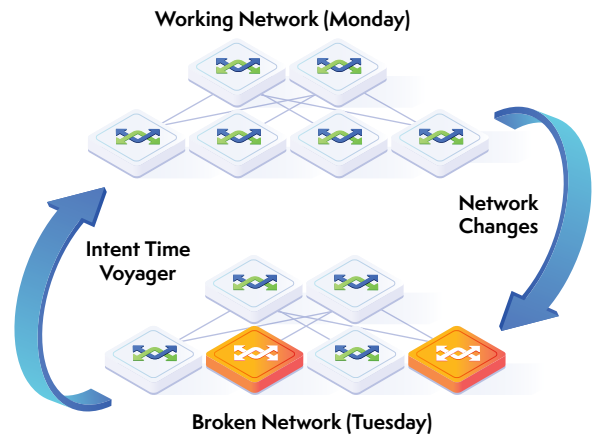


# Apstra Intent-Based Data Center Automation 3.2

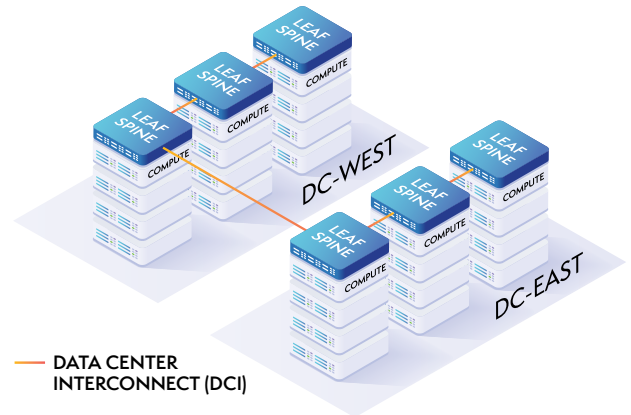
## Intent Time Voyager

A key operational feature for any network operator is to rapidly recover from any mishaps caused by human error. Traditionally this is a complex operation that is vendor specific and requires both an understanding of the full state of each box and their relationship to each other at a certain point in time. Apstra AOS 3.2 Intent Time Voyager feature speeds the time to resolution by giving the operator the ability to move the entire state of the network (intent, configuration, and continuous validations), backwards or forwards in time with a few simple clicks. Apstra can uniquely deliver this capability due to Apstra AOS's Intent-Based approach, including its single source of truth and assurance validations which are at the foundation of AOS.



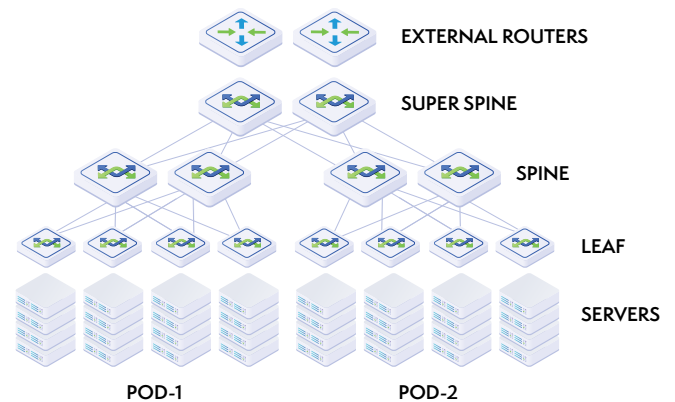
## Datacenter Interconnect

As networks have expanded and applications have increased their requirements for geographic diversity, there have been a number of vendor-specific proprietary features introduced to address stretched Layer-2 domains and Active-Active topologies. AOS now supports an industry standard EVPN overlay that extends VXLAN segments outside of the AOS managed topology, allowing the architect to integrate multiple disparate compute centers for effective load balancing and resource sharing.



## 5 Stage Clos Enhancements

AOS now supports a number of major enhancements for large network topologies that use the industry standard 5 Stage Clos design. Architects can add racks directly to existing pods or even add entirely new pods to an existing topology, allowing rapid expansion of the network without the need to develop new configurations by hand. Monitoring of the newly added network segments is entirely automated, and insertion of the equipment into the network can be done without impact to existing network traffic.



