Apstra Customer Deployment Checklist

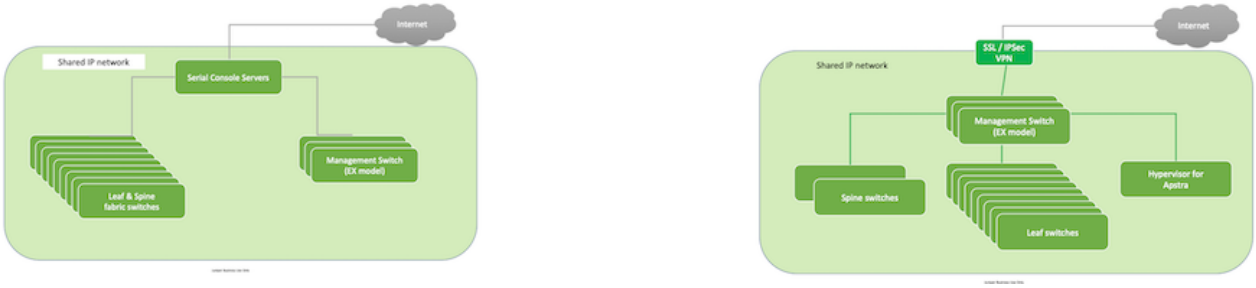
Checklist for customers to deploy Apstra driven Data Centers for themselves

Thank you for purchasing the Juniper Apstra and hardware bundle. This checklist in front of you aims to help you turn your vision of a greenfield Data Center deployment with Apstra swiftly in to reality. To ensure a head start, this document will help you structure and prepare your approach and next steps.

1 Console and Management connections

Ideally, you work with console servers that are connected to your new switch deployment, to ensure that you can work on your devices independently from the management network.

Thus, we recommend equipping the new fabric switches with cabled console connections to a console server, as shown in Figure 1a:



(a) Management Network

(b) Remote Access

Figure 1: Console and Management connections

This is not a mandatory requirement, merely a choice that you can make.
However a connection to a dedicated management switch outside the new fabric is mandatory for each of the switches' management port. Please note that these management ports must share a common VLAN and IP network with the Apstra Server and its supporting VMs (see Figure 1b).

2 Cabling of the new fabric

Ideally, the switches should be cabled as illustrated in Figure 3. The cabling information - which port/speed of the spine switch is connected to which port of the leaf switches - must be planned for and documented, for example in an excel sheet or a piece of paper for your convenience. Optionally, a dry run of the blueprinting process using the Apstra Server will generate the cabling plan for you in printable for later too.

The important part is that every spine is connected with every leaf and that there is no direct link among any leaf or any spine switches.

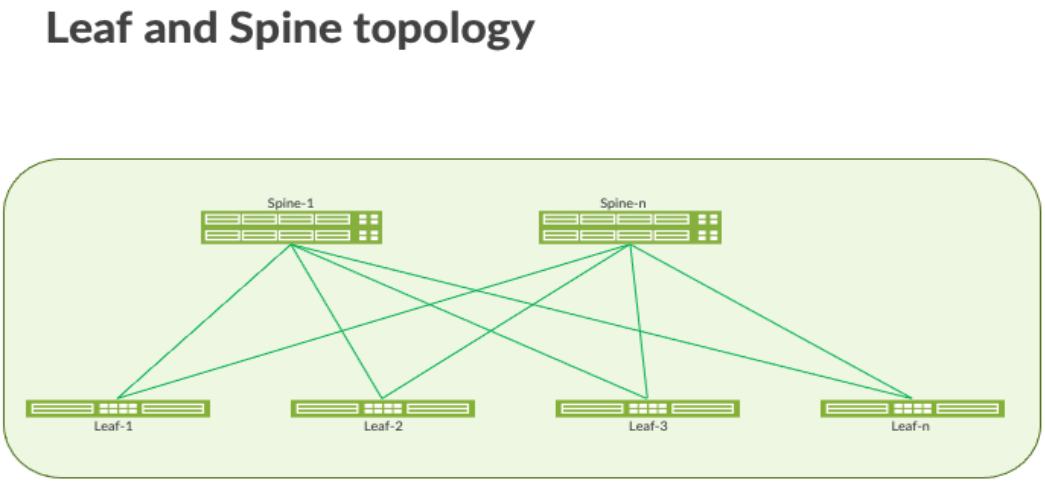


Figure 2: Leaf and Spine Topology

3 Management information

In order to get a minimum system setup and monitoring enabled, you will need to collect all relevant data for certain configuration artefacts:

1. The time-zone that you have all your other devices configured for.
2. Credentials and information for your NTP servers.
3. Configuration data for your Syslog servers.
4. Version and configuration data for your SNMP servers.
5. Configuration data for your DNS servers to be used.
6. If required: TACACS+ or RADIUS information and credentials.

