APSTRA AUTOMATED DATA CENTER DEPLOYMENT SERVICE DATASHEET

Service Overview

Planning, deploying, operating, and troubleshooting a data center network can be difficult, expensive, and resource intensive. Juniper Apstra, a turnkey, software-only, intent-based solution uses automation to dramatically simplify the process in both single and multivendor environments. Apstra Automated Data Center Deployment Service is 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. The service provides access to Juniper technology experts, best practices, and tools.

Service Description

Juniper Apstra is a software-only, multi-vendor, intent-based networking solution that uses automation to solve complexity of designing, building, deploying, and operating next generation data center networks. Apstra manages the entire network life cycle from translating business intent and technical objectives to essential policy and device specific configuration. Additionally, Apstra continuously self-validates and resolves issues to assure compliance. It provides the ability to easily expand and scale your network, extract meaningful device telemetry, analytics dashboards, as well as powerful Intent-Based Analytics and Time Voyager capabilities.

Apstra Automated Data Center Deployment Service is designed to support enterprises, cloud providers, and service providers who are deploying next generation data center networks. Service offers easy-to-use, fully automated, deployment package that is quick to install using highly validated data center reference design for 3-stage Clos for network architecture. The service also offers fully customizable deployments for additional device types that are Juniper switches as well as non-Juniper vendor switches. Customizable deployments also offer more advanced scenarios of data center reference designs such as 5-stage Clos and Collapsed fabric. Additionally, the service allows fully customizable deployments 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.

The service offers easy-to use, quick-to-install, fully automated base deployment package for a single data center (1DC). Base single data center (1DC) deployment package is fixed price and fixed scope-of-work that is designed for the deployment of a single data center (1 DC) with up to thirty-two (32) Juniper QFX 5000 Series data center switches deployed in a Spine and leaf role for 3-stage Clos Ethernet VPN (EVPN) / IP Fabric with Edge-routed bridging (ERB) network virtualization overlay or collapsed spine network architecture. Package supports fixed number of virtual elements such as virtual networks, fixed number of routing zones, routing policies and fixed number of configuration templates that augment Apstra' s reference design with non-native device configuration. The service also offers an add-on option for the deployment of Single Data Center Interconnect (DCI) which when combined with the base single data center (1 DC) allows for easy scaling to two data centers (2 DC) or multi-data centers. Customized deployment option of the service offers an easy progression toward more complex migration scenarios and additional Juniper and non-Juniper vendor switches,

The Datacenter reference design provides the advantage of abstraction and automation. 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 implementation methodology and tools that provide a high degree of assurance, faster completion speed, and reduced deployment risks.
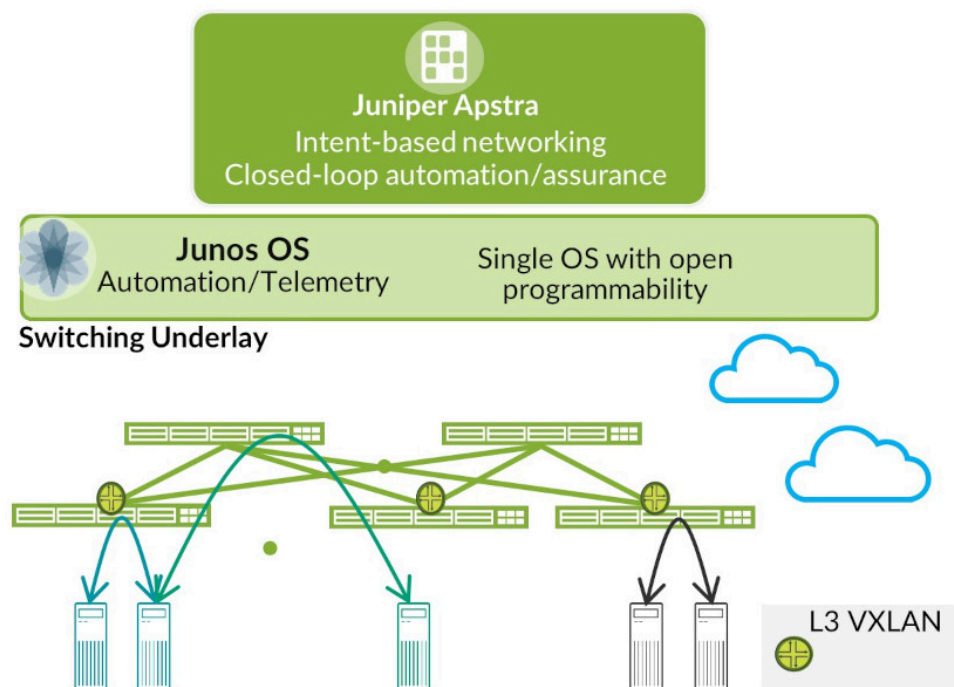
Figure 1: Automated Data Center

