

Overview

HPE Aruba Networking Fabric Composer

Accelerated Network Infrastructure and Security Provisioning

HPE Aruba Networking Fabric Composer is an intelligent, API-driven, software-defined orchestration solution that simplifies and accelerates network provisioning, security management and day-to-day operations across rack-scale compute and storage infrastructure. Additionally, AFC can be used to manage multiple data centers and automate the interconnectivity required between them.

What makes HPE Aruba Networking Fabric Composer different from other solutions is that the software is the primary unified network and security management engine for the HPE Aruba Networking CX platforms. It handles all switch and network configurations, plus all firewall policy definitions for both switch and distributed firewalls.

HPE Aruba Networking Fabric Composer significantly simplifies operations and troubleshooting. This solution is fully infrastructure and application aware providing automation of various configuration and lifecycle events.

HPE Aruba Networking Fabric Composer implements a series of workflows that are both interactive and automated allowing an operator to take control of their environment. This solution is implemented to augment switch by switch configuration, so the operator is still at liberty to access any device directly and make local changes, so you get the best environment for both traditional network operators in addition to DevOps and SecOps automation.

Data Center Ecosystem Integration

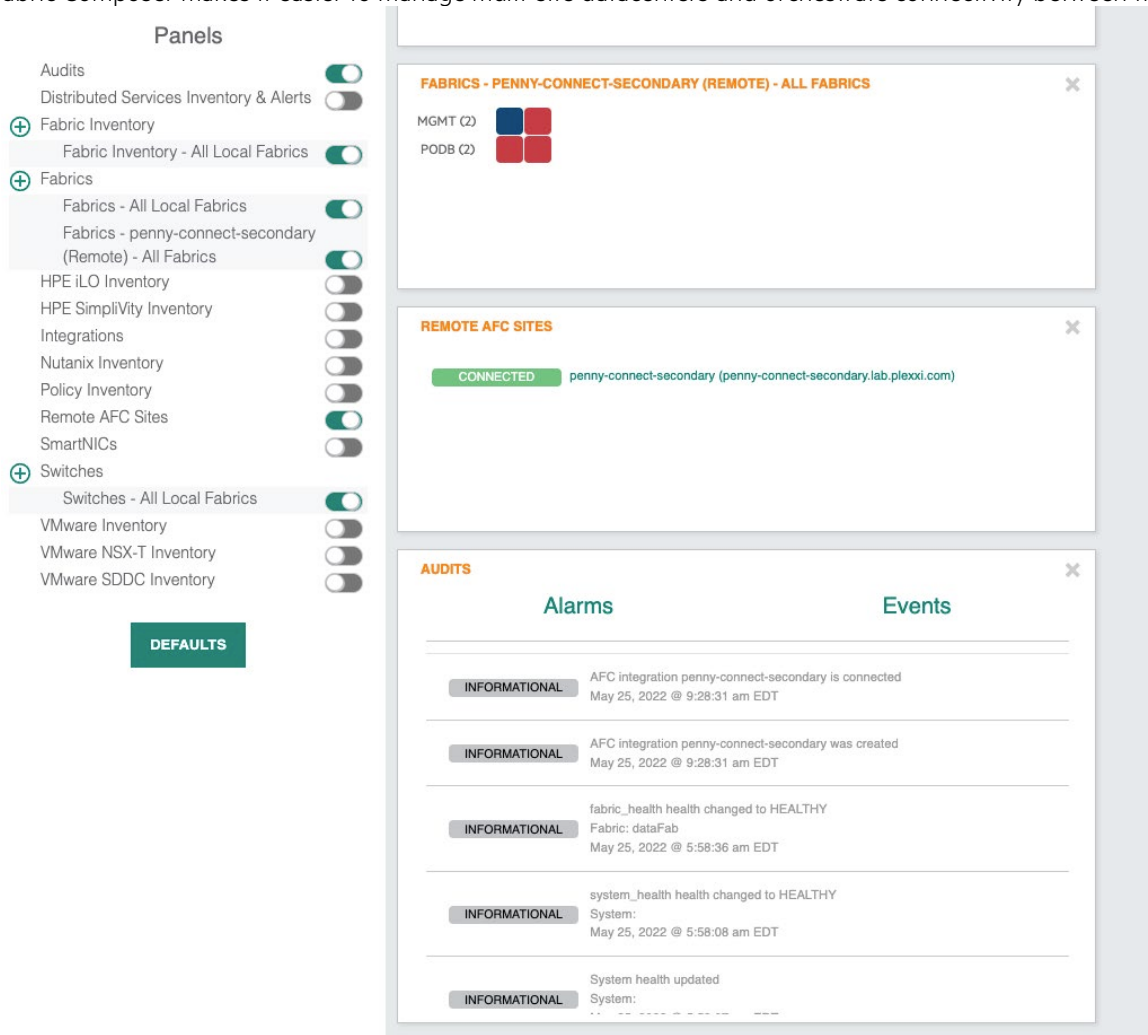
HPE Aruba Networking Fabric Composer supports deep IT ecosystem integrations that enable administrators to manage, provision, and visualize their entire end-to-end network. An intuitive HTML5-based user interface provides a self-documenting real time map of the environment: from a VM, to host networking, to a specific switch port and through Networks View visualizing Management and Data Fabric connectivity. A robust set of APIs and tight integration into many 3rd party data center automation stacks, provides a seamless configuration and operational experience.

