HPE aruba networking

Data sheet


# HPE Aruba Networking Mobility Conductor

## Virtual or hardware appliance for enhanced scale and reliability for HPE Aruba Networking Mobility Controllers

HPE

**Key features**

— Manage up to 10,000 access points for large campus requirements

— Support for new 802.11ax (Wi-Fi 6), WPA3 and enhanced open — and existing standards

— Dynamic segmentation enforces wired and wireless access policies to simplify and secure the network

— Application awareness for 3,000+ applications without additional hardware

— Built-in AI-powered wireless/RF optimization

— Automate deployment with Zero touch provisioning and hierarchical configuration

Extended maintenance windows, network upgrades and unplanned outages can mean hundreds or even thousands of hours of lost productivity yearly. More than ever, network infrastructure is mission-critical, and to meet these demands, the HPE Aruba Networking Mobility Conductor delivers the full capabilities of the HPE Aruba Networking Wireless Operating System to scale to today's enterprise needs.

The Mobility Conductor enables high scale and reliability, managing up to 100,000 clients, 10,000 access points (APs) and 1,000 controllers/ gateways. It also provides simplified deployment with dynamic license management, configuration hierarchy and a choice of virtual or x86 hardware appliances.

## Simple and secure access

The HPE Aruba Networking Mobility Conductor serves a key role in Dynamic segmentation, providing a single management layer for all controllers acting as policy enforcement agents. Policy enforcement is provided by the HPE Aruba Networking Policy Enforcement Firewall embedded within each controller, and utilizes information on user roles, device type, applications, and network location to simplify and secure wired and wireless network access. This feature can be enabled with the PEF license and eliminates the need to manually configure SSIDs, VLANs or ACLs for each new client on the network.

## 24x7 mission-critical networking

The HPE Aruba Networking Mobility Conductor is deployed as a conductor controller for any combination of HPE Aruba Networking 7000 Series or 7200 Series Mobility Controllers and HPE Aruba Networking Mobility Controller Virtual Appliances.

The Mobility Conductor increases scale by joining HPE Aruba Networking controllers to a Controller Cluster, improves reliability using enhanced high availability (HA), adopts configurations seamlessly based on hierarchy, and reduces or eliminates maintenance windows by enabling live upgrades.

HPE Aruba Networking Wireless Operating System provides unique and patented AI-powered machine learning HPE Aruba Networking Adaptive Radio Management features such as AirMatch and ClientMatch (now enhanced with 802.11ax grouping) for automatic RF optimization. These features improve the network's performance based on changing environmental conditions, noisy or congested RF and resolve sticky client issues during user roaming. HPE Aruba Networking RFProtect (RFP) provides advanced spectrum analysis and wireless intrusion protection (WIPS/WIDS) to help identify and mitigate Wi-Fi and non-Wi-Fi sources of interference to contain potential security risks.

## Enhanced capabilities

### HPE Aruba Networking AirMatch

As an enhancement of HPE Aruba Networking Adaptive Radio Management, AirMatch automates network-wide RF channels, channel width, and transmits power to optimize the highest density environments. By utilizing AI-powered machine learning algorithms, AirMatch proactively learns and acclimates the network based on changing environmental conditions and system capacity.

## HPE Aruba Networking AirMatch benefits

— **Even channel assignment:** Provides even distribution of radios across available channels, interference mitigation and maximized system capacity
— **Dynamic channel width adjustment:** Dynamically adjusts between 20 MHz, 40 MHz and 80 MHz to match the density of your environment
— **Automatic transmit power adjustment:** Examines the entire WLAN coverage and automatically adjusts the transmit power of APs to ensure the best coverage and user experience

### Hierarchical configuration and improved visibility

HPE Aruba Networking Wireless Operating System, running on the HPE Aruba Networking Mobility Conductor, uses a centralized, multi-tiered architecture that consolidates all deployment models (for example, all-conductor, single-conductor/multiple-local, and multiple-conductor/local) with a single approach. Network configurations can be made and distributed from the Mobility Conductor automatically to all HPE Aruba Networking Mobility Controllers to eliminate on-site configuration.

### Licensing pools

The Mobility Conductor enables licensing pools to dynamically manage licenses based on site requirements. By default, all managed devices (for example, controller) share a global pool of licenses; however, the OS also allows individual controllers access to a dedicated pool of licenses.

