

SOLUTION OVERVIEW

Aruba Fabric Composer

Simplify and accelerate data center networking

aruba | Fabric Composer

OVERVIEW

Building out enterprise data center infrastructure can be a challenge in planning, integrating, validating, and managing all the required infrastructure components. Even when all the components come together in a predefined composable offering, there is still the challenge of evolving legacy operations and process.

Applying the old way of doing things to a new, modern infrastructure can be a losing battle.

One of the biggest challenges in building out data center infrastructure is the network fabric, which is the foundational glue that integrates the infrastructure's compute, storage, and application resources. Any bottleneck in the network fabric will negatively impact the enterprises ability to run applications efficiently.

At a high level, provisioning the network in a modern enterprise data center has been a challenge for two key reasons.

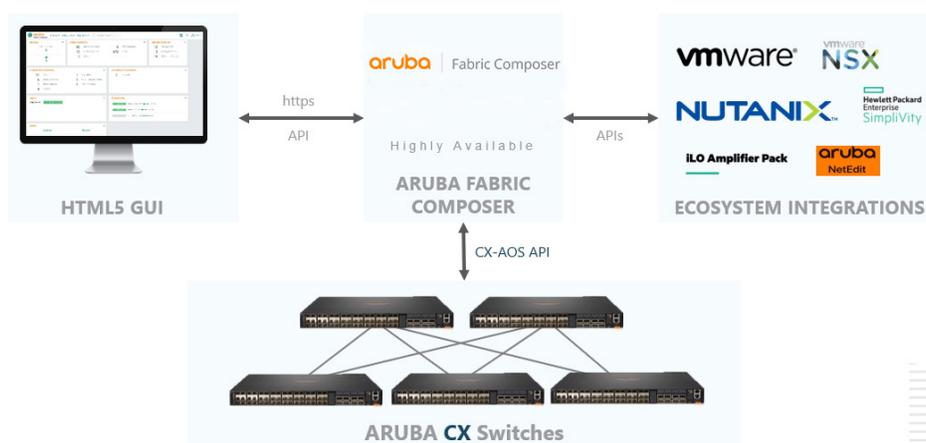
1. The network infrastructure itself has been traditionally complex, and typically requires specialized skills and training to configure and manage.
2. Network resources typically reside in a separate, siloed organization, and traditionally require a job ticket to schedule network configuration or maintenance.

Herein lies one of the most notorious bottlenecks of traditional IT, siloed operations that impede deployment velocity.

ARUBA FABRIC COMPOSER

Aruba Fabric Composer is an intelligent, API-driven based, software-defined orchestration solution that simplifies and accelerates leaf-spine network provisioning and day-to-day operations across rack-scale compute and storage infrastructure.

What makes Aruba Fabric Composer different from other solutions is that the software can orchestrate a discrete set of switches as a single networking fabric which significantly simplifies operations and troubleshooting. This solution is fully infrastructure and application aware providing automation of various configuration and lifecycle events.





Aruba 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 dev ops automations.

DATA CENTER ECOSYSTEM INTEGRATION

Aruba 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 Virtual Switch and Spine-Leaf connectivity. A robust set of APIs and tight integration into many 3rd party data center automation stacks, provides a seamless configuration and operational experience.

Aruba Fabric Composer is designed to work with Aruba OS-CX switches and is optimized for HPE data center products and tools such as HPE SimpliVity, HPE iLO and Aruba NetEdit.

Take for example Aruba Fabric Composer integration with the HPE iLO Amplifier Pack, an essential tool designed to simplify management of HPE servers running iLO. Using this integration administrators can enable easy and centralized access to server information directly giving IT administrators a dramatically simplified troubleshooting experience, providing a single UI through which to view a wealth of information about the hosts and network.

The combination of Aruba Fabric Composer and CX switches can also support non-HPE environments allowing these deployments to also enjoy the benefits of automated fabric provisioning and eco-system integration into 3rd party IT automation frameworks from VMware, Nutanix, HPE and more.