HPE Aruba Networking Fabric Composer is designed to work with HPE Aruba Networking OS-CX switches and is optimized for HPE data center products and tools such as HPE SimpliVity, HPE iLO, HPE Aruba Networking Central and HPE Aruba Networking NetEdit. The combination of HPE Aruba Networking Fabric Composer and HPE Aruba Networking OS-CX switches can also support non-HPE environments such as VMware Cloud Foundation, VMware vSphere, VMware NSX-T, Nutanix Prism, Pensando PSM and others, allowing them to enjoy the benefits of automated fabric provisioning, event-based workflow automations, end-to-end network and host visibility, automatic storage traffic optimization and unified security policy management.

Standard Features

Software-Defined Fabric Orchestration

Software-Defined Networking (SDN) has many definitions. Often it is described as the decoupling of the control plane from a network switch and the methodology by which that device then can be controlled. HPE Aruba Networking’s datacenter orchestration solution goes far beyond basic device level control. It uses the HPE Aruba Networking Fabric Composer network orchestration software platform to define and create datacenter topologies, and actively interacts with other systems in the datacenter to understand and optimize for attached infrastructure and workloads. HPE Aruba Networking tackles the challenge of deterministically programming the entire network as a unified ecosystem, and to allow workload management tools to tell the network exactly what they expect from the fabric, to ensure the optimum workload performance and its security. HPE Aruba Networking Fabric Composer makes it easier to manage multi-site datacenters and orchestrate connectivity between them.



HPE Aruba Networking Fabric Composer Dashboard

Standard Features

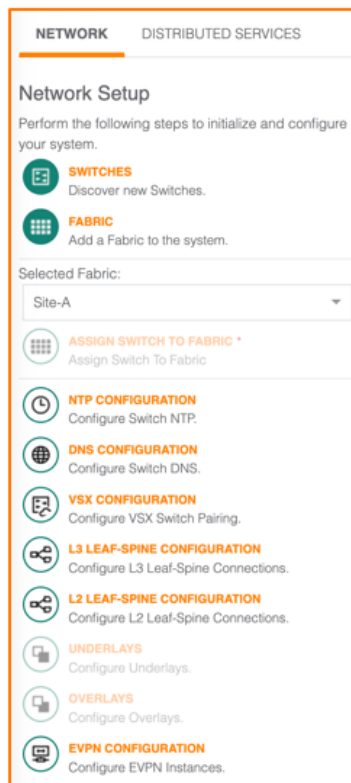
HPE Aruba Networking Fabric Composer orchestrates switches in a construct called 'networking fabric' which significantly simplifies day to day operations and troubleshooting overall. This approach helps to avoid error prone switch-by-switch CLI configuration. Workflow automation and simple point-and-click GUI help to streamline and automate complexity - for example, helping to automate EVPN configuration with an intuitive wizard, which is typically a very complicated task when performed via CLI on a set of separate switches.