All those services must be reachable via the management network ideally directly.

4 Virtualization environment

Very likely, you will aim to install the Apstra Server on the VMware ESXi environment. Whether you do this on a single server or a vCenter controlled cluster is up to you. The following information will help you prepare your ESXi Servers for the installation of Apstra.

Please see the Apstra Installation Guide (link) for the vCenter resource requirements of the Apstra Server and ZTP helper.

Resource type	Information
Vcenter	*IP address*
Vcenter userid	*user name*
ESXi Server(s)	*IP adresses*
DC Name	*data center name*
Data Store name	*Name of ESXI data store*
vSwitches	*Names and virtual networks to be used for Apstra Server management and test agent traffic interfaces towards the fabric*

5 Internet access

The Apstra Server and all other supporting VMs need to get non-proxied internet access. Please make sure that at least DNS connections to public DNS servers, like Google's 4.4.4.4 are possible from the Apstra Server.

6 Hardware information about the switches purchased for this project

You will need a list of all the newly obtained switches that will comprise the new greenfield data center:

switch model	Serial number	future hostname	role	management IP/mask	default GW
i.e. QFX5120-48Y-AFO	AAD1234	leaf1	leaf	1.1.1.100/24	1.1.1.1
...					

7 Apstra related information

Installing Apstra successfully requires having a connection to the management network where the other switches are attached to as well. Please create virtual networks accordingly and prepare your distributed switches in vCenter. On top of that, you need a few more information about the new data center:

Resource type	Information
Apstra Server VM Mgmt IP	*IP address*
ZTP helper VM Mgmt IP	*IP address*
IP address pool	*IP address ranges*
ASN pools	*AS number ranges*
vswitch	*virtual network information*

8 IP fabric related information

Please collect and prepare to share necessary information as listed below:

Resource type	Information
IP address pools for underlay	*i.e. 192.168.10.0/24*
IP address pools for switch loopbacks	*i.e. 10.0.0.0/24*
ASN Pools for underlay	*i.e. 64600 - 64650*
IP address pools for overlay	*i.e. 172.17.100.0/24*
ASN pools for overlay	*i.e. 64700 - 64750*
interface speeds for uplinks of the fabric	*i.e. 100G*

9 VRFs

In case you want to use VRF or routing-zones, you need the following information:

VNI ID	VLAN-ID	VRF name
i.e. 94040	4040	VRF40

VRF names can not contain non-alphanumerical characters and should not exceed 15 characters in total.

10 virtual networks

Please collect the following information in order to prepare for the creation of virtual networks.

VNI ID	virtual network name	VLAN ID	IP subnet	IP virtual GW	VRF name	switches
i.e. 9001	VLAN10	10	10.0.10.0/24	10.0.10.1	VRF40	leaf1, leaf2, leaf5, leaf6

Virtual network names can not contain non-alphanumerical characters and should not exceed 30 characters in total.

11 Generic systems

A generic system is referring to a workload attached to leaf switches, i.e. servers.

Generic system names can not contain non-alphanumerical characters and should not exceed 64 characters in total.

Server name	leaf switches	attachment type	LAG mode	link speed	untagged VLAN	tagged VLAN
server1	leaf1	single		10G	VLAN1	VLAN2, VLAN3
server2	leaf1, leaf2	dual	LACP-active	10G	VLAN3	VLAN10, VLAN11

In this example, server1 is single attached to one leaf, while server2 is redundantly connected to two switches using LACP.

Congratulations! Now you are all set to install Apstra and deploy your greenfield IP fabric as swiftly as possible.

In case you need further support, please consult your Juniper Account Manager.