



APSTRA AUTOMATED DATA CENTER MIGRATION SERVICE DATASHEET

Service Overview

Data center migrations are inevitable as organizations experience data center growth through new IT applications, evolving performance and reliability requirements. 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 next-generation data centers with significantly reduced time, cost, and risk of migration.

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 new data center infrastructure. Juniper Apstra uses software-only, multi-vendor, [intent-based networking](#) solution 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 next-generation data center networks of all designs. Service offers easy-to-use migration packages using highly validated data center reference designs for network architectures such as 3-stage Clos or collapsed fabric. The service also offers fully customizable migrations for more advanced scenarios of data center reference designs such as 5-stage Clos. Additionally, the service allows fully customizable migrations for specific, or out-of-the-box topologies not covered by the data center reference designs, by using highly flexible Freeform reference designs to leverage any feature, protocol, or architecture.

There are two easy-to-use migration packages supported by the service, Side-by-side migration, and In-place migration. They 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 which uses a highly validated data center reference design. Packages are designed for the migration of single data center (1 DC) with up to 2x10 spine-and-leaf redundant configuration for 3-stage Clos Ethernet VPN (EVPN) / IP Fabric with Edge-routed bridging (ERB) network virtualization overlay or collapsed spine network architecture. Packages support fixed number of virtual elements such as virtual networks, [Data Center Interconnect \(DCI\)](#) or [EVPN/VXLAN](#) gateway for layer 2 and layer 3 connectivity and fixed number of maintenance windows. Migration packages allow scalability with multiple add-on options. Customized migration option of the service offers an easy progression toward more complex migration scenarios.

This service gives your organization access to data center deployment experts with extensive knowledge of [Juniper products and technologies](#). The service employs proven best-practice migration methodology and tools that provide a high degree of assurance, faster completion speed, and reduced migration risks. It enables you to leverage the Apstra benefits of life-cycle management features from device operating system upgrades, simple device deployments, pre-deployment data center modeling, device telemetry, analytics dashboards, to powerful Intent-Based Analytics and Time Voyager.

Table 1. Service Package Comparison

Functionality	Side-by-Side Migration	In-Place Migration
Migration Method	Brownfield migration of a legacy data center network replaced by a new EVPN fabric DC network using validated DC reference design.	Juniper Apstra solution implemented over the top of an existing (brownfield) EVPN fabric DC network infrastructure using validated DC reference design.
Migration Scenarios	Migrations to EVPN fabric DC network using Apstra supported multi-vendors (Juniper, Cisco, Arista) using validated DC reference design.	Migration from EVPN DC network (non-Apstra managed) to EVPN DC network managed by Apstra supported multi-vendor (Juniper to Juniper, Cisco to Cisco or Arista to Arista) using validated DC reference design.
Layer 2 Connectivity	Provides layer 2 connectivity 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	Provides layer 3 internet connectivity 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 Network Operating System (NOS).	Migration prerequisite requires existing in-place network to be Apstra supported devices running supported versions of the device Network Operating System (NOS).
Migration Steps	Includes Greenfield hardware deployment and incremental migration.	Migration can be executed all at once or in partial increments (For example, using split spine and leaf non-redundant network).

Key Service Activities

As part of this service, the [Juniper Professional Services](#) consultant will advise on optimal phasing and grouping of the activities. Key activities performed by Professional Services consultant during deployment service include installing the Apstra software as one or a set of virtual machines (VMs) to connect and manage devices via agents installed on or off the devices. For data center reference designs, details such as single/dual-homing of servers, collapsed/3-stage/5-stage style of fabric, Ethernet VPN (EVPN)/IP fabric, and [IPv4/IPv6](#) underlay can be specified as part of the template type and options. Once the fabric template is completed, it can be instantiated into blueprints, each representing an actual physical network. The allocation of the managed devices and network resources (“build phase”) is done within the blueprints. As the blueprint is built, Apstra automatically produces the necessary configuration for devices, providing an abstraction layer across vendors.

In cases of Freeform, Apstra presents an interactive canvas to visually design or model any arbitrary network topology to your

specific deployment requirements. Blueprints created in the Freeform reference design consist of systems and links that you add and configure yourself, using Configuration Templates giving you complete control over your architecture.

Migrations are performed in steps –

- Building and preparing a new network.
- Moving all devices in each L2 domain, one at a time or in partial increments to the new fabric.
- Migrating the middleware (L4-L7) services: firewall, load balancer, and other components.
- 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 a variety of logical and physical parameters such as per application or per rack.