## SONiC Operational Enhancements

With expanded Enterprise Class Open Source SONiC support, Apstra AOS 3.2, increases the network engineers' choice of vendor options when designing and building cloud-scale 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.



## Intent-Based Dashboards

AOS ships with prebuilt dashboards that are automatically enabled based on administrator intent. If the operator activates a feature or deploys a new network device, the relevant probes, widgets, and dashboards are automatically created within AOS and available for viewing or adding to existing dashboards. Examples of this functionality include:

### FABRIC HEALTH FOR VIRTUAL INFRASTRUCTURE

**Goal:** Find problems in physical or virtual infrastructure that affect workload connectivity

**Trigger:** Presence of at-least one virtual infra manager in the blueprint

### VIRTUAL INFRASTRUCTURE REDUNDANCY CHECKS

**Goal:** Find single points of failure in physical or virtual infrastructure that affect high availability and available bandwidth for workloads

**Trigger:** Presence of at-least one virtual infra manager in the blueprint

### EVPN VALIDATIONS

**Goal:** Monitor the health of EVPN control plane

**Trigger:** Presence of EVPN in the blueprint

### DRAIN VALIDATION

**Goal:** Ensure drained switches are indeed drained of traffic by ensuring total bandwidth is minimal

**Trigger:** Presence of at-least one drained switch

### INTERFACE HEALTH

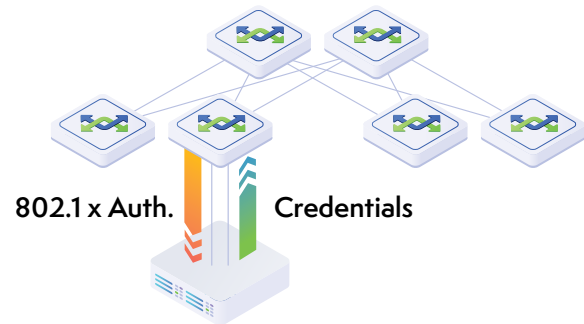
**Goal:** Raise visibility into issues related to physical interfaces

**Trigger:** Presence of at-least one managed device in the blueprint



## Interface Policies (802.1x)

Administrators can now define network policy at the interface level, including 802.1x authentication. This allows for static and dynamic VLAN/VXLAN assignment for interfaces (including 802.1q tagged subinterfaces), providing a simple and industry standard method for network admission and access control. These policies are created through the operator's intent, meaning that the interfaces and policies can be verified and monitored with integrated analytics. In addition, AOS will automatically place the policies in the appropriate locations during moves, adds, and changes.



## Flexible Fabric

Operators frequently need to make one-off changes to the network design and topology after the system has been deployed. AOS 3.2 provides the ability to customize a number of frequent options for adjusting the network while minimizing drift, keeping all modifications in the Intent Data Store to ensure that the network model stays logical consistent. The following operations are supported:

- Change server link speed (ex. 10G to 1G)
- Move/Change External Router interfaces
- Move/Change MLAG peer links
- Move/Change Leaf/Spine links



## OSPF Network Egress

OSPF is a common backbone routing protocol and now operators can connect an AOS managed EBGp topology to an existing OSPF area. AOS automates the proper filtering and redistribution of this peering link, with admin controllable options and settings to match the corporate routing policy. With this policy, users can maintain the core OSPF routing protocol without manually managing the redistribution policy, AOS will automatically update the necessary route maps and options based on changes in the AOS blueprint to minimize manual routing adjustments.

**Hello Interval Timer**

**Dead Interval Timer**

**MD5 key ID**

**MD5 key**

**Network type**  
 Broadcast  Static

## 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® builds, sells, and markets software solutions that simplify IT infrastructure consumption to help businesses innovate and succeed. Apstra pioneered Intent-Based Networking, vendor agnostic software that simplifies the management of the network infrastructure by abstracting network services and automating the delivery of those network services across their entire life cycle - Day 0, Day 1, and Day 2+. Apstra Intent-Based Networking for the Data Center has demonstrated 80 percent improvements in operational efficiency, 70 percent improvements in MTTR (mean-time-to-resolution), and 99 percent improvements in infrastructure agility; and allows organizations to free themselves from hardware vendor lock-in. With headquarters in Menlo Park, California and privately funded, Apstra is a Gartner Cool Vendor and Best of VMworld winner.

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