Apstra AOS 3.3
Operations Start at Day 0

Operational Enhancements

Apstra AOS 3.3 offers a wealth of new features to ease operational workflows from Day 0 to Day 2 and beyond.
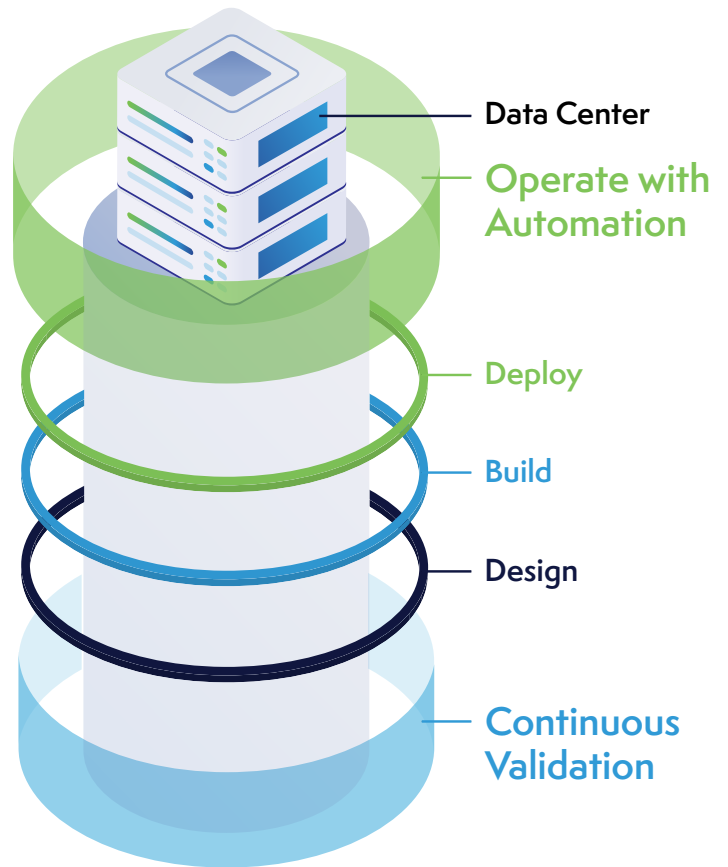
Resource Pool Utilization - Instantly view how IP addresses and other resources are being consumed with simple contextual mouseover popups. Pool usage in raw numbers and percentages is visible in a table and via a simple mouse gesture. This capability works for IP pools, ASN pools, VNI pools, and more. Never run out of resources again.
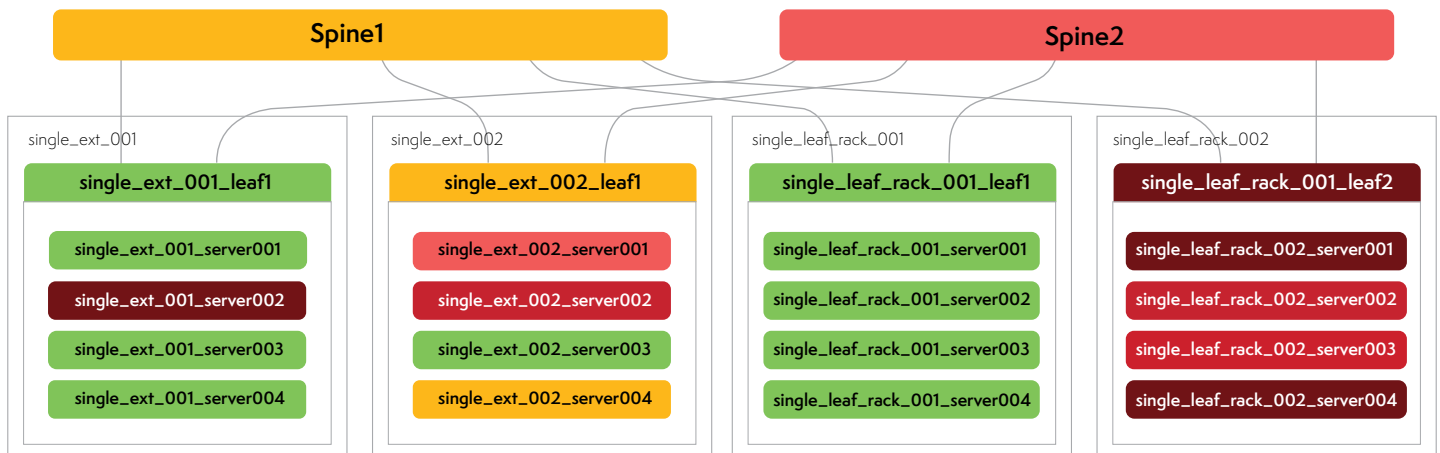
Logical Diff - View the impact of configuration changes across all aspects of the network. Adding a new device displays the necessary cabling required to add connectivity. Every change, no matter how insignificant, is broken down into the relevant Layer-1 through Layer-4 operation, allowing you to inspect how the simplest of changes results in the need for complex automation.