Aruba Fabric Composer Dashboard

Includes information about fabrics, switches, hosts, and VMs

Workflow Automations and Guided Setup

Simple point and click GUI streamlines and automates away complexity

The screenshot displays the Aruba Fabric Composer Dashboard with the following components:

- SWITCHES:** 6 Switches in Fabric.
- FABRIC INVENTORY:** 1200 MAC Attachments, 0 CDP Neighbors, 56 LLDP Neighbors, 288 Ports, 0 LAGs.
- VMWARE INVENTORY:** 12 VMware VMs, 3 ESX Hypervisors, 18 VMKernel Adapters.
- VMWARE NSX-T INVENTORY:** 12 VMs, 6 Transport Zones, 1 Tier-0 Gateway, 8 N-VDSs.
- NUTANIX INVENTORY:** 6 Segments, 3 Host Transport Nodes, 1 Tier-1 Gateway, 0 Nutanix VMs, 0 AHV Hypervisors, 0 CVMs.
- HPE ILO INVENTORY:** 5 Servers (4 Healthy, 1 Warning).
- FABRIC:** fabric01 (6) with 6 active status indicators.
- INTEGRATIONS:**
 - CONNECTED: VMware vSphere (1 Configuration, v6.0.0)
 - CONNECTED: VMware NSX-T (1 Configuration, v6.0.0)
 - CONNECTED: HPE iLO Amplifier (1 Configuration, v6.0.0)
- Guided Setup Sidebar:**
 - FABRIC: Add a Fabric to the system.
 - SWITCHES: Discover new Switches.
 - ASSIGN SWITCH TO FABRIC: Assign Switches to a Fabric.
 - NTP CONFIGURATION: Configure Switch NTP.
 - DNS CONFIGURATION: Configure Switch DNS.
 - VSX CONFIGURATION: Configure VSX Switch Pairing.
 - LEAF SPINE CONFIGURATION: Configure Leaf Spine Connections.
 - UNDERLAY/OVERLAY: Configure Underlay/Overlay.
 - EVPN CONFIGURATION: Configure EVPN Instances.

API level integrations with various environments

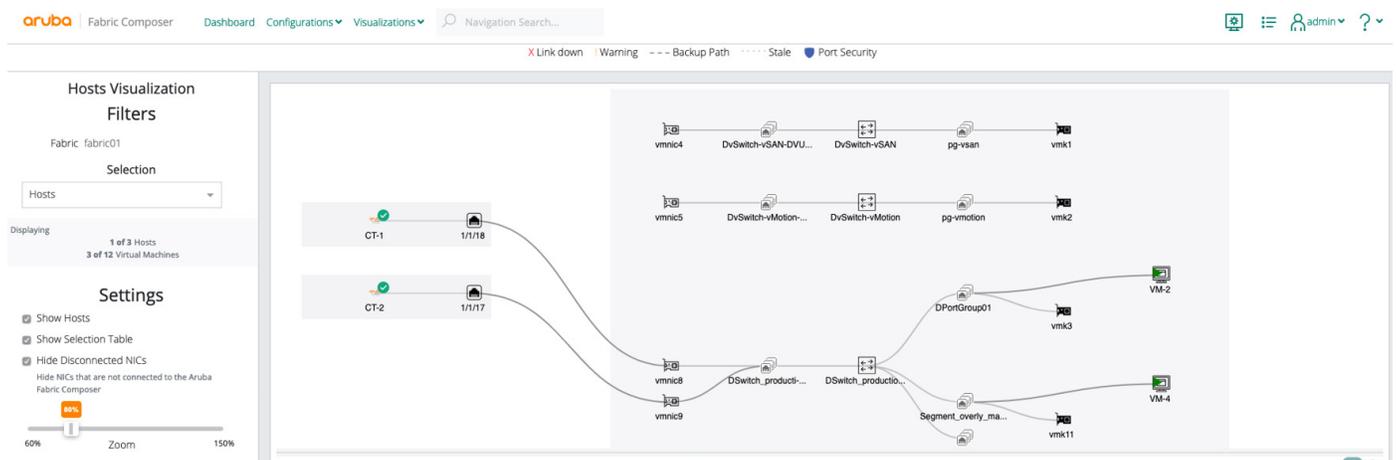
Including HPE, Aruba, VMware vSphere, ESX, NSX and Nutanix