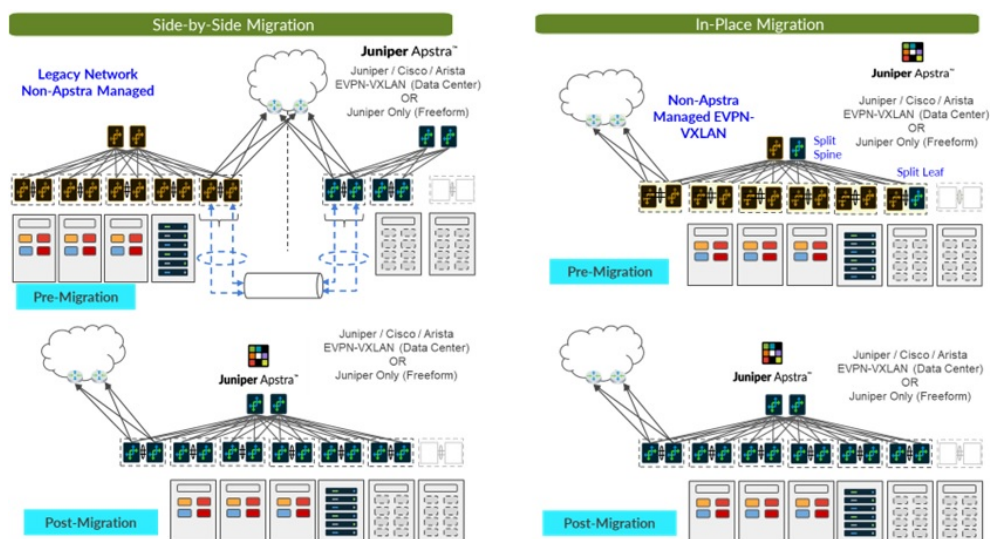


Figure 1: Service Migration Types

Service Methodology

Apstra Automated Data Center Migration Service methodology follows a four-phase approach (Design, Build/Migrate, Deploy, and Operate) and is tightly integrated with the Juniper Project Management Methodology, which addresses both the project management and risk mitigation aspects of your 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.

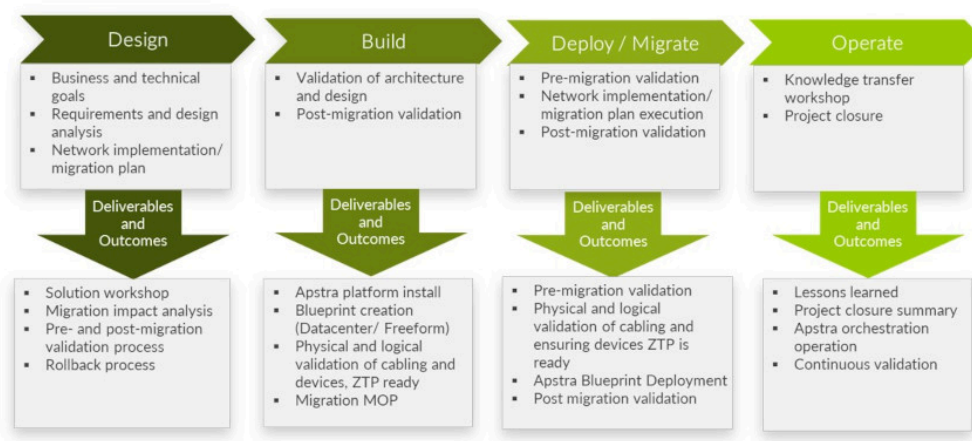


Figure 2: Service Methodology

Specifications

Table 2. Service Specifications

Deliverable	Description	Features and Benefits
Solution Workshop	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
Blueprint Creation (Data center / Freeform)	<p>For data center designs, Apstra Blueprint creation of physical and virtual aspects of the infrastructure to be migrated. This includes interface maps, VLANs, VXLANs, route zones, DCI and endpoints staged and ready to deploy via Apstra ZTP.</p> <p>For Freeform designs, Apstra Blueprint creation includes creation of physical and virtual aspects of the infrastructure to be migrated. This includes importing device profiles, creation of internal and external systems, physical links between systems, creating property sets and configuration templates.</p>	<ul style="list-style-type: none"> For data center reference designs use blueprinting and pre-staging capabilities to create a pristine design prior to migration For Freeform reference designs incorporate Apstra attributes such as UI, IB analytics, Time Voyager etc. over any network design (i.e., non-data center reference design) Use automated tools to accelerate and optimize cutover times and mitigate migration-related risks
Network Implementation and Migration Plan (NIMP)	<p>Site readiness and prerequisites review, identifying any missing data or actions required by the customer before Network Implementation and Migration Plan Execution can begin.</p> <p>Prepare pre and post migration validation plan and migration plan details.</p>	<ul style="list-style-type: none"> Leverage Juniper consultants' best practices to organize the network migration phases
Knowledge Transfer Workshop (KTW)	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 (NIMPE)	<p>Perform pre-migration validation testing and Apstra restart ZTP. Perform post-migration validation testing once restart is complete.</p> <p>Apstra Blueprint deployment.</p>	<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 you in designing, implementing, and optimizing network solutions. The following consulting and services are available to help you deploy your next generation data centers using Apstra.

Juniper Apstra Automated Data Center Deployment Service: This is a fully customizable service designed to support new deployments of next-generation data center networks by using easy-to-deploy, highly validated data center reference designs, as well as highly flexible freeform reference designs tailored to specific customer requirements. 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 [Data Center Automation Using Juniper Apstra \(APSTRA\)](#) training course. Engineers will learn the foundational knowledge required to work with the Juniper Apstra System and to manage data center networks with Juniper 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, for one 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, 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, deployment, or services. If you require additional services from your Juniper Professional Services consultant, please contact your Juniper account manager.

About Juniper Networks

Juniper Networks brings simplicity to [networking](#) with [products](#), [solutions](#), and [services](#) that connect the world. Through engineering innovation, we remove the constraints and complexities of networking in the cloud era to solve the toughest challenges our customers and partners face daily. At Juniper Networks, we believe that the network is a resource for sharing knowledge and human advancement that changes the world. We are committed to imagining groundbreaking ways to deliver automated, scalable, and secure networks to move at the speed of business.

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