ExtremeManagement™

Extreme Fabric Orchestrator
Release Notes

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Contents

1   Preface

1.1   Purpose

Extreme Fabric Orchestrator (EFO) Release 1.2 is a minor release that adds a few new features to the product and resolves issues found in previous releases. This document provides information about new features, supported products, known issues and workarounds, and other important notices for Extreme Fabric Orchestrator (EFO) Release 1.2.

NOTE: Extreme Fabric Orchestrator was formerly known as Avaya Fabric Orchestrator (AFO).

1.2   Training

Ongoing product training is available. For more information or to register, you can access the Web site at www.extremenetworks.com/education/.

1.3   Providing Feedback to Us

We are always striving to improve our documentation and help you work better, so we want to hear from you! We welcome all feedback but especially want to know about:

- Content errors or confusing or conflicting information.
- Ideas for improvements to our documentation so you can find the information you need faster.
- Broken links or usability issues.

If you would like to provide feedback to the Extreme Networks Information Development team about this document, please contact us using our short online feedback form. You can also email us directly at internalinfodev@extremenetworks.com

1.4   Getting Help

1.4.1   Product purchased from Extreme Networks

If you purchased your product from Extreme Networks, use the following support contact information to get help.

If you require assistance, contact Extreme Networks using one of the following methods:

- GTAC (Global Technical Assistance Center) for Immediate Support

  - Phone: 1-800-998-2408 (toll-free in U.S. and Canada) or +1 408-579-2826. For the support phone number in your country, visit: www.extremenetworks.com/support/contact

  - Email: support@extremenetworks.com. To expedite your message, enter the product name or model number in the subject line.

- GTAC Knowledge – Get on-demand and tested resolutions from the GTAC Knowledgebase, or create a help case if you need more guidance.

- The Hub – A forum for Extreme customers to connect with one another, get questions answered, share ideas and feedback, and get problems solved. This community is monitored by Extreme Networks employees, but is not intended to replace specific guidance from GTAC.

- Support Portal – Manage cases, downloads, service contracts, product licensing, and training and certifications.

Before contacting Extreme Networks for technical support, have the following information ready:

- 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

1.4.2   Product purchased from Avaya

If you purchased your product from Avaya, use the following support contact information to get help.

Go to the Avaya Support website at http://support.avaya.com for the most up-to-date documentation, product notices, and knowledge articles. You can also search for release notes, downloads, and resolutions to issues. Use the online service request system to create a service request. Chat with live agents to get answers to questions, or request an agent to connect you to a support team if an issue requires additional expertise.

1.5   Extreme Networks Documentation

To find Extreme Networks product guides, visit our documentation pages at:

Current Product Documentation	www.extremenetworks.com/documentation/
Archived Documentation (for previous versions and legacy products)	www.extremenetworks.com/support/documentation- archives/
Release Notes	www.extremenetworks.com/support/release-notes

1.5.1   Open Source Declarations

Some software files have been licensed under certain open source licenses. More information is available at: www.extremenetworks.com/support/policies/software-licensing.

1.6   Subscribing to service notifications

Subscribe to receive an email notification for product and software release announcements, Vulnerability Notices, and Service Notifications.

About this task

You can modify your product selections at any time.

Procedure

1. In an Internet browser, go to http://www.extremenetworks.com/support/service-notification-form/ .
2. Type your first and last name.
3. Type the name of your company.
4. Type your email address.
5. Type your job title.
6. Select the industry in which your company operates.
7. Confirm your geographic information is correct.
8. Select the products for which you would like to receive notifications.
9. Click **Submit**.

2 Terminology

Term	Description
ADM	Appliance Device Manager
EFO	Extreme Fabric Orchestrator
Appliance	A single hardware server contains one or more virtual machines.
CUG	Configuration Update Generator
DSM	Device Software Management
EDM	Enterprise Device Manager
ERS	Ethernet Routing Switch
FA	Fabric Attach
HA	High Availability
KVM	Kernel-based Virtual Machine
Migration	A migration consists of a specific subset of upgrades you perform when you move a customer from one product to another. Migration may also require the customer to obtain new hardware.
MSC	Management Server Console
SCP	Secure Copy
SMGR	System Manager
SSH	Secure Shell Protocol
SVU	Software Version Updater
Upgrade	The process of taking a product from one release to a higher release.
VM	Virtual Machine
VNI	VXLAN Network Identifier
VOSS	Virtual Services Platform Operating System Software
VOSS-WBE	VSP Operating System Software – White Box Edition
VSP	Virtual Services Platform
VTEP	VXLAN Tunnel End Point
VXLAN	Virtual eXtensible Local Area Network

3 New in this Release

The following section provides a list of the new features, enhancements, and changes in EFO Release 1.2.

