



APSTRA AUTOMATED DATA CENTER MIGRATION SERVICE

Service Overview

Data center migrations are inevitable as organizations add new IT applications, face increased performance demands, and require better reliability. Conversely, the number of data centers may shrink as the business divests certain IT requirements or applications. Juniper Apstra enables network architects to easily preview and validate network designs without any physical or virtual infrastructure resources.

Juniper Networks Apstra Automated Data Center Migration Service is designed to apply this simple and reliable approach to perform migrations from production data centers to Ethernet VPN (EVPN)-Virtual Extensible LAN (VXLAN)/IP fabric data centers with significantly reduced time, cost, and risk.

Service Description

Data center migrations require relocating critical applications and data quickly, reliably, and with minimal or no disruption. It's a daunting task for network architects to add migration and/or conversion strategies onto their everyday responsibilities of designing, deploying, and operating data center infrastructure. Juniper® Apstra software uses intent-based networking to ease the pain of data center migrations for both business leaders and network architects by reducing the time, risk, and cost associated with such actions.

Juniper Networks® Apstra Automated Data Center Migration Service is designed to support enterprises, cloud providers, and service providers that are migrating from existing production data centers to EVPN-VXLAN/IP fabric data centers. The service applies the Apstra intent-based networking architecture, enabling data center migration experts to easily perform real-time preconditioned validation and service expectations based on the exact blueprint, network models, and software. This novel approach gives network teams that are responsible for the design and migration activity an unprecedented level of assurance to accurately stage physical and logical configurations ahead of maintenance windows, eliminating the CapEx and OpEx required for physical or virtual testing infrastructure.

Apstra Automated Data Center Migration Service offers two migration packages: Side-by-side migration and In-place migration. These packages provide complete small-scale migrations and enable customers to continue larger scale migrations, if necessary, and assume day-2 operations in the production environment. Side-by-side migration and In-place migration packages are fixed price and fixed scope-of-work for a single data center configuration with up to 2x10 spine-and-leaf 3-stage IP Clos architecture with edge-routed bridging (ERB) network virtualization overlay. Packages support a fixed number of virtual elements such as virtual networks (VLANs/VXLANs), port groups, and endpoints, with single Data Center Interconnect (DCI) or EVPN/VXLAN gateway for Layer 2 and Layer 3 connectivity. The migration packages also support a fixed number of connectivity templates, maintenance windows, and routing policy configurations.

Packages have multiple options for adding an incremental spine switch pair, incremental leaf switch pairs, incremental virtual elements, and additional maintenance window events. The service also includes a fully customized migration option that offers an easy progression toward more complex migration scenarios, with an add-on option of an Apstra data center migration solution workshop.

The service uses validated IP Clos fabric reference design, also referred to as spine-and-leaf configurations as described in [“Data Center EVPN-VXLAN Fabric Architecture Guide.”](#) It employs standards-based BGP-EVPN protocols for a control plane and VXLAN for L2 application connectivity to provide a reliable, highly scalable, highly redundant data center fabric with broad support for vendor hardware and software. The service is powered by Apstra software’s capabilities of Automated Troubleshooting with Intent-Based Analytics and Root-Cause Identification. The result is a rapid, low-risk migration to or from an interoperable data center using best practices and protocols.

This service gives organizations access to data center deployment experts with extensive knowledge of Juniper products and technologies. It also employs proven best-practice migration methodology and tools. Migrations are performed in steps:

- Building and preparing a new network
- Moving all devices in a given L2 domain, one at a time or in partial increments to the new fabric
- Migrating the middleware (L4-L7) services: firewall, load balancer, and so on
- Moving the L3 default gateway and related security policy

With this strategy, migration phases can be organized in a flexible manner, allowing them to be aligned with priorities such as minimal downtime, lowest cost, or fastest completion. These phases can also be organized based on multiple logical and physical parameters such as per application or per rack. As part of this service, a Juniper Professional Services consultant will advise you on the optimal phasing and grouping of your migration activities.