HPE Aruba Networking Fabric Composer streamlines initial fabric operations via set of workflow automations using guided setup or API such as:

- Deployment of datacenter-to-datacenter connectivity
- Switch discovery and initial setup for multiple fabrics (management & data type)
- AOS-CX Virtual Switch Extension (VSX) configuration
- Deployment of Leaf-Spine topology
- Network wide configuration of an BGP or OSPF underlay
- Network wide configuration of a BGP EVPN overlay
- Firmware and system services DNS/NTP management
- Link aggregation and VLAN Groups orchestration
- Fabric-wide Virtual Routing & Forwarding (VRF) management
- Fabric wide EVPN management
- Distributed Services Setup
- Micro-segmentation policy configuration

L3 Leaf-Spine Overlay Workflow

EVPN VXLAN Multi-Fabric Stretch Workflows



HPE Aruba Networking Fabric Composer Workflow Automation Wizards

HPE Aruba Networking Fabric Composer provides a streamlined deployment model to the infrastructure and network teams struggling with manual CLI based provisioning, siloed operational models and persistent lack of visibility across compute, storage and network. HPE Aruba Networking Fabric Composer enhances visibility and control with API integrations and is easy to deploy (hours instead of days), easy to manage (HTML5 interface), easy to operationalize (one click to enable features), with the added

Standard Features

bonus of being software-defined using REST APIs which is useful for IT teams that use DevOps to spin up apps. Thanks to the HPE Aruba Networking Fabric Composer the HPE Aruba Networking CX fabric can be deployed and managed without the need for specialized networking skills, removing operational bottlenecks and delivering higher Return on Investment.

Event-based Workflow Automation

HPE Aruba Networking's fabric solution is built from-the-ground-up to be fully integrated with datacenter infrastructure, application and workload orchestration systems like VMWare vSphere and NSX-T, Nutanix Prism, HPE ILO Amplifier and more. Through an open source, event driven automation platform, HPE Aruba Networking Fabric Composer provides both the integration platform as well as a set of HPE Aruba Networking-developed integration packs. Integration packs automate workflows based on the included sensors, actions, and triggers for 3rd party orchestration systems. Following an "If This Then That" (IFTTT) model, HPE Aruba Networking Fabric Composer can provision, configure, or optimize fabrics in real time, by reacting to events from these 3rd party systems without the need for user intervention.

HPE Aruba Networking Fabric Composer, in conjunction with HPE Aruba Networking OS-CX Switches, and a wide range of 3rd party tools and products, enables zero touch operations throughout the HPE Aruba Networking network fabric. The network becomes responsive to the data, applications and storage workloads deployed in the data center. This vastly improves operational efficiency over traditional approaches for deploying and supporting public and private clouds, which can be slow, tedious and error prone.