EFO new features summary:

- SFTP Support in Device Software Management
- Ability to monitor appliance's own resources
- Launching of Wireless Management tool from EFO

EFO enhancements summary:

- Device support for latest ERS and VSP devices and device versions
- Concurrent Monitoring User sessions increased to 50 from 30.
- BPDU Trap Enhancements
- Display of System Name in addition to IP Address in the Configuration user interface
- Enhanced RBAC support for Configuration Update Generator (CUG) Templates
- Support for interactive commands in Configuration Update Generator
- Searching and Filtering capability in Device Software Management Task editor
- Support for more special characters in Device Software Management Task name
- Upgrading of VSP series switches without rebooting of the device

EFO changes:

- Replaced DSM Configuration Backup feature's WebStart based "diff" tool with SmartDiff tool
- Auto download of EDM plugins from PLDS removed
- Removed the ability to access ADS from EFO
- Removed support for easy mode of system upgrade using SSD

3.1 SFTP Support in Device Software Management

In EFO Release 1.2, secure file transfer using SFTP has been provided for BOSS (stackable) devices which have the SFTP support with a secure image installed. This support is available in the sub-features of Device Software Management, such as Backup and Restore, Configuration Update Manager (CUG) and Software Version Updater (SVU).

When the device is capable of both SFTP and TFTP file transfer, SFTP is preferably used. Also, note that since there is no MIB support for SFTP based file transfer, the file transfers in "File Inventory" feature still use TFTP.

3.2 Ability to monitor appliance's own resources

EFO Release 1.2 provides the ability to monitor the appliance's own resources with trending, events and alerts covering all of CPU usage, RAM usage, disk usage, NIC usage, VM status.

To discover and monitor the EFO host and Virtual Machines (VMs):

- Enter the SSH credentials of the EFO host and VMs in the Credentials Editor.
- Select the Host Storage Discovery option in the Discovery page when run the discovery.
- Open the device Dashboard on the EFO host and VMs to view the CPU, RAM, Disk usage.

3.3   Launching of Wireless Management tool from EFO

EFO Release 1.2 includes a launch point for the Wireless Management tool. This tool can be launched as follows:

- Locate the target device in the Monitoring Topology page.
- Right mouse click on the device and select menu from **Tools > Launch WOS**

3.4   Device Support

The following table shows the new devices and device software versions for which support has been added in EFO Release 1.2.

Device Family	Software Versions	Notes
VOSS - WBE 1GB, 10GB, 40GB platforms	6.0, 6.0.1, 6.1, 6.1.5	6.0 was partially supported in EFO 1.1
VOSS - WBE 100GB platform	5.2, 5.3, 6.1	DSG9032 – introduced in 5.2 DSG8064 – introduced in 5.3
VSP 9000	4.1.5	
VSP 4000	6.0, 6.1, 6.1.5	
VSP 7200/8200/8400	6.0, 6.1, 6.1.5	VSP 8400 except 8404C series.
VSP 8404C	5.3, 6.1, 6.1.5	New Models: VSP 8404C and VSP 8404C-DC
VSP 8600	4.5	
ERS 5900	7.3, 7.4, 7.4.1	New Model: ERS 5928MTS-UPWR
ERS 4900	7.3, 7.4, 7.4.1	
ERS 4800	5.9.5, 5.10	
ERS 3600	6.0, 6.1	New Models: ERS 3626GTS, 3650GTS, 3626GTS-PWR+, 3650GTS-PWR+

3.5   More concurrent user sessions for monitoring

EFO Release 1.2 supports up to 50 concurrent user sessions for network monitoring features of EFO. This is an increase from 30 concurrent user sessions in EFO Release 1.1.

3.6   BPDU Trap enhancements

EFO Release 1.2 provides support for handling BPDU Traps.

EFO is able to create an event reflecting a BPDU Filtering/Guard event showing the affected port on VSP devices.

3.7   Display System Name in UI

In EFO Release 1.2, several configuration features have been enhanced to display the System Name (sysName) in addition to the IP address of the devices in the UI tables, navigation panel and combo boxes. In this release, the following configuration features display System Name in addition to the IP address of the devices:

- VLAN Manager
- Fabric Connect
- Fabric Extend
- VXLAN

3.8   RBAC for CUG Templates

EFO Release 1.2 introduces new permission elements for Configuration Templates of CUG (Configuration Update Generator) sub-feature of Device Software Management feature. It also introduces a new Role called **AFO Device Config Template Administrator.** By default, **AFO Network Administrator** and **AFO Network Operator** roles have read-only access to Configuration Templates. A user can be granted read-write permission for Configuration Templates by adding **AFO Device Config Template Administrator** as additional role to the user.

