Extreme Fabric Automation 2.0.1 Release Notes v1.0

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Document history

Version	Summary of changes	Publication date
1.0	Release 2.0.1	23 September 2019

Preface

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- Your Extreme Networks service contract number and/or serial numbers for all involved Extreme Networks products
- A description of the failure
- A description of any action(s) already taken to resolve the problem
- A description of your network environment (such as layout, cable type, other relevant environmental information)
- Network load at the time of trouble (if known)
- The device history (for example, if you have returned the device before, or if this is a recurring problem)
- Any related RMA (Return Material Authorization) numbers

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Introduction

Extreme Fabric Automation (EFA) is also known as Data Center Automation Application (DCA) is a Go-based, scalable Golang-based application that orchestrates the following installations:

- 3-stage IP Fabric
- 5-stage IP Fabric
- Tenant Aware Networks

Scope

This document was originally a "Controlled Release" document titled *Data Center Automation Application (DCA), 2.0.0 Release Notes v1.0.* Its content has been subsequently updated.

This release addresses only the automation of Fabric infrastructure and Tenant Services lifecycle management of 3- and 5-stage IP Clos DC Fabrics. It does not address the automation of Small Data Centers or 7-stage IP Clos Fabrics.

EFA does not support any additional manual configuration changes directly on the IP fabric nodes and EFA cannot reconcile any manually performed configurations. It is recommended to use EFA for any IP Fabric configuration operations to ensure correctness of the configurations

Key features

The key features of this application are as follows:

- Conformance to the EVD (Extreme Validated Design for IP Fabric) - https://www.extremenetworks.com/resources/extreme-validated-design/extreme-ip-fabric-architecture/
- Ease and speed of provisioning and trouble shooting
- Seamless installation/deployment mechanism
- High performance and low resource utilization with minimal touch points
- Programmable containerized services through an industry-standard Open API (https://www.openapis.org/)-based programmable interface
- Easy-to-use CLI commands to manage devices in an IP Fabric and Tenant Networks.

Following enhancements done in EFA 2.0.1 release

- Inventory device update for multiple devices
- Device replacement enhancements
- Defect fixes

Supported Platform Matrix

This application is supported on the following platforms.

Platform	Role	SLXOS version
SLX-9140	Leaf	18s.1.01/a/c , 18s.1.03
SLX-9240	Leaf/Spine/Super-spine	18s.1.01/a/c, 18s.1.03
SLX-9850	Spine/Super-spine	18r.1.00aa/b/c
EN-SLX-9030-48S	Leaf	18x.1.00/a/b
EN-SLX-9030-48T	Leaf	18x.1.00/a/b
SLX-9540	Leaf/Border Leaf	18r.1.00aa/b/c

EFA comprises three core containerized services that interact with each other and other infrastructure services to provide the core functions of IP Fabric automation:

Asset Service	Provides the secure credential store and deep discovery of physical/logical assets of the managed devices, and publishes the asset refresh/change events to other services
Fabric Service	Helps orchestrate and visualize the BGP/EVPN-based 3- and 5-stage Clos networks
Tenant Service	Helps manage the Tenants, Tenant Networks, and end points, fully leveraging the knowledge of Assets and the underlying fabric

The following figure illustrates the application's Docker-based functionality in provisioning and discovery.

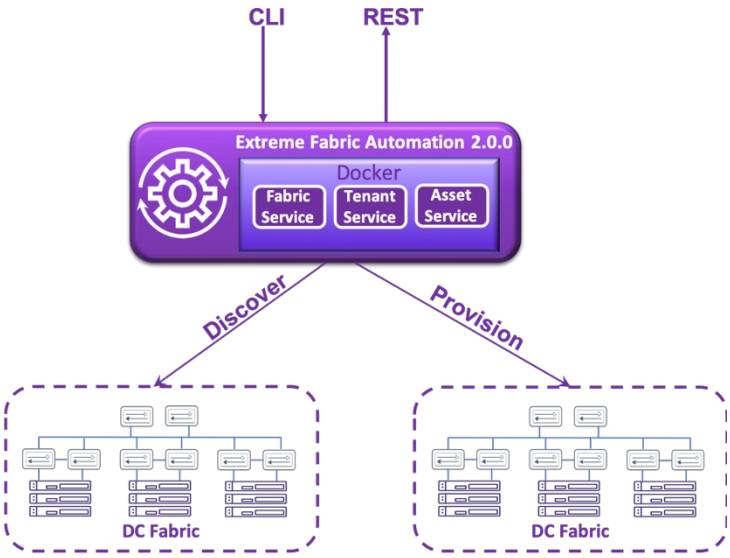

Figure 1. Docker-based provisioning and discovery

Features supported

1. Unified CLIs for provisioning and show commands

2. Underlay provisioning for 3-stage and 5-stage Clos topologies includes the following:
   - Interface configurations for Fabric and ICL links
   - MCT cluster configuration
   - BGP session between super-spine, spine, and leaf nodes
   - Validation of the connectivity between the nodes and identification of missing links

3. Overlay provisioning for 3-stage and 5-stage Clos topologies includes the following:
   - Overlay gateway/LVTEP configuration
   - EVPN configuration

4. Tenant Services
   - Simplified CLI – A single CLI to provision VLAN, associated VE, VRF, create and configure a port-channel, configure the port-channel as an MCT client, and add the VLAN to eVPN instance. The port-channel can be enabled with the Endpoint Tracking (EPT) feature or the VLAN can be statically associated.
   - Update CLIs – Used to associate additional VLANs statically to an interface.
   - Modular CLIs – Provide option to configure all the associated individual Tenant constructs provided by simplified CLI.
   - Delete and show commands for the Tenant constructs.
     NOTE: For a detailed reference please refer to the section "Tenant Network Provisioning" in the *EFA Administration Guide* for this release.