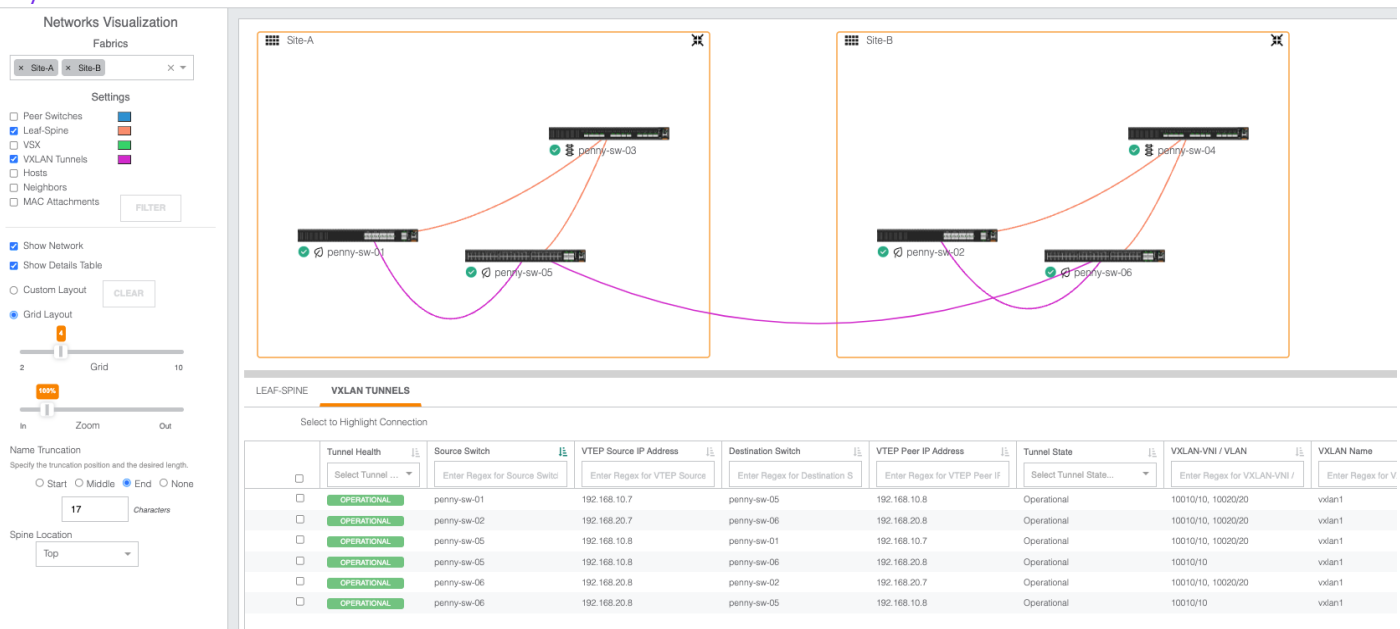
HPE Aruba Networking Fabric Manager includes a suite of event-based workflow automations for completing many day-to-day operations within the HPE Aruba Networking CX fabric, including standard configuration tasks such as:

- Adding and deleting VLANs, assigning VLANs to ports
- Creating and deleting Link Aggregation Groups (LAG)
- Toggling a switch Port admin state
- Enabling/disabling LLDP
- Applying a QoS profile for storage traffic

In addition, HPE Aruba Networking Fabric Composer provides automation actions for advanced HPE fabric operations such as:

- Visualization of 3rd party connected elements (to the HPE Aruba Networking CX fabric)
- Automatic on-demand network fabric optimization

Notes: HPE Aruba Networking Fabric Composer includes events, triggers and orchestration rules that understand the state of the HPE Aruba Networking CX fabric and can be presented to business logic, allowing a closed loop automation with many 3rd party tools.



HPE Aruba Networking Fabric Composer Network and Host Visualizations

Standard Features

Integration Packs

HPE Aruba Networking offers StackStorm based Integration Packs for several 3rd party IT orchestration and policy systems. A specific set of HPE Aruba Networking selected Integration Packs are embedded in HPE Aruba Networking Fabric Composer and contain preconfigured logic for tools such as:

- HPE Aruba Networking NetEdit
- HPE iLO Amplifier
- ODIM Plugin Integration
- HPE SimpliVity
- Nutanix Prism
- Pensando PSM
- VMware NSX-T
- VMware vSphere and VSAN
- VMware Cloud Foundation (SDDC manager)

Based on discovery of managed elements within each of these orchestration systems, the pre-packaged fully tested and supported Integration Packs provide workflows ranging in functionality from dynamic network provisioning to automated network optimization.

HPE Aruba Networking Fabric Composer Integrations enable a next generation data center to be:

- Simple: by automating discovery and dynamic configuration and provisioning of IT infrastructure
- Secured: by allowing to orchestrate centrally defined policy elements, distributed to every rack to enable fine-tuned micro-segmentation of workloads
- Transparent: by creating an invisible infrastructure, using the native orchestration tool UI as the primary user interface
- Efficient: by streamlining processes with workflows that span storage, compute, and network
- Application Defined: by optimizing data, storage and application workload relationships as well as SLA requirements while orchestrating the IT infrastructure for multi-purpose workloads

HPE Aruba Networking Fabric Composer is fully infrastructure and application aware. The powerful eco-system integrations enable HPE Aruba Networking Fabric Composer to automate routine network configuration tasks in response to lifecycle events happening in the customers environment. For example, via the integration with VMware vSphere®, HPE Aruba Networking Fabric Composer can discover and visualize the virtual network infrastructure within hosts along with the physical network infrastructure that hosts are connected to. In addition, HPE Aruba Networking Fabric Composer can respond to VM lifecycle events and configuration changes by automatically adjusting the fabric to reflect them. VM administrators can manage fabric operations all from a single VMware vSphere console – a very powerful and simplified operating model that most administrators have never had before until now.

