needle-in-the-haystack' problems.

- **Global, multi-dimensional AI/ML models** trained to look across infrastructure to offer cross-platform visibility for better root cause analysis.

- **Automated experience-level baselining** to eliminate the manual setting and adjusting of default service level thresholds. Continuous optimization insights and elimination of false positives (and negatives) based on baseline data and that of anonymized peer groups with similar environments

- **Intelligent automation** with intent-based workflows to decouple business intent from physical network construction across access points, switches, and gateways, helping eliminate error-prone manual tasks across complex, large-scale Day 0, Day 1, and Day 2 operations
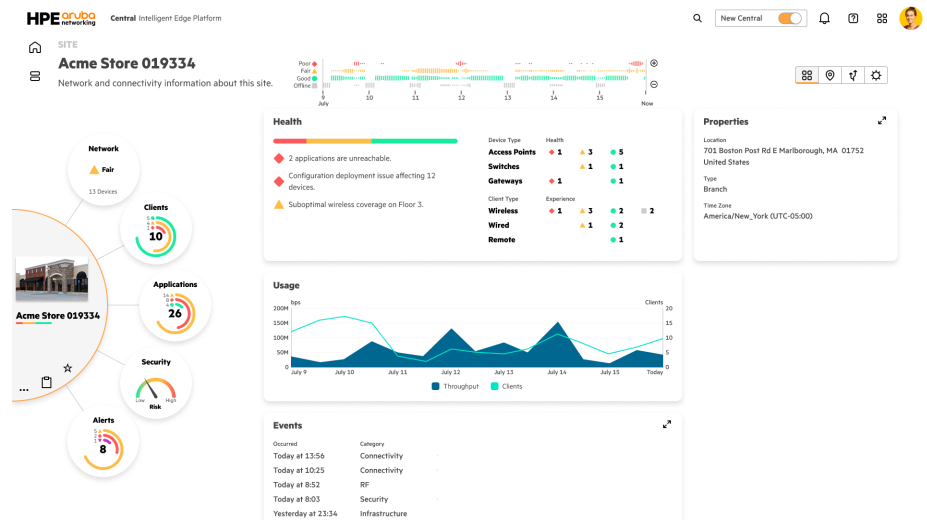
Figure 2. Moving beyond menu-based network navigation with the 'solar system' view

Gain an operator-centric experience

HPE Aruba Networking Central's new user experience pivots around a multi-dimensional dashboard (Figure 2) that contextualizes a large amount of data across network entities. The dashboard view consists of a combination of dynamic information panels (Health, Usage, Event, and Properties in Figure 2), based on specific workflows and serving as an anchor for the following key capabilities:

Exploratory 'solar system' view

Menu-based navigation is transformed with a 'solar system' view that better represents complex networks. The center of the solar system is the focal point (Acme Store in Figure 2) for related elements, including clients, applications, security, and alerts. Selecting a different entity (such as a particular client) updates the focal point and the entire view in relation to it. The solar system view allows users to quickly locate what they need without navigating across several screens and tables, reducing the cognitive load of manual correlation.

Industry-first network time travel

Moving beyond packet capture and event log analysis, 'time travel' (Figure 2) revolutionizes the troubleshooting of complex, intermittent issues, offering an accurately correlated point-in-time snapshot of the network for up to 7 days with one minute granularity. This allows network teams to jump back in time for a holistic view of the network that includes operational status, configurations, events, and performance. HPE Aruba Networking Central does the heavy lifting of deep analysis to ensure operators have what they need to reduce mean time to resolution (MTTR).
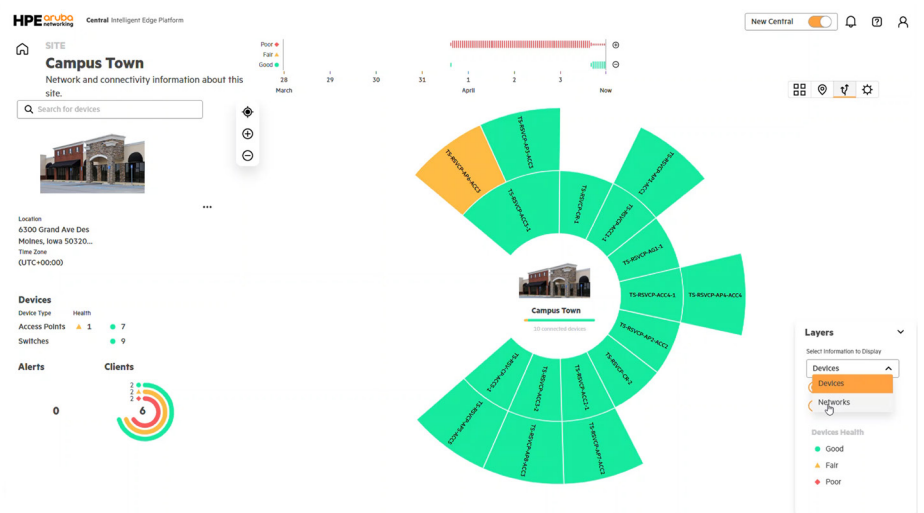
Figure 3. Powerful topology visualizations for any size network