Read-only access allows user to export the Template and to execute the template. Read-write access allows the user to create and edit template in addition to export and execute.

3.9   Support for interactive CLI commands in CUG

In EFO Release 1.2, the Configuration Update Generator (CUG) templates support the CLI commands that require user input. For a CLI command in the CUG template, you can now specify the expected device response and the user input for it using special delimiter "|||". See Using interactive commands in CUG scripts and templates for further details on this feature.

3.10 Search and Filtering capability in DSM Task editors

In EFO Release 1.2, the task editors in Device Software Management sub-features (such as Backup & Restore, CUG, SVU) have been enhanced to provide the capability for searching and filtering for the displayed device list for selection. This capability is similar to the search and filtering capability available in the Device Groups feature.

3.11 Support for more special characters in DSM Task name

In EFO Release 1.2, the special characters that can be used in the Task name of the tasks in the DSM sub-features (such as Backup & Restore, CUG, SVU) has been updated to add more special characters. Task names can now contain the following special characters –

space (" "), underscore "_", hyphen "-", colon ":", left-parenthesis "(", right-parenthesis ")", left-square-bracket "[" and right-square-bracket "]".

3.12 Upgrading of VSP series switches without rebooting of the device

The DSM sub-feature Software Version Updater (SVU) tool already supports option to reboot or not to reboot the device after upgrade for stackable ERS family devices. In EFO Release 1.2, this option is added to the upgrade of VSP family devices as well. You can now upgrade VSP family devices without reboot. If the "no reboot" option is selected and the device does requires a reboot for completion of the upgrade, then you can reboot the VSP device manually through other means, such as a CLI session.

3.13 Extreme Networks branding

EFO (formerly AFO) is re-branded as an Extreme Networks product. EFO Release 1.2 software and documentation contains re-branding related changes.

3.14 DSM Configuration Diff feature changes

The Configuration Diff in DSM's Backup & Restore sub-feature used a WebStart based tool in previous releases. In EFO Release 1.2, this now uses the SmartDiff tool that does not require WebStart.

3.15 Features removed in EFO Release 1.2

Following minor features have been removed from EFO:

- Auto download of EDM plugins from PLDS has been removed because PLDS is an Avaya system and cannot be accessed from an Extreme Network product.
- Ability to access ADS from EFO has been removed since ADS is an Avaya product.
- System upgrade using SSD Easy mode is not supported in EFO 1.2. Avaya PLDS downloads cannot be accessed directly from within EFO, which Easy mode required.

4 Extreme Fabric Orchestrator hardware and software requirements

There is no specific hardware (except for power cords) and software requirement for Extreme Fabric Orchestrator (EFO). EFO is shipped as a pre-configured hardware appliance. The appliance has all the required hardware and software for EFO to work properly.

NOTE:

The Extreme Fabric Orchestrator appliance server does not ship with AC power cords. You can use any 100–240V IEC 60320 AC power cord with a C13 connector that meets the regulations for your geographic region and operating environment.

The EFO appliance requires one of the following AC power cords. Material codes are as follows:

Material Code	Description
AA0020062E6	POWER CORD IEC C13 TO NEMA 5-15P NORTH AMERICA (2.5M 10A/125V) ERS3500 ERS4500 ERS5500 ERS5900_450W VSP7000 VSP8000 SECURE ROUTER POE_INJECTORS
AA0020063E6	POWER CORD IEC C13 TO BS1363 UK (2.5M 10A/250V) ERS3500 ERS4500 ERS5500 VSP7000 SECURE ROUTER POE_INJECTORS
AA0020064E6	POWER CORD IEC C13 TO CEE 7/17 EU (2.5M 10A/250V) ERS3500 ERS4500 ERS5500 VSP7000 SECURE ROUTER POE_INJECTORS
AA0020065E6	POWER CORD IEC C13 TO CEI23-16 ITALY (2.5M 10A/125V) ERS3500 ERS4500 ERS5500 ERS5900_450W VSP7000 VSP8000 SECURE ROUTER POE_INJECTORS
AA0020066E6	POWER CORD IEC C13 TO GB2099 CHINA (2.5M 10A/250V) ERS3500 ERS4500 ERS5500 VSP7000 SECURE ROUTER POE_INJECTORS
AA0020067E6	POWER CORD IEC C13 TO BS546 INDIA (2.5M 10A/250V) ERS3500 ERS4500 ERS5500 VSP7000 SECURE ROUTER POE_INJECTORS
AA0020068E6	POWER CORD IEC C13 TO AS 3112 AUSTRALIA (2.5M 10A/250V) ERS3500 ERS4500 ERS5500 VSP7000 SECURE ROUTER POE_INJECTORS
AA0020069E6	POWER CORD IEC C13 TO JIS 8303 JAPAN CNS-10917 TAIWAN (2.5M 12A/125V) ERS3500 ERS4500 ERS5500 VSP7000 SECURE ROUTER POE_INJECTORS

4.1 Other software requirements

The following software is required by an administrator to connect to the EFO appliance and move files (such as backup archive, log archive) to and from the appliance.