Incremental Config View (Cumulus)- Preview the Cumulus Linux file changes for each change without viewing the entire file output. Cumulus manages devices via a set of Linux files that support "freeform text". AOS presents the network specific changes in a simple UI view.

- Data Center
- **Operate with Automation**
- Deploy
- Build
- Design
- **Continuous Validation**

Fabric Visualizations

Understanding the health and behavior of the network is a requirement for any business requiring 24x7 access to data and resources. AOS provides a new set of administrative views across the entire product that reveal traffic and anomalies in a real time contextual view. Colored indicators reveal relative stress and congestion in your complex fabric without requiring any configuration. Added, removed, and moved devices are immediately visible, as AOS derives every element in the system from the user's stated intent.

Spine1		Spine2	

single_ext_001	single_ext_002	single_leaf_rack_001	single_leaf_rack_002
single_ext_001_leaf1	**single_ext_002_leaf1**	**single_leaf_rack_001_leaf1**	**single_leaf_rack_001_leaf2**
single_ext_001_server001	single_ext_002_server001	single_leaf_rack_001_server001	single_leaf_rack_002_server001
single_ext_001_server002	single_ext_002_server002	single_leaf_rack_001_server002	single_leaf_rack_002_server002
single_ext_001_server003	single_ext_002_server003	single_leaf_rack_001_server003	single_leaf_rack_002_server003
single_ext_001_server004	single_ext_002_server004	single_leaf_rack_001_server004	single_leaf_rack_002_server004

Fabric Visualizations:

- Heatmap
- Heatmap - Device Cable View
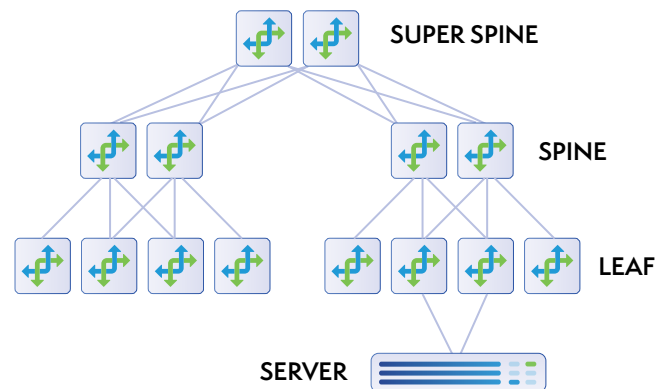- LAG/LACP/MLAG Bonded Interfaces

Intent continuously ensures the monitoring and visualizations present an accurate view of the topology and network state.

Junos Support

AOS 3.3 extends existing vendor support to Juniper Junos devices, offering the full suite of existing AOS workflows used across your network. Manage Juniper devices through the same simple user interface and eliminate vendor specific syntax and nuances. Out of the box, AOS provides simple provisioning of:

EVPN - The industry standard Overlay Control Plane Protocol, EVPN provides a highly scalable control plane and routing management system. EVPNs are notoriously complicated to configure in Junos, but AOS provides workflows and wizards to create new tenants (VRFs), virtual networks (VXLANs) and more with automated configuration creation and deployment. AOS ensures that EVPNs are created properly on all Junos devices and validates the EVPN routing topology across the entire network.

5 Stage Clos - Designed for massive scale, Juniper data center switches deliver a reliable hardware and software platform that can be easily automated to create 5 Stage Clos fabrics. Built from a repeatable and predictable pattern, Clos fabrics can be verified and predictably modeled with the built-in AOS system checks. Apstra AOS enables simple and complex network designs from basic templates, including 3 Stage and 5 Stage Clos.