'Sunburst' topology views

Traditional node-and-link network visualizations are transformed with a scalable 'sunburst' topology that represents the hierarchical structure of the network, clearly and simply (Figure 3). Each ring in the view represents a level of hierarchy, providing physical and logical connectivity views that include rich context filters to support troubleshooting, network configuration changes, understanding the impact of an upgrade, and other use cases for networks of any scale.

Assurance indicators

Algorithmically determined assurance indicators for device health and client experience offer precise root-cause information based on full-stack correlation of relevant data. For example, an experience indicator for a failed client can indicate a communication issue due to a missing VLAN in the data path. This delivers faster first-level triage, which points the help desk or IT staff in the right direction with less guesswork.

Near real-time AI-powered insights

AI-powered insights for wired, wireless, and WAN are generated in a matter of minutes to quickly alert IT teams to any issues to get ahead of help desk calls. Intelligent clustering of events reduces alert fatigue and provides precise root cause analysis that includes the impact of a problem and required actions to significantly reduce MTTR.

Natural language-aided AI search

Built in AI-powered search feature understands user intent, delivers dynamic suggestions, and responds with intuitive interactive cards that offer everything from setup guidance to navigation guidance for actionable problem solving – by user, device, infrastructure, or site. Natural language support is not only limited to troubleshooting but is also equally effective for Day 0 and Day 1 operations.

AI-powered client profiling

First-of-its kind agentless, AI-powered client profiling leverages behavioral analytics and the fingerprints of over 200M endpoints to identify clients with up to 99% accuracy. It also uniquely correlates client and network telemetry and includes the ability to see traffic patterns per client. Advanced filtering and custom group tagging options aid granular policy creation and enforcement for streamlined onboarding and access control.

Streamline Day 0 and Day 1 Operations
Device-agnostic configuration workflows

Moving away from device-specific configuration workflows, HPE Aruba Networking Central introduces critical capabilities for Day 0 and Day 1 operations.

Configuration workflows reflect business intent and are unified across device types. The configurations are modelled and automatically translated into device-specific CLI configurations across APs, switches, and gateways. IT teams no longer need to familiarize themselves with different types of workflows based on device type. HPE Aruba Networking Central abstracts all device configuration complexity, delivering operational simplicity and automation at scale. A choice of configuration methods (Figure 4) including graphical user interface, CLI editor, and APIs provide flexibility.
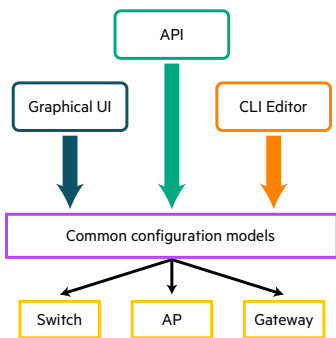
Figure 4: Choice of configuration methods

NaaS-ready interface
With AI-powered operational efficiency, next generation Central offers the flexibility, security, automation, and scale required for successful network-as-a-service implementations.

With 100% API support that is unified across device types, HPE Aruba Networking Central delivers enhanced programmability with the ability to seamlessly integrate with other HPE Aruba Networking or third-party solutions or platforms in the technology stack.

Central NetConductor policy manager is the first available HPE Aruba Networking Central service with device-agnostic workflows for end-to-end policy management.

Flexible enterprise-grade configuration

IT organizations are transforming from distributed models, in which different geographical regions of the enterprise network are designed and managed by regional teams, to centralized models, in which global networks are managed by smaller IT teams concentrated at a few locations to optimize for specialized skill requirements.

Next generation Central offers a unique, multi-level hierarchy that can flexibly address configuration use cases of any-sized network and consists of five levels that include global, site collection, sites, device groups, and devices. Granular configuration control and reusable profiles are configured once and applied as required, allowing for intent-based modeling of the most complex configurations.

Maximize productivity with next generation Central

Next generation Central offers superior usability and equips network teams with a comprehensive, AI-powered toolset to empower personnel across skill levels by:

• Reducing the learning curve needed for adoption

• Enabling faster root cause analysis for reduced MTTR

• Delivering operational simplicity with unified configuration workflows

• Enhancing programmability with 100% API support across the network lifecycle

Next generation Central will be made available for early adopter access towards the end of this year.

For more information, visit

arubanetworks.com/products/network-management-operations/central/next-generation/

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