- SCP software, such as WinSCP on the client machine used by the administrator
- An SSH client, such as puTTY on the client machine used by the administrator

5 EFO Release 1.2 device support

The following devices are supported in EFO Release 1.2 (Versions in **bold** are software releases newly supported in EFO Release 1.2).

* - indicates partial support was available in EFO 1.1, fully supported in EFO 1.2.

** - indicates partial support or support that is not completely verified yet.

Device	Software Releases
VOSS White-Box edition 1GB,10GB and 40GB platforms	4.3.1, **6.0*, 6.1**
VOSS White-Box edition 100 GB platform	**DSG9032 - 5.2, 5.3, 6.1** **DSG8064 – 5.3, 6.1**
Virtual Services Platform 4000	3.0, 3.0.1, 3.1, 4.0, 4.0.40, 4.0.50, 4.1, 4.2, 4.2.1, 4.2.2, 4.2.3, 5.0, 5.1, 5.1.1, **6.0*, 6.1, 6.1.5**
Virtual Services Platform 7200	4.2.1, 4.2.2, 4.2.3, 5.0, 5.1, 5.1.1, **6.0*, 6.1, 6.1.5**
Virtual Services Platform 8200	4.2.1, 4.2.2, 4.2.3, 5.0, 5.1, 5.1.1, **6.0*, 6.1, 6.1.5**
Virtual Services Platform 8400 (except 8404C series)	4.2.1, 4.2.2, 4.2.3, 5.0, 5.1, 5.1.1, **6.0*, 6.1, 6.1.5**
Virtual Services Platform 8404C series	**5.3, 6.1, 6.1.5**
Virtual Services Platform 8600	**4.5**
Virtual Services Platform 9000	3.0, 3.1, 3.2, 3.3, 3.4, 3.4.5.0, 4.0.1, 4.1, 4.1.1, **4.1.5**
Ethernet Routing Switch 8600 & 8800 including the following hardware: 8681XLW module, 8681XLR module, 8616GTE module, 8672ATME MDA, 8608GBM module, 8608GTM module, 8632TXM module, 8648TXM module, 8672ATMM module, 8683POSM module.	4.0, 4.1, 5.0, 5.1, 7.0, 7.1, 7.1.3, 7.1.5, 7.2, 7.2.10, 7.2.13, 7.2.14.x, 7.2.15
Virtual Services Platform 7000 (70XX)	10.1, 10.2, 10.2.1, 10.3, 10.3.1, 10.3.2, 10.3.3, 10.4
Ethernet Routing Switch 5900	7.0, 7.0.1, 7.1, 7.2, **7.3, 7.4, 7.4.1**
Ethernet Routing Switch 5600	5.1, 6.0, 6.1, 6.2, 6.3, 6.6, 6.3.4, **6.3.5, 6.3.6**, 6.6.1,

Device	Software Releases
	6.6.2, 6.6.3
Ethernet Routing Switch 5500	5.1, 6.0, 6.1, 6.2, 6.3, 6.6, 6.3.4, **6.3.5, 6.3.6**, 6.6.1, 6.6.2, 6.6.3
Ethernet Routing Switch 4900	7.1, 7.2, **7.3, 7.4, 7.4.1**
Ethernet Routing Switch 4800	5.2 , 5.3, 5.4, 5.5, 5.6, 5.6.1, 5.6.2, 5.7, 5.7.2, 5.7.3, 5.8, 5.8.2, 5.8.3, 5.9, 5.9.2, **5.9.5, 5.10**
Ethernet Routing Switch 4500	5.2 , 5.3, 5.4, 5.5, 5.6, 5.6.1, 5.6.2, 5.7, 5.7.2, 5.7.3
Ethernet Routing Switch 3600	**6.0, 6.1**
Ethernet Routing Switch 3500	5.0, 5.0.1, 5.0.2, 5.1, 5.1.1, 5.1.3, 5.2, 5.2.3, 5.3, 5.3.1, 5.3.2
Ethernet Routing Switch 2500	4.1.x, 4.2, 4.3, 4.4
Ethernet Routing Switch 1600	2.1.5.x, 2.1.6.x
WLAN	23xx, AP 23xx
WLAN 9100 WOS + AP	7.5.6
Belden	6.0.2

Note:

The install required plugins option in Device Plugin Management view requires the first 3 decimal numbers of device software version and the corresponding EDM plugin version to match. If it does not, then the corresponding plugin should be installed manually using the Install plugin option.