For more details on how to relocate critical applications quickly and reliably with Apstra, and for examples of migration use case scenarios, refer to the white paper, [“Eliminating the Pain of Data Center Migration.”](#)

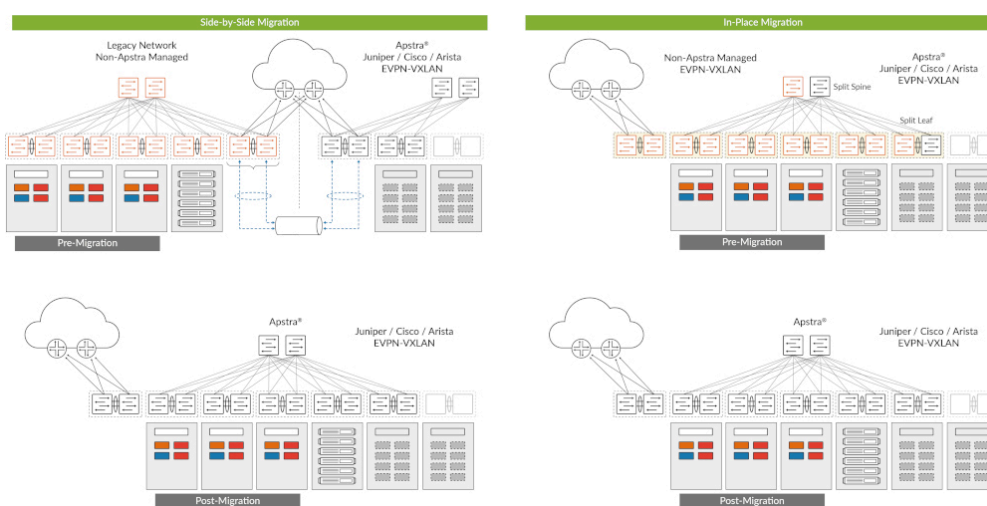


Figure 1. Apstra Automated Data Center Migration Service—migration types

Table 1. Apstra Automated Data Center Migration Service—Package Comparison

Functionality	Side-by-Side Migration	In-Place Migration
Migration method	Brownfield migration of a legacy data center network is replaced by a new EVPN-VXLAN/IP fabric data center network controlled by Apstra.	Apstra is implemented over brownfield EVPN-VXLAN/IP fabric data center network infrastructure.
Migration scenarios	Migration from any legacy data center network to Juniper or non-Juniper (Cisco or Arista) EVPN-VXLAN/IP fabric data center network is managed by Apstra.	Migration from any EVPN-VXLAN/IP fabric data center network (non-Apstra managed) to EVPN-VXLAN/IP fabric data center network managed by Apstra (Juniper to Juniper, Cisco to Cisco or Arista to Arista).
Layer 2 connectivity	Layer 2 connectivity is established between the legacy and the new data center network accommodating partial migration of workloads.	Existing network Layer 2 connectivity remains in place.
Layer 3 connectivity	Layer 3 Internet connectivity is established through the new network.	Existing network Layer 3 connectivity remains in place.
Apstra supportability	New network must be Apstra-supported devices running supported versions of the device NOS.	Migration prerequisite requires existing in-place network to be Apstra-supported devices running supported versions of the device NOS.
Migration steps	Includes greenfield hardware deployment and incremental migration.	Migration can be executed all at once or in partial increments (for example, using a split spine and leaf non-redundant network).

Service Methodology

Apstra Automated Data Center Migration Service methodology follows a four-phase approach (Design, Build, Deploy/Migrate, and Operate) and is tightly integrated with the Juniper Project Management Methodology, which addresses the project management and risk mitigation aspects of the project. While the methodology identifies the standard phases and types of activities within each phase, the specific activities to be included in an engagement are defined specifically for every customer. Similarly, the specific deployment tools and resource requirements are identified for each customer situation.