Aruba Fabric Composer is also fully infrastructure and application aware. These powerful eco-system integrations help IT administrators to automate routine network configuration tasks in response to lifecycle events happening in the customers environment. For example, via the integration with VMware vSphere®, Aruba Fabric Composer can discover and visualize the virtual network infrastructure within hosts along with the physical network infrastructure hosts are connected to. In addition, Aruba Fabric Composer

can respond to VM lifecycle events and configuration changes making appropriate fabric changes automatically. VM administrators can manage fabric operations all from a single VMware console – a very powerful and simplified operating model that most administrators have never had before until now.

POWERFUL END-TO-END VISUALIZATION OF VIRTUAL AND PHYSICAL COMPONENTS





Using the Aruba Fabric Composer Host View, administrators can easily see end-to-end connectivity between Virtual Machines, Port Groups, vSwitches, Physical NICs and how they are connected to Aruba CX switch ports.

These industry leading integrations provides customers a compelling value proposition for administrator who have longed for integrated server and networking provision, end-end visibility and easy troubleshooting – without having to jump between disparate management interfaces when provisioning racks of compute, storage and networking.

Aruba Fabric Composer and Aruba CX switches provides an innovative and intelligent software-defined solution for customers who are struggling with manual, siloed IT provisioning and operating models across compute, storage and network infrastructure.

DETAILED SECTION OF FEATURE/CAPABILITIES

Event-based Workflow Automation

Aruba Fabric Composer is built from-the-ground-up to be fully integrated with data center infrastructure, application and workload orchestration systems. Through an open source, event driven automation platform, Aruba Fabric Composer provides both the integration platform as well as a set of Aruba-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, Aruba Fabric Composer can provision, configure or optimize Aruba network in real time, by reacting to events from these 3rd party systems without the need for user intervention.

Workload Visibility

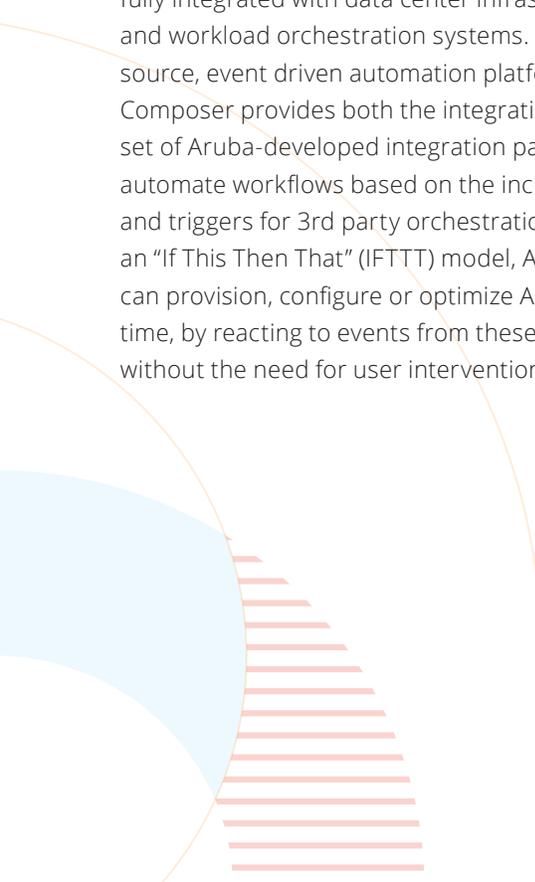
Aruba Fabric Composer builds an understanding of the physical network and the workloads that utilize the network. It gathers the necessary information from 3rd party orchestration systems and other repositories leveraging RESTful APIs. It captures the complete picture of the compute/storage/network resource ecosystem. This delivers a more accurate and meaningful global view of how and where virtual demands are impacting the physical network.