6   Release distribution and license information

Extreme Fabric Orchestrator Release 1.2 is available only as an upgrade bundle for existing or new appliance running EFO Release 1.0 or 1.1.
NOTE: New EFO appliances ship with EFO release 1.1 pre-installed.

EFO has the following licensing scheme:

Code	Description	Long Description
700510943	EFO APPLIANCE STARTER KIT	Extreme Fabric Orchestrator (EFO) Appliance Starter Kit. EFO is a unified network management appliance delivering full FCAPS functionality of supported networking products.
382178	EFO LICENSE FOR 1500 NODES	Extreme Fabric Orchestrator (EFO) License to manage 1500 nodes. Requires 700510943.
382179	EFO LICENSE FOR 5000 NODES	Extreme Fabric Orchestrator (EFO) License to manage 5000 nodes. Requires 700510943.
382480	EFO UPGRADE FROM 1500 TO 5000	Extreme Fabric Orchestrator (EFO) License to upgrade from 1500 nodes to 5000 nodes. Requires 700510943 and 382178.
382481	COM 250 TO EFO UPGRADE	License to upgrade from COM Enterprise 250 (AH2735003) to Extreme Fabric Orchestrator (EFO) Starter Kit & 250 node license. Requires 700510943.
382482	COM 1200/1500 TO EFO UPGRADE	License to upgrade from COM Enterprise 1200 or 1500 to Extreme Fabric Orchestrator (EFO) 1500. Requires 700510943. Need one of the following COM Licenses to qualify: AH2735004, AH2735005, AH2735013-3.0, AH2735014-3.0, AH2735013-3.1, AH2735014-3.1
382483	COM & VPFM TO EFO UPGRADE	Combo License to upgrade from COM Enterprise 250 (AH2735003) AND VPFM Base (AH3313109) to Extreme Fabric Orchestrator (EFO) Starter Kit & 250 node license. Requires 700510943.
382484	COM & VPFM TO EFO 1500 UPGRADE	Combo license to upgrade from COM Enterprise 1200/1500 AND VPFM Incremental (AH3313111) to EFO 1500. Requires 700510943. Need one of the following COM licenses to qualify:AH2735004,AH2735005, AH2735013-3.0,

Code	Description	Long Description
		AH2735014-3.0, AH2735013-3.1, AH2735014-3.1
382485	VPFM BASE TO EFO UPGRADE	License to upgrade from VPFM Base (AH3313109) to Extreme Fabric Orchestrator (EFO) Starter Kit & 250 node license. Requires 700510943.
382486	VPFM INCREMENTAL 2000 TO EFO UPG	License to upgrade from VPFM Incremental (AH3313111) to Extreme Fabric Orchestrator (EFO) 1500. Requires 700510943
382487	VPFM ENTERPRISE TO EFO 5000 UPGRADE	License to upgrade from VPFM Enterprise (AH3313113) to Extreme Fabric Orchestrator (EFO) 5000. Requires 700510943.
382488	EFO ADV MONITORING FOR STARTER KIT	License to add advanced discovery and monitoring functionality to EFO Starter Kit (250 nodes). Functionality includes network baselining, advanced actions, dashboard builder and many other features. Requires 700510943 and any 250 node license.
382489	EFO ADV MONITORING FOR 1500 NODES	License to add advanced discovery and monitoring functionality to EFO for 1500 nodes. Functionality includes network baselining, advanced actions, dashboard builder and many other features. Requires 700510943 and any 1500 node license.
382490	EFO ADV MONITORING FOR 5000 NODES	License to add advanced discovery and monitoring functionality to EFO for 5000 nodes. Functionality includes network baselining, advanced actions, dashboard builder and many other features. Requires 700510943 & 5000 node license.
382491	EFO ADV MONITOR FR 1500 to 5000 UPG	License to upgrade advanced discovery and monitoring functionality in EFO from 1500 to 5000 nodes. Requires 382489.
383569	EFO LICENSE FOR 250 NODES	Extreme Fabric Orchestrator (EFO) License for Appliance Starter Kit - 250 nodes. Requires 700510943.
390768	EFO MONITORING LIC FOR ADDL 10K NODE	License to monitor additional 10,000 nodes in EFO. Requires 382179 or 382480.

Code	Description	Long Description
390769	EFO LICENSE FOR HIGH AVAILABILITY	High Availability license for EFO. Requires 700510943.