Telemetry Capabilities

System Health

Capability in AFC to view Alerts about switches it manages.

NAE Analytics/Monitoring

Capability in AFC to detect and notify users when alerts are raised from NAE scripts running on the switch. This significantly broadens the variety of switch environment conditions that AFC can monitor and report.

Monitoring agents enable, configure, and use HPE Aruba Networking NAE scripts to provide additional details on HPE Aruba Networking CX data center switches to provide additional information. Alerts are sent to HPE Aruba Networking Fabric Composer system health ICON and HPE Aruba Networking Fabric Composer Audit Log located on the main dashboard. The network administrator can use the monitor agents page to add, edit, or delete collectors. Additionally switch syslog alerts are centrally collected by the HPE Aruba Networking Fabric Composer Audit Log. These can be viewed and sorted based on severity.

AFC Remote Site

Allows AFC to talk to other AFCs which could be in different geographic locations. The advantage is user can now link and launch between AFCs when they are integrated using this feature. Also, each AFC will show the health of fabrics being managed by remote AFCs. All this makes multi-site DC easier and management easier.



Standard Features

Quick Setup for Fabric Routing

HPE Aruba Networking Fabric Composer supports the switch configuration and telemetry of several routing protocols for fabric intra-connect and network connectivity. These include BGP, OSPF, VRF, and EVPN. Ability to configure switch route maps to enable policy capabilities provides granular control for exchanges between fabrics and external switches. The Spanning Tree Protocol is supported to prevent L2 loops in the fabric.

Unified Policy and Distributed Services Orchestration

HPE Aruba Networking Fabric Composer provides unified orchestration for segmentation, security, and firewall policy configuration. It is also the primary network and security management engine for The HPE Aruba Networking CX 10000 Series Switch with Pensando.

The HPE Aruba Networking CX 10000 provides an entirely new switching solution to overcome legacy limitations. The solution allows operators to extend the capabilities of the leaf-spine fabric to natively provide distributed stateful firewall for east-west traffic, zero-trust segmentation, and pervasive telemetry.

All network configurations and firewall policy definitions for this platform are managed by HPE Aruba Networking Fabric Composer.

In environments where Distributed Services platform is not present or where operators decide to use stateless Access Control Lists (ACLs) in addition to stateful policy definitions, HPE Aruba Networking Fabric Composer provides customers with easy-to-use policy configuration options that allow administrators to choose between various enforcement points.

For example, the same Policy Group defined with HPE Aruba Networking Fabric Composer, can contain rules enforced by HPE Aruba Networking CX 10000 distributed firewall and ACLs enforced on other CX switches that are not equipped with the stateful firewall capability.

This functionality allows users to unify all policy orchestration functions for their fabric under a single user interface.

Summary of Key Benefits

Simplify IT operations

Orchestrate a discrete set of switches as a single networking fabric which significantly simplifies day to day operations and troubleshooting overall. Workflow automation along with simple point and click GUI helps streamline and automate complexity - for example, helping to automate away EVPN configuration complexity.

Accelerate provisioning

Speed infrastructure provisioning with software-defined fabric automation and orchestration. Integrate into your existing IT 3rd party operational frameworks with ease. Automated, turnkey infrastructure deployment that helps minimize delays and manual interactions with separate IT operational teams and silos.

Increased visibility and control

End-to-end network visibility of internal host networking, virtual machines, VLANs, services and workloads simplify troubleshooting of connectivity and performance problems. Automatically detect and dynamically solve network issues before your business is impacted.

Unified security policy configuration

Centrally defined policy elements distributed to every rack allowing for fine-tuned micro-segmentation of workloads. Unified policy allows the administrator to easily configure stateless ACLs or create stateful policies enforced by Distributed Services Firewall.