### Live upgrade and multiple version support

With Mobility Conductor, HPE Aruba Networking Wireless Operating System can be upgraded alongside active user sessions — eliminating the need for planned maintenance windows or downtime. Each controller cluster or individual service modules (AppRF, AirGroup, ARM, and so on) can also be selectively upgraded without impacting the rest of the network.

### Unified Communications and Collaboration (UCC)

See real-time data and troubleshoot networks based on call quality metrics for latency, jitter, and packet loss are available for a wide variety of applications including Microsoft Teams, Cisco Skinny Call Control Protocol (SCCP), Spectralink Voice Priority (SVP), SIP, Vocera, and more.

### Hitless failover and automated load balancing

Within a controller cluster, user sessions and AP traffic are load balanced to optimize network utilization during peak periods and maximize availability during unplanned outages. This also means that users won't notice any impact to voice calls, video streaming or data transfers in an unlikely event that a controller loses connectivity.

### Seamless Layer 2 and Layer 3 roaming

Users can roam between floors, buildings or across the entire network without any re-authentication, change to their IP address, or loss of firewall state.

### Application customization

AppRF brings rich application visibility and control with deep packet inspection into over 2,600+ applications. In HPE Aruba Networking Wireless OS, custom applications and categories can now be defined directly by the network administrator.

### Enhanced Wi-Fi security

Support for WPA3 brings stronger encryption and authentication methods, while Enhanced Open brings automatic encryption security to open networks. The WPA2-MPSK feature enables simpler passkey management for WPA2 devices — should the Wi-Fi password on one device need to be changed; no additional key changes are needed for other devices on the network.

### Dynamic segmentation

The Mobility Conductor centrally maintains up-to-date policies from the HPE Aruba Networking NAC policy management system, which are then locally enforced by each controller cluster in the network. Policies are based on role and applied uniformly across WLAN and LAN — eliminating the need to configure per-switch ACLs, VLANs, and subnets.

### MultiZone

The same AP infrastructure can now terminate two different SSIDs on two different HPE Aruba Networking controllers while maintaining complete separation and security for all networks, policies, management and visibility. This is ideal for multi-tenancy requirements where multiple companies or groups reside at a single site or for an enterprise that requires multiple secure networks.

### Northbound APIs (NBAPI)

The Mobility Conductor includes a full set of NBAPIs that enable deep visibility into the network. NBAPIs provide RF health metrics, app utilization, device type and user data in an easy-to-integrate format. Third-party applications can receive this information for improved visibility and monitoring.

# HPE Aruba Networking Mobility Conductor models and capacities

| Mobility Conductor virtual appliance | MCR-VA-50 | MCR-VA-500 | MCR-VA-1K | MCR-VA-5K | MCR-VA-10K |
|---|---|---|---|---|---|
| Number of devices | 50 | 500 | 1,000 | 5,000 | 10,000 |
| Number of clients | 500 | 5,000 | 10,000 | 50,000 | 100,000 |
| Number of controllers | 5 | 50 | 100 | 500 | 1,000 |
| Supported platforms | VMware ESXi™ 7.0, Microsoft Windows Server 2019 Hyper-V, KVM (CentOS 7.9, Ubuntu 20.04/22.04) | | | | |

| Mobility Conductor hardware appliance* | MCR-HW-1K | MCR-HW-5K | MCR-HW-10K |
|---|---|---|---|
| Number of devices | 1000 | 5000 | 10,000 |
| Number of clients | 10,000 | 50,000 | 100,000 |
| Number of controllers | 100 | 500 | 1000 |

* Mobility Conductor hardware appliance is a x86-based hardware.

| | 7200 Series | 7000 Series | RAPs |
|---|---|---|---|
| Mobility domain cluster size | 12 | 4 | 12* |

* As of ArubaOS 8.

# Mobility Conductor hardware appliance technical specifications

## Interfaces and indicators

| Mobility Conductor hardware appliance | MCR-HW-1K | MCR-HW-5K | MCR-HW-10K |
|---|---|---|---|
| Form factor/footprint | | 1xRU | |
| Gigabit Ethernet ports (SFP or 10G SFP+) | | 2 | |
| USB 3.0 | | Yes (1) | |
| Console port | | Yes (RJ-45) | |
| Out-of-band management port | | Yes | |
| Management/status LEDs | | Yes | |
| LINK/ACT and status LEDs | | Yes | |