7   Installation and upgrade procedures

See *Getting started and locating the latest software and product release notes for Extreme Fabric Orchestrator* (NN48100-102) for getting started once you receive the appliance.

See *Deploying Extreme Fabric Orchestrator* (NN48100-101) for Extreme Fabric Orchestrator installation and configuration and upgrade information.

Note: The new EFO appliance ships with EFO Release 1.1 pre-installed. You must deploy and configure the appliance for EFO Release 1.1 before upgrading to EFO Release 1.2.

8 Using interactive commands in CUG scripts and templates

With new enhancements to Device Software Management (DSM) Configuration Update Generator (CUG) feature, you can use interactive CLI commands in CUG scripts and templates. The CLI command, the device response and the user input in the interactive command must be separated using the delimiter **|||**. The entire interactive command must be in a single line. You can have a sequence of device responses and user inputs specified in the command.

The syntax for the interactive command is as follows –

`<CLI command> [||| <response from device> ||| <user input>] [||| <next response from device> ||| <next user input>]…`

Following is an example of an interactive command for adding a user. The following interactive command sequence requests for a password and again for the confirmation of the password.

```
username add testUser role-name RW password ||| Enter new password |||
testPw_123 ||| Confirm new password ||| testPw_123
```

In the above example:
```
<CLI command> = username add testUser role-name RW password
<response from device> = Enter new password
<user input> = testPw_123
<next response from device> = Confirm new password
<next user input> = testPw_123
```

In the interactive command, it is not necessary to specify the complete response from the device, a partial response is enough. For example, if the actual device response during runtime is "Enter new password:", in the interactive command you can specify part of it – such as "Enter" or "new password" – for the <response from device>.

It is however important to note that any typos or errors in the <response from device> and <user input> could lead to stoppage of further processing of the CUG script or template.

NOTE: CUG tasks with interactive commands in scripts and templates must have the **Deployment File Type** configured as **CLI Script**.

In addition, this feature supports a few directives to handle the following cases:
- **Password directive** – Password directives obtain the SSH or Telnet password for the devices from the device credentials, avoiding the need to remember and enter the Telnet and SSH passwords for the devices in the script. Password directives are helpful if the CLI commands request for the Telnet or SSH session password
- **Delay directive** – Delay directive can provide an extra delay between the executions of two CLI commands.
- **Reconnect directive** –Reconnect directive instructs the CUG tool to reconnect to the device after a specified amount of time. Reconnect directive also tells the tool how many times to retry for reconnection to the device. If the reconnection is successful, the

remaining commands in the script are executed. Without reconnect directive, if the script contains a boot command the CUG tool will lose connection to the device and any remaining commands in the script will not be executed.

Password directives:
@@@telnet – to substitute Telnet password of the device (retrieved from Device Credentials)
@@@ssh – to substitute SSH password of the device (retrieved from Device Credentials)
@@@current – to substitute the password that was used for current CLI session from CUG tool to the device

Example: An imaginary example where the CLI command <cmd> requires user to provide his/her current session's password.
```
<cmd> ||| Enter password | @@@current
```

Delay directive:
|||delay **s** - where **s** is a number between 1 and 180; this directive will wait to "**s**" seconds before executing the command following it. This directive should be in its own line.

Example: Following sequence of CLI commands and delay directives provides a 6mins of time for completion of the copy command before executing the next command.
```
copy config tftp address 10.133.139.70 filename newConfig.cfg
|||delay 180
|||delay 180
conf t
vlan create 788 name vlan788 type port msti 1
```

Reconnect directive:
|||reconnect [**s r**] - where **s** is number of seconds (in the range 1 to 20) to wait before each retry for connecting to device, and **r** is the number of retries (in the range 1 to 5) to attempt. When both arguments are absent, reconnect is attempted once.

Example: Following sequence of CLI command, Delay directive and Reconnect directive reboots the device, waits for 3mins for completion of the reboot and then re-establishes CLI session to the device (trying 4 times with 20 sec delay between each retry) and creates a vlan.
```
boot
|||delay 180
|||reconnect 20 3
conf t
vlan create 788 name vlan788 type port msti 1
```

NOTE:
Do not use commands that change the Telnet or SSH credentials of the device in the CUG script. This results in connection failure to device as the Device Credentials will not be auto-updated with the new credentials for the device.

9 Known issues and workarounds

The following table provides the details of known issues in this release and workarounds, if any.