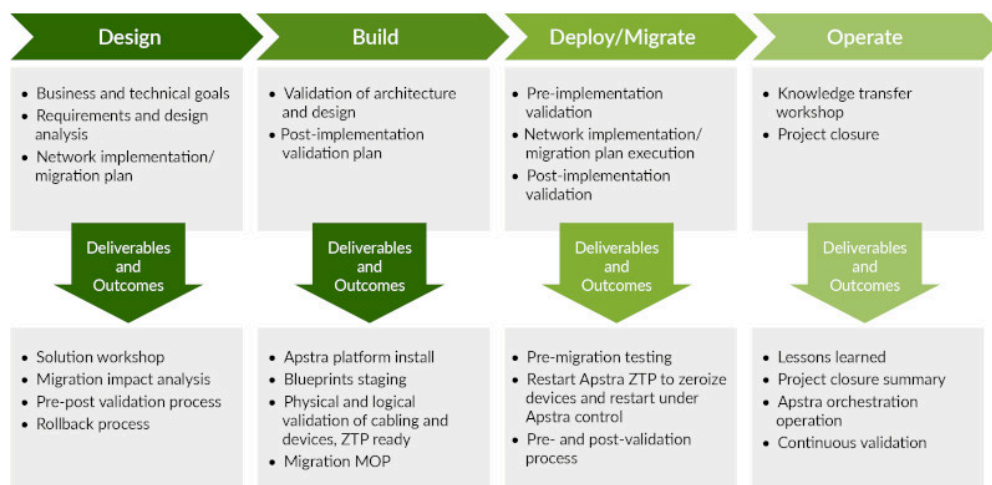


Figure 2: Service methodology

Specifications

Table 2. Apstra Automated Data Center Migration Service Specifications

Deliverable	Description	Features and Benefits
Solution workshop	Hold collaborative workshop for intake of customer data, review of the design, and migration methodology to be used.	<ul style="list-style-type: none"> Align on design details, project scope, and expectations Adapt best-practice design to customer environment. Leverage the skills and experience Juniper consultants have acquired working with hundreds of successful enterprise IT migrations
Blueprints staging	Stage Apstra intent-based system blueprint of physical and virtual aspects of the infrastructure to be deployed. This includes interface maps, VLANs, VXLANs, route zones, DCI, and endpoints staged and ready to deploy via Apstra zero-touch provisioning (ZTP).	<ul style="list-style-type: none"> Use Apstra intent-based system blueprinting and pre-staging capabilities to create an ideal design Use automated tools to accelerate and optimize cutover times and mitigate migration-related risks
Network implementation and migration plan	Review site readiness and prerequisites, identifying any missing data or actions required by the customer before execution can begin.	<ul style="list-style-type: none"> Leverage Juniper consultants' best practices to organize the network migration phases
Knowledge transfer workshop	Prepare the customer to execute the migration and assume all day-2 operations after the migration.	<ul style="list-style-type: none"> Accelerate infrastructure availability and employee readiness for improved operational efficiencies
Network implementation and migration plan execution	Perform pre-migration validation testing and Apstra restart ZTP. Perform post-migration validation testing once restart is complete.	<ul style="list-style-type: none"> Use process-driven approach to ensure efficiency and accuracy; ensure that the platform is correctly installed and functioning properly
Post-migration/ implementation support	Provide ongoing assistance post-migration execution for a period of two (2) weeks (Monday through Friday during normal business hours).	<ul style="list-style-type: none"> Leverage the skills and experience Juniper consultants have acquired working with hundreds of successful enterprise IT migrations

Additional Juniper Professional Services Options

As leaders in data center networking, Juniper Professional Services consultants and engineers are uniquely qualified to assist in designing, implementing, and optimizing network solutions. The following consulting and services are available to help deploy new EVPN/VXLAN IP fabric deployments using Apstra.

Juniper Apstra Automated Data Center Deployment Service: This is a fully customizable service designed to support new deployments and migrations from existing production data centers to EVPN-VXLAN/IP fabric data centers using Apstra. See [Juniper Apstra Automated Data Center Deployment Service](#) for details.

Juniper Training Options

Network engineers automating data center deployments and migrations with Apstra should consider attending the two-day [Data Center Automation Using Juniper Apstra \(APSTRA\)](#) training course. Engineers will learn the foundational knowledge required to work with Apstra and to manage data center networks with the Apstra software. Alternatively, the [All-Access Training Pass](#) provides access to every Juniper instructor-led or on-demand (self-paced) training course, for a full year, at a low price.

Juniper Service and Support

Juniper ensures operational excellence by optimizing the network to maintain required levels of performance, reliability, and availability. For more details, visit <https://www.juniper.net/us/en/products.html>.

Ordering Information

To order the Apstra Automated Data Center Migration Service, or for additional information, please contact your Juniper account manager.

Exclusion

The scope of this service is for Apstra Automated Data Center Migration Service only and does not include separately sold assessment, design, or deployment services. If you require additional services from your Juniper Professional Services consultant, please contact your Juniper account manager.

About Juniper Networks

At Juniper Networks, we are dedicated to dramatically simplifying network operations and driving superior experiences for end users. Our solutions deliver industry-leading insight, automation, security, and AI to drive real business results. We believe that powering connections will bring us closer together while empowering us all to solve the world's greatest challenges of well-being, sustainability, and equality.

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