## Dimensions and weight

| Mobility Conductor hardware appliance | MCR-HW-1K | MCR-HW-5K | MCR-HW-10K |
|---|---|---|---|
| Dimensions (H x W x D) | 4.4 cm (H) x 44.2 cm (W) x 40.1 cm (D) (1.73" x 17.40" x 15.79") | | |
| Weight | 7.2 kg (15.87 lbs) | | |
| MTBF (hours, @ 45°C) | 238,020 | 235,835 | 229,445 |

### Environmental

| Mobility Conductor hardware appliance | MCR-HW-1K | MCR-HW-5K | MCR-HW-10K |
|---|---|---|---|
| Operating temperature | 0°C to 40°C (32°F to 104°F) | | |
| Storage temperature | –40°C to 70°C (–40°F to 158°F) | | |
| Operating humidity | 10% to 90% (RH) non-condensing | | |
| Storage humidity | 10% to 95% (RH) non-condensing | | |
| Operating altitude | Up to 10,000 feet | | |
| Maximum power consumption | 120W* | | |
| Acoustic noise–sound pressure[1] | 57 dBA** | | |
| Acoustic noise–sound power[1] | 64.4 dBA*** | | |

[1] Sound power per ETSI 300 753; Sound pressure per ISO 7779.

*Ubuntu running all cores, memory test, 10G traffic, this may vary by 10% based on software configuration.

**Measured at rear center.

***Nominal fan speed at room temperature.

### Power supply specifications[2]

| Mobility Conductor hardware appliance | MCR-HW-1K | MCR-HW-5K | MCR-HW-10K |
|---|---|---|---|
| Input voltage range | 100–240V AC | | |
| Output voltage | +12V DC | | |
| Input frequency | 50–60 Hz | | |
| AC line input current (steady state) | 6.0A max | | |

[2] Dual 400-watt load shared redundant configuration.

### Regulatory and safety compliance

| Description | Specification |
|---|---|
| Certifications | — FCC Part 15 Class A CE<br>— Industry Canada Class A<br>— VCCI Class A (Japan)<br>— EN 55032 Class A (CISPR 32 Class A), EN 61000-3, EN 61000-4-2, EN 61000-4-3, EN 61000-4-4, EN 61000-4-5, EN 61000-4-6, EN 61000-4-8, EN 61000-4-11, EN 55024, AS/NZS 3548<br>— UL 60950, EN60950<br>— CAN/CSA 22.2 #60950<br>— CE mark, cTUVus, CB, C-tick, Anatel, NOM, MIC |
| Regulatory SKU information | ARCNMCRHW |
| Minimum HPE Aruba NetworkingOS release | MCR-HW-1K, AOS 8.1; MCR-HW-5K, AOS 8.1; MCR-HW-10K, AOS 8.1 |
| | Wi-Fi Certified WPA3, AOS 8.4; Wi-Fi Certified Enhanced Open, AOS 8.4; Wi-Fi 6 (802.11ax), AOS 8.4; Wi-Fi Certified 802.11ad, AOS 8.4 |