Issue ID	Component	Problem	Notes
COMNG-181	Migration	Post migration from legacy systems, some BCM tasks may be empty	Ensure the Network discovery has all the devices discovered that are required by the old migrated tasks
COMNG-182	COMNG-Data Migration	Roles created in legacy COM 3.0.2 are not migrated to PLUS (Applies to EFO as well)	During data migration, user created roles from legacy COM/VPFM are not migrated to EFO
COMNG-183	COMNG-Data Migration	Data Migration - Access Control from legacy COM is not properly applied onto PLUS (Applies to EFO as well)	User to COM Manager association is not part of the data migrated from legacy COM to EFO
COMNG-269	Upgrade	SSD file upload not working in Firefox Quantum (v57).	A bug has been created against Firefox - https://bugzilla.mozilla.org/show_bug.cgi?id=1423143 File upload works in FF v56 and also in beta version of yet to be released FF v58
FABRICMGR-2957	EFO-Data Migration	NNC-5675 - Data Migration [VPFM to EFO] : Advance discovery options (SNMP Timeout and Retry) are not restored	SNMP timeout and retry count are not part of the data migrated from legacy VPFM to EFO.
FABRICMGR-3069	Configuration, Configuration-FabricExtend	Learned mac address entry against a FE logical interface is displayed wrong	Configuration does not discover the MAC Address learned through logical interfaces
FABRICMGR-3070	Configuration, Configuration-FabricExtend	For MAC-address is learnt on FA/Flex-uni interface the display is wrong and mac-address learnt on Tunnel interfaces in VSP8404 is shown as null	Configuration does not discover the MAC Address learned using FA and Flex-Uni interfaces
FABRICMGR-3167	Custom Monitoring	Custom monitoring may not get triggered, if customizations are modified multiple times.	In Network Discovery page, stop/start monitoring on the domain to have it start polling data

Issue ID	Component	Problem	Notes
FABRICMGR-3366	SMGR-Credentials	Changing IP/FQDN asks user for password Change as well	
FABRICMGR-3920	Cluster VMs	No warning or error message if a user tries to login once max session limit is reached	The problem is seen when establishing SSH sessions to any of the VM in the cluster using Putty. Workaround is to make sure that the "Close window on exit" option in Putty is set to "Never".
FABRICMGR-4020	Flow Management	Getting invalid user error while generating both PCAP and Trend Analysis reports	
FABRICMGR-4148	Remote access	RealVNC 5.3.x and above is not supported for VM console	Use RealVNC 4.x, UltraVNC or TightVNC
FABRICMGR-4149	Configuration-FabricAttach	FA : Element Type & Proxy Mode attributes modification and response from device takes more than 1 sec	**Workaround**: Set the SNMP timeout to 2000 ms (i.e., 2 sec) and then perform these modify operation successfully in Configuration >> Fabric Connect >> Fabric Attach (Fabric-Centric view)
FABRICMGR-4169	Dashboard	IE does not reflect changes done to dashboard widgets in FF browser	Following settings needs to be done in IE browser - Select Tools >> Internet Options. - Click the Settings button in Browsing History. - Select the Every time I visit the webpage radio button. - Click OK to close the Settings dialog. - Click OK to close the Internet Options dialog. - Set the Disk space to use (1024)
FABRICMGR-4624	Configuration-Network Map	Configuration status bar does not get updated immediately following upgrade EFO	To see the updated status bar, perform a Reload in Configuration → Network Map view.
FABRICMGR-4641	Backup & Restore	Unable to restore backup taken on an older release after admin password change	Post appliance upgrade, if the admin password is changed, the system backups taken previously cannot be used for restore.

Issue ID	Component	Problem	Notes
FABRICMGR-5022	Configuration-Discovery	EFO Config should handle negative slot & ports values it receives in discovery data gracefully	The slot/port could be -1 in multiple cases - in most of the cases these links are logical links and have no associated slot/port. In some cases EFO may be unable to determine the slot/port of a physical link and may show the value as -1/-1. In EFO 1.2, Config Network Map ignores all logical links (there by handling most of the -1 case). Rarely a physical link could get displayed as -1/-1.
FABRICMGR-5401	Configuration-VLAN	Channelized ports are not displayed under "unassigned" in Configuration -> VLAN	VLAN Manager's Network → Unassigned view does not display the un-assigned ports for the VOSS and VOSS-WBE devices. (un-assigned ports are the ports that do not belong to any STP/MSTP/RSTP instance)
FABRICMGR-5529	Configuration-FIM	VOSS-WBE devices back up does not work from File Inventory.	Device backup using File Inventory gives following error for VOSS-WBE devices (tested with sw version 6.1) - "softwareLicenseViolation" error. This is due to an issue in the device software. **Workaround**: Use the device backup sub-feature from the Device Software Management (DSM) feature.
FABRICMGR-5582	SMGR	Using localhost as entry for LDAP server ip/fqdn causes corruption	Found to be an issue if you use localhost as the entry for the LDAP ip/fqdn.
FABRICMGR-5594	Flow Management	Branding - IP Flow - Exported reports still refer to term "Avaya"	
FABRICMGR-5669	License	Not all actions are displayed after installing advanced license	**Workaround:** After installing any WebLM license, we need to restart kbmd. Procedure: SSH into the Monitoring VM; Change to root access; service kbmd

Issue ID	Component	Problem	Notes
			stop; service kbmd start
FABRICMGR-5673	Client	The menu items and links on EFO/COM+ landing page cannot be activated in FF 57 (Quantum). This is observed on a few client machines (randomly)	**Workaround:** Try restarting the client machine. If that didn't solve the problem, then use an older version of FF or use IE browser to access EFO.