Workload Optimization

Aruba Fabric Composer optimizes data paths to satisfy the needs of critical application workloads. Policies created around explicit workload demands such as latency are met by arranging the network to satisfy those needs first. Optimizing the network to workloads needs delivers deterministic and predictable network performance and ensures that the right network resources are applied to the right workloads. This, for example, can translate to faster storage replication and mirroring or quicker database transaction response.

Global Network Control

Aruba Fabric Composer offers the simplicity and determinism of centralized network management with the rapid response and scalability of decentralized control. Once Aruba Fabric Composer has satisfied configuration of the workload requirements, it then works with the Aruba CX switching fabric to orchestrate the desired new network state. When workload requirements demand a new network state, Aruba Fabric Composer communicates updated topology information to the switches. The switches then implement the configuration across the network.





NETWORK VISUALIZATION

Visualize leaf and spine CX switches, VSX, LLDP neighbors

The screenshot shows the Aruba Fabric Composer interface for network visualization. On the left, there are control panels for Filters, Settings, and Layout. The main area displays a network diagram with Spine-1, Spine-2, BH-1, BH-2, CT-1, and CT-2. Below the diagram is a table of connections.

NAME	SPINE SWITCH	SPINE INTERFACE	SPINE STATUS	LEAF SWITCH	LEAF INTERFACE	LEAF STATUS	QOS TRUST
MyLeafSpinePair-Spine-1:1/1/10-BH-1:1/1/53	Spine-1		connection established	BH-1		connection established	COS
MyLeafSpinePair-Spine-1:1/1/11-BH-2:1/1/53	Spine-1		connection established	BH-2		connection established	COS
MyLeafSpinePair-Spine-1:1/1/12-CT-1	Spine-1		connection established	CT-1		connection established	COS

Data Center Ecosystem Integration

Aruba offers Integration Packs for several 3rd party IT orchestration systems. Integration Packs are built into the Aruba Fabric Composer and include specific logic for tools such as: Aruba NetEdit, HPE SimpliVity, HPE iLO Amplifier, VMware vSphere and vSAN, VMware NSX-T and Nutanix Prism.

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

This integration also helps to automate discovery and dynamic configuration and provisioning of IT infrastructure, using the operators native and familiar tool/user interface as the primary user UI across workflows that span storage, compute and networking with application and SLA centricity orchestrating the IT infrastructure for multi-purpose workloads.

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 and simple point and click GUI help 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. Integrates into your existing IT 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 connectivity of hosts, 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.



ORDERING INFORMATION

Aruba 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.

Aruba Fabric Composer is available as a yearly per switch software subscription option.

Aruba Fabric Composer Device Management Service Tier 4 Switch 1 year Subscription E-STU

- Aruba Fabric Composer Device Management Service Tier 4 Switch 3 year Subscription E-STU (R7H00AAE)
- Aruba Fabric Composer Device Management Service Tier 4 Switch 5 year Subscription E-STU (R7H01AAE)
- Aruba Fabric Composer Device Management Service Tier 4 Switch 7 year Subscription E-STU (R7H02AAE)
- Aruba Fabric Composer Device Management Service Tier 4 Switch 10 year Subscription E-STU (R7H03AAE)

Aruba Fabric Composer supports the following Aruba CX switches:

ARUBA CX 8360 SWITCH SERIES

- JL700A / JL701A Aruba 8360-32Y4C 32 x 25Gb SFP ports & 4 x 100Gb QSFP ports MACsec switch
- JL702A / JL703A Aruba 8360-16Y2C 16 x 25Gb SFP ports & 2 x 100Gb QSFP ports switch
- JL706A / JL707A Aruba 8360-48XT4C 48 x 10GBase-T ports & 4 x 100Gb QSFP ports switch
- JL708A / JL709A Aruba 8360-12C 100Gb QSFP ports switch
- JL710A / JL711A Aruba 8360-24XF2C 24 x 10Gb SFP ports & 2 x 100Gb QSFP ports switch

ARUBA CX 8325 SWITCH SERIES

- JL624A / JL625A Aruba 8325-48Y8C 48p 25G SFP/ 28 8p 100G QSFP/28 ports switch
- JL626A / JL627A - Aruba 8325-32C 32-port 100G QSFP+/ QSFP28 ports switch