SUPER SPINE

SPINE

LEAF

SERVER

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Configlets - Manage your own Junos System tweaks and customizations for Juniper device configurations. The full range of Junos System commands is supported and can be associated with the relevant commands for other vendors for simplification of management in multi-vendor environments.
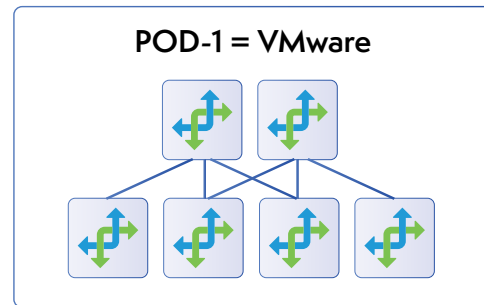
> Apstra AOS ensures that a device cannot be added to a blueprint until it is fully certified according to your security and compliance policies.

Zero Touch Provisioning - Juniper devices can be added to the network in a controlled and predictable manner. New devices can be taken out of the factory box and automatically updated to the proper Junos version, security keying information can be added, and the device can be validated without any operator input.
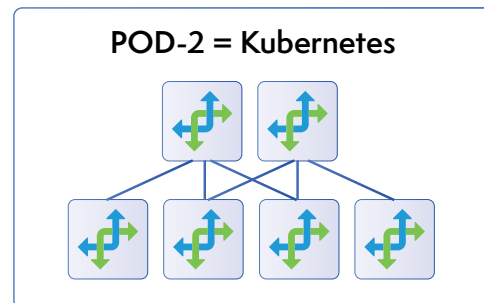
ESI - Industry Standard Redundant Server Connectivity Design. Ethernet Segment Identifier (ESI) removes the vendor proprietary MC-LAG protocols requirement and eliminates the need of peer links between switches to provide Active-Active multihoming.
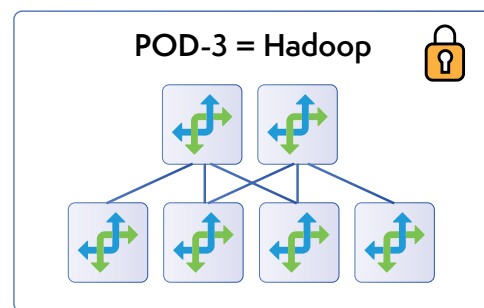
Enhanced RBAC Support

Per Blueprint Roles and Permissions - AOS 3.3 now supports granular permissions for individual networks, ensuring that admins can manage separate topologies without interfering with the tasks of other teams. This network-level version control mechanism supports multiple tiers of permissions and roles.

POD-1 = VMware

- Global Admin - Full Rights
- Global NOC - Read Only
- Pod-1 Architect - Create Changes
- Pod-1 Operator- Apply Changes

POD-2 = Kubernetes

- Global Admin - Full Rights
- Global NOC - Read Only
- Pod-2 Architect - Create Changes
- Pod-2 Operator- Apply Changes

POD-3 = Hadoop

Locked by Pod-3 Operator's Queued Changes

- Global Admin - Full Rights
- Global NOC - Read Only
- Pod-3 Architect - Create Changes
- Pod-3 Operator- Apply Changes

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SONiC Operational Enhancements

With expanded Enterprise Class open source SONiC support, Apstra AOS 3.3 increases the network engineers' choice of vendor options when designing and building data center networks by deploying open source platforms like SONiC, allowing for dramatically lower CapEx spend. SONiC is now supported by Apstra in 3-stage, 5-stage architectures as leaf, spine or superspine data center networks.

New Supported Operating Systems and Integrations

CISCO
Cisco NX-OS 7.0(3)I7(8) (NEW)
Cisco NX-OS 9.2.2

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ARISTA
Arista EOS (4.22.3M, 4.21.5.1F, 4.20.11M)

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CUMULUS
Cumulus Linux 3.7.12 (new)

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SONiC
SONiC (Apstra provided)
Enterprise SONiC

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vmware®
VMware NSX-T
NSX-T 2.5.1

Summary

Apstra addresses IT application, hybrid cloud, and data center automation needs with the deployment of Intent-Based Data Center Automation to achieve higher reliability, vendor choice, and reduced costs. AOS is the Operating System for the Data Center and enables network engineers and operators to quickly and reliably design, build, operate, and continuously validate data centers of any size.

ABOUT APSTRA

Apstra® Intent-Based Data Center Automation increases application availability and reliability, simplifies deployment and operations, and dramatically reduces costs for Enterprise, Cloud Service Provider, and Telco data centers. Apstra empowers Intent-Based Data Centers through its pioneering Intent-Based Networking, distributed system architecture, and vendor-agnostic overlay. Headquartered in Menlo Park, California and privately funded, Apstra is a Gartner Cool Vendor and Best of VMworld winner.

For more information, visit: **www.apstra.com** or contact **sales@apstra.com** or follow **@ApstraInc**