5. Changes during installation.
   - Note that "deployment.sh" script that is executed during EFA fresh install/upgrade needs to now be executed using the following command:

     source deployment.sh

     For details please refer to "New Installation" in the *EFA Administration Guide.*

6. Upgrade section
   - For instructions on upgrading from the previous release of EFA, please refer to the section "Upgrade/reinstall" in the *EFA Administration Guide*.
     - MCT cluster configuration
     - BGP session between super-spine, spine, and leaf nodes

- Validation of the connectivity between the nodes and identification of missing links

Server prerequisites for EFA

Note the following requirements.

Prerequisites	• **Minimum System Requirements** - CPU: 4 cores - Storage: 50 GB - RAM: 8 GB - OS: Ubuntu 16.04+ • **Software (installed by deployment script)** - Docker CE: v18.06.1~ce~3-0~ubuntu - Docker-compose: v1.22 - Docker-compose file: version 3 - postgresql-client: v9.6

Switch prerequisites

- Management IP addresses need to be configured on all switches.
- SLX device should have appropriate firmware version mentioned in the "Supported Platform Matrix" section.
- On SLX 9850, fabric links need to be manually enabled i.e. "no shut".
- On SLX 9540, correct TCAM profile needs to be set and switch rebooted.

```
SLX# conf
Entering configuration mode terminal
SLX(config)# hardware
SLX(config-hardware)# profile tcam vxlan-ext
%Warning: To activate the new profile config, please run
'copy running-config startup-config' followed by 'reload
system'.
SLX(config-hardware)#
```

- Breakout ports, if any, on SLX devices must be manually configured. Please see the appropriate SLX-OS Management Guide for configuration steps.
- EVD guidelines for fabric and ICL port connections on leaf nodes –
  - SLX9140, SLX9540: 0/49 – 0/54
  - SLX9030: 0/49 – 0/52

Software licenses requirements

EFA Software requires the “Advanced Feature” license enabled for all the nodes of the Fabric and supports the SLX platforms listed above in the Supported Platform Matrix.

S/W License requirement	SLX 9140	SLX 9240	SLX 9030	SLX 9540	SLX 9850
Needs “**License**” for MCT feature	No	No	No	Yes (Advanced Feature License)	Yes (MPLS license)

Known Limitations/Issues

Issue Reference	Issue Summary	Symptom	Workaround
GA-1827	Partial completion of tenant network workflow creation command and failure	Tenant network workflow creation command fails after partial completion	manually delete the partial completed task, epgs,po before re-running workflow CLI.
GA-1432	vlan instead of bridge-domain as IRBD is not supported	VRF creation with vlan instead of bridge-domain as IRBD	No workaround. This is not supported in current release.
GA-2012	VRRP configuration is not done if multiple POs are created in a network	VRRP configuration is not done on switch	Create one network for each PO instead of multiple POs in a network.
GA-1398	Different values for “route-target export” and “route-target import” not supported	“route-target export/import” not configured on devices	No workaround. This is not supported in current release.
GA-1346	IRBD value auto picked	User can't specify IRBD value	No workaround. This is not supported in current release.
GA-898	CTRL+C exit when EFA CLIs execution is in-progress results in subsequent commands to take longer time as well as partial completion of in-progress commands.	Part of the aborted operation might have already been complete.	Check EFA fabric and asset services and undo part of the completed abort operation. While EFA commands are in progress, it is recommended not to abort them.
GA-961	Devices in the inventory are not listed in any order for inventory show commands.	Devices in inventory list will not be sorted.	No workaround, this is an expected behavior.
GA-1628	unnumbered IP address for fabric/MCT links is not supported	Unnumbered is not supported	unnumbered IP address for fabric/MCT links is

			not supported in this release
GA-1459	Not possible to edit fabric settings once the fabric is active	Once the fabric is configured, it is not allowed to edit fabric settings.	None, Fabric settings like IP, BFD enable/disable, ASN must be decided before configuring the fabric as part of planning.
GA-929	While fabric configuration is in-progress user is not prompted with any message on the progress/state	Option to see status of fabric configuration progress	Not supported in current release
GA-2032	Fabric formation is failing sometimes for 9540 with images 18r.1.00a/aa/b/c due to L3 reachability issues.	MCT wont form in few cases. The issue happens because we have a Stale entry in arpagt db	Reload/Reset the linecard
GA-2070	Network remains in error state after leaf nodes are removed from fabric and re-added - ept case only	Network will remain in error state and configs are not pushed	Recreate the network
GA-1383	“dca tenant workflow network bulk-create" failures	Following error is observed “CreateSwitchPortMode failed. "2" has a bad length/size.”	Recreate network that has failed.