## Service and warranty information

— Hardware: 1 year parts/labor, can be extended with support contract

— Software: 90 days, can be extended with support contract

# Ordering information

| Part number | Description | |
|---|---|---|
| **HPE Aruba Networking Mobility Conductor virtual appliance** | | |
| JZ106AAE | HPE Aruba Networking MCR-VA-50 Mobility Conductor Virtual Appliance with support for up to 50 devices E-LTU | |
| JY895AAE | HPE Aruba Networking MCR-VA-500 Mobility Conductor Virtual Appliance with support for up to 500 devices E-LTU | |
| JY896AAE | HPE Aruba Networking MCR-VA-1K Mobility Conductor Virtual Appliance with support for up to 1,000 devices E-LTU | |
| JY897AAE | HPE Aruba Networking MCR-VA-5K Mobility Conductor Virtual Appliance with support for up to 5,000 devices E-LTU | |
| JY898AAE | HPE Aruba Networking MCR-VA-10K Mobility Conductor Virtual Appliance with support for up to 10,000 devices E-LTU | |
| JZ395AAE | HPE Aruba Networking MCR-VA-50-F1 Mobility Conductor Virtual Appliance FIPS/TAA with support for 50 devices E-LTU | |
| JZ376AAE | HPE Aruba Networking MCR-VA-500-F1 Mobility Conductor Virtual Appliance FIPS/TAA with support for 500 devices E-LTU | |
| JZ377AAE | HPE Aruba Networking MCR-VA-1K-F1 Mobility Conductor Virtual Appliance FIPS/TAA with support for 1,000 devices E-LTU | |
| JZ378AAE | HPE Aruba Networking MCR-VA-5K-F1 Mobility Conductor Virtual Appliance FIPS/TAA with support for 5,000 devices E-LTU | |
| JZ379AAE | HPE Aruba Networking MCR-VA-10K-F1 Mobility Conductor Virtual Appliance FIPS/TAA with support 10,000 devices E-LTU | |
| **HPE Aruba Networking Mobility Conductor hardware appliance and accessories** | | |
| JY791A | HPE Aruba Networking MCR-HW-1K Mobility Conductor Hardware Appliance with support for up to 1,000 devices | |
| JY792A | HPE Aruba Networking MCR-HW-5K Mobility Conductor Hardware Appliance with support for up to 5,000 devices | |
| JY793A | HPE Aruba Networking MCR-HW-10K Mobility Conductor Hardware Appliance with support for up to 10,000 devices | |
| JZ396A | HPE Aruba Networking MCR-HW-1K-F1 Mobility Conductor Hardware Appliance FIPS/TAA with support for up to 1,000 devices | |
| JZ397A | HPE Aruba Networking MCR-HW-5K-F1 Mobility Conductor Hardware Appliance FIPS/TAA with support for up to 5,000 devices | |
| JZ398A | HPE Aruba Networksing MCR-HW-10K-F1 Mobility Conductor Hardware Appliance FIPS/TAA with Support for up to 10,000 devices | |
| JY986A | MCRPSU-400-AC 400W AC Spare Power Supply for Mobility Conductor Hardware Appliance — Order region specific power cord | |
| JZ072A | MCR-FT Spare Fan Tray for Mobility Conductor Hardware Appliance | |
| JW107A | HPE Aruba Networking SPR-RK-MNT Spare Rack Mount | |
| **HPE Aruba Networking Mobility Conductor hardware appliance transceivers** | | |
| JW087A | HPE Aruba Networking 1000BASE-LX LC Connector SFP XCVR | X |
| JW088A | HPE Aruba Networking 1000BASE-SX LC Connector SFP XCVR | X |
| JW089A | HPE Aruba Networking 1000BASE-T RJ45 Connector SFP XCVR | X |
| J4859D | HPE Aruba Networking 1G SFP LC LX 10km SMF Transceiver | X[1] |
| J4858D | HPE Aruba Networking 1G SFP LC SX 500m OM2 MCRF Transceiver | X[1] |
| J4860D | HPE Aruba Networking 1G SFP LC LH 70km SMF Transceiver | X[2] |
| J8177D | HPE Aruba Networking 1G SFP RJ45 T 100m Cat5e Transceiver | X[1] |
| JW092A | HPE Aruba Networking 10GBASE-LR LC Connector SFP+ XCVR | X |
| JW091A | HPE Aruba Networking 10GBASE-SR LC Connector SFP+ XCVR | X |

X: Supported transceiver.

[1] Default minimum HPE Aruba Networking Wireless Operating System software version is 8.1.0.0.

[2] Minimum HPE Aruba Networking Wireless Operating System software version is 8.4.0.0.

# Ordering information (continued)

| Part number | Description | MCR-HW-xK |
|---|---|---|
| **HPE Aruba Networking Mobility Conductor hardware appliance transceivers** | | |
| JW090A | HPE Aruba Networking 10GBASE-LRM LC Connector SFP+ XCVR | X |
| JW100A | SFP+ Direct Attach 0.5M Cable | X |
| JW101A | SFP+ Direct Attach 1M Cable | X |
| JW102A | SFP+ Direct Attach 3M Cable | X |
| JW104A | SFP+ Direct Attach 7M Cable | X |
| J9150D | HPE Aruba Networking 10G SFP+ LC SR 300m OM3 MCRF Transceiver | X[1] |
| J9151D | HPE Aruba Networking 10G SFP+ LC LR 10km SMF Transceiver | X[1] |
| J9152D | HPE Aruba Networking 10G SFP+ LC LRM 220m OM2 MCRF Transceiver | X[1] |
| J9281D | HPE Aruba Networking 10G SFP+ to SFP+ 1m DAC Cable | X[1] |
| J9283D | HPE Aruba Networking 10G SFP+ to SFP+ 3m DAC Cable | X[1] |
| J9285D | HPE Aruba Networking 10G SFP+ to SFP+ 7m DAC Cable | X[1] |

X: Supported transceiver.

[1] Default minimum HPE Aruba Networking Wireless Operating System software version is 8.1.0.0.

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