Standard Features

Supported HPE Aruba Networking OS-CX Switches

- HPE Aruba Networking CX 10000 Series Switches
 - HPE Aruba Networking CX 8325 Series Switches
 - HPE Aruba Networking CX 8360 Series Switches
 - HPE Aruba Networking CX 8400 Series Switches
 - HPE Aruba Networking CX 6400 Series Switches
 - HPE Aruba Networking CX 6300 Series Switches
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Warranty and support

Software releases

To find software for your product, refer to <http://www.hpe.com/networking/support>; for details on the software releases available with your product purchase, refer to <http://www.hpe.com/networking/warrantysummary>.



Configuration Information

HPE Aruba Networking Fabric Composer Ordering Information

HPE Aruba Networking Fabric Composer is the integration platform residing between the HPE Aruba Networking OS-CX switches and 3rd party tools. It provides the means by which the HPE Aruba Networking fabric can automate lifecycle data center operations and optimize, application and storage workload performance.

HPE Aruba Networking Fabric Composer is offered as a self-contained ISO or Virtual Machine OVA and can be installed in both virtual and physical host environments as a single instance or as a Highly Available 3 node cluster. HPE Aruba Networking Fabric Composer is available as a yearly per switch software subscription option.

Description	SKU#
HPE Aruba Networking Fabric Composer/ Single Node Subscription	
HPE Aruba Networking Fabric Composer Device Management Service Tier 3 Switch 1y Subscription E-STU	R8D18AAE
HPE Aruba Networking Fabric Composer Device Management Service Tier 3 Switch 3y Subscription E-STU	R8D19AAE
HPE Aruba Networking Fabric Composer Device Management Service Tier 3 Switch 5y Subscription E-STU	R8D20AAE
HPE Aruba Networking Fabric Composer Device Management Service Tier 4 Switch 1y Subscription E-STU	R7G99AAE
HPE Aruba Networking Fabric Composer Device Management Service Tier 4 Switch 3y Subscription E-STU	R7H00AAE
HPE Aruba Networking Fabric Composer Device Management Service Tier 4 Switch 5y Subscription E-STU	R7H01AAE
HPE Aruba Networking Fabric Composer/ Single Node Subscription for Data Center Solutions	
HPE Aruba Networking Fabric Composer Device Management Service Tier 4 Switch 1y Subscription E-STU	R9G26AAE
HPE Aruba Networking Fabric Composer Device Management Service Tier 4 Switch 3y Subscription E-STU	R9G27AAE
HPE Aruba Networking Fabric Composer Device Management Service Tier 4 Switch 5y' Subscription E-STU	R9G28AAE
HPE Aruba Networking Fabric Composer Device Management Service Tier 3 Switch 1y Subscription E-STU	R9G31AAE
HPE Aruba Networking Fabric Composer Device Management Service Tier 3 Switch 3y Subscription E-STU	R9G32AAE
HPE Aruba Networking Fabric Composer Device Management Service Tier 3 Switch 5y Subscription E-STU	R9G33AAE



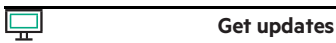
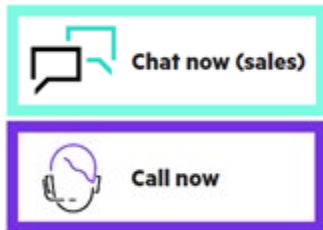
Summary of Changes

Date	Version History	Action	Description of Change
22-Jan-2024	Version 7	Changed	Series name was updated.
06-Mar-2023	Version 6	Changed	Standard Features section was updated.
03-Oct-2022	Version 5	Changed	Configuration Information section was updated.
20-Jun-2022	Version 4	Changed	Overview, Standard Features, and Configuration Information sections were updated.
06-Dec-2021	Version 3	Changed	Overview and Standard Features sections were updated, and SKUs added in Configuration Information section.
06-Jul-2021	Version 2	Changed	Overview, Standard Features, and Configuration Information sections were updated.
07-Dec-2020	Version 1	New	New QuickSpecs



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a00042624enw - 16172 - Worldwide - V7 - 22-January-2024