Key Service Activities

As part of this service, the Juniper Professional Services consultant will advise on optimal phasing and grouping of the activities. Single data center deployment package service activities begin with a review of the data collected from the customer by Professional Services consultant via the intake checklist. The intake checklist customer information is then used as a single source of data to perform automated Apstra platform installation, deployment, and provision the entire EVPN fabric. Automated deployment package then tests connectivity down to IP port level. Upon successful completion of test and verification, system auto- generates documentation that includes test results and key UI screen shots for customer handoff.

In case of customizable deployment option, key activities performed by Professional Services consultant 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, designing your rack types and fabric network using Apstra templates and instantiating these templates into blueprints.

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.

Service Methodology

Juniper Apstra Automated Data Center Deployment Service methodology follows a four-phase approach (Design, Build, 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 on a customer-by-customer basis. Similarly, the specific deployment tools and resource requirements are identified for each customer situation.
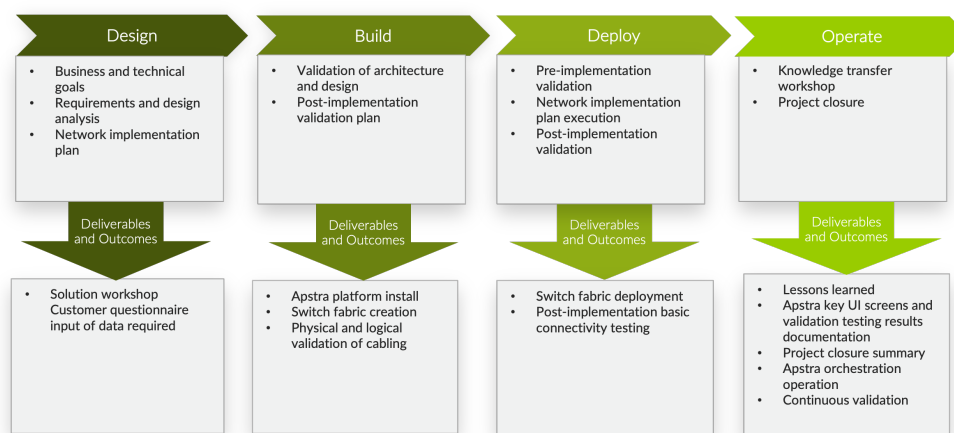
Figure 2: Service Methodology

Specifications

Deliverable Tasks	Description	Features and Benefits
Solution Workshop	Conduct a project initiating collaborative workshop for intake of customer data, review the project scope as described in the SOWf the design to be used, and documentation of the validated design to ensure alignment of service tasks with expectations	• 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 deployments
Platform and Network Deployment	Install the Apstra platform. For data center reference designs, Apstra Blueprint creation of physical and virtual aspects of the infrastructure to be deployed. This includes interface maps, VLANs, VXLANs, route zones and optional DCI deployment. After blueprint deployment, Juniper will perform basic interface level validation of traffic across fabric. 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.	• For data center reference design, use blueprinting and pre-staging capabilities to create a pristine design prior to the implementation • 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 deployment times and risks
Knowledge Transfer Workshop (KTW)	Documentation from prior phases and a workshop that reviews all Juniper hardware and software implemented, including Day-2 basic operations of the Juniper Apstra.	• Accelerate infrastructure availability and employee readiness for improved operational efficiencies
Post Migration / Implementation Support (for Customizable Option)	Provide ongoing assistance post migration execution for a period of two (2) weeks Monday through Friday during normal business hours.	• 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 migrate your next generation data centers using Apstra.

Juniper Apstra Automated Data Center Migration Service: Apstra Automated Data Center Migration Service, specifically designed for migrations from existing production data center networks to next-generation data center networks by using easy-to-use migration packages with validated data center reference designs. The service also offers fully customizable migrations using highly flexible freeform reference designs or data center reference designs to leverage any feature, protocol, or architecture. See Juniper Apstra Automated Data Center Migration 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, please visit https://www.juniper.net/us/en/products-services/

Ordering Information

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

Exclusion

The scope of this service is for Apstra Automated Data Center Deployment Service only and does not include separately sold assessment, design, migration, or deployment 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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