10 Resolved issues in EFO Release 1.2

The following table provides the details of issues that have been resolved in EFO 1.2.

Issue ID	Component	Summary
COMNG-232	Configuration – Fabric Connect	Error clicking on l2vsn isid number with COM plus
COMNG-247	Device Credentials	COM Plus 1.0 V3 Management User dropdown is blank
COMNG-248	Device Software Management - Backup	COM /COM Plus: VSP 9k Backup via BCM failing with Error message "Error: Stream is closed."
COMNG-263	Configuration – Network Map	NNC-6575 Config/Network Map does not display all devices from Monitoring/Network Map
FABRICMGR-3094	Preferences	preferences: email and SNMP timeout preferences should be able to be saved independently
FABRICMGR-4256	Appliance Device Manager	AFO 1.0 ADM unable to reach ILO
FABRICMGR-4750	System Upgrade	AFO 1.1 upgrade does not backup/restore original data
FABRICMGR-4754	Preferences - MSC	Read Only user can apply changes to MSC preferences
FABRICMGR-4787	All VMs	AFO 1.1 Application becomes unresponsive. HD filling up.
FABRICMGR-4833	Configuration	AFO 1.1 SPBM SMLT peer system ID and SPBM SMLT Virtual backbone MAC option is not available under SMLT wizard
FABRICMGR-4834	Device Software Management - CUG	AFO 1.1 CUG ignores quotation marks when used for text strings

FABRICMGR-4838	Device Software Management - SVU	SVU fails for 5900 with custom banner
FABRICMGR-4928	Configuration – VLAN	Message deleting vlans in VLAN Manager is incorrect
FABRICMGR-4974	Discovery	NNC-6443 Problem with discovery of 5698 stacks
FABRICMGR-4976	Configuration - Routing	Read Only user can apply changes to Configuration/Routing
FABRICMGR-5039	System Backup & Restore	AFO 1.1: Backup of AFO failing with error "Error occurred while taking backup of Cluster Engine VM"
FABRICMGR-5109	Discovery	NNC-6480 Manual discovery on Default domain fails
FABRICMGR-5130	Device Software Management - CUG	CUG script fails when prompted for yes/no answer
FABRICMGR-5218	Configuration – Network Map	AFO COM Plus: Extra Links Are Displayed in Network Map As -1/-1
FABRICMGR-5253	EDM Plugin	AFO EDM unabled to make change within VRF context
FABRICMGR-5257	System Backup & Restore	AFO 1.1: AFO Backup To External Storage Only Transferring .Jar File and Not .Zip
FABRICMGR-5351	Discovery	AFO Discovery is not able to discover the links between ESXi and VSP 7200
FABRICMGR-5356	Configuration – Network Map	Link speed is shown with unknown color
FABRICMGR-5572	System Backup & Restore	AFO becomes unresponsive after running cluster backup
FABRICMGR-5573	Appliance – all VMs	JBoss tmp size increases and disk is full in AFO VMs
FABRICMGR-5574	Appliance – all VMs	VMs continue to restart
FABRICMGR-5591	Device Software Management	BCM Tasks Hang - Provide a way to unblock the tasks
FABRICMGR-5622	Device License Manager	AFO 1.1 Device licensing page does not display all devices
FABRICMGR-5650	Platform	COMNG: External user with Uppercase in user id - not able to launch EDM
FABRICMGR-5655	Monitoring	NNC-6579 devices show CPU above 100%

FABRICMGR-5657	Monitoring – Traps and Syslog	NNC-6580 should not report IP availability on access port
FABRICMGR-5660	Security	NNC-6576 Vulnerable detection from security scan

11 Operational notes

This section provides details of operational considerations to follow while using EFO.

11.1.1 Configuration and Device Software Management

- **Reload** in Configuration Network Map synchronizes the configuration inventory data with data from Network Discovery

- **Device Software Management** related backed up files will be located under `/opt/avaya/afo/shared/config/`

- **File Inventory** related backed up files will be located under `/opt/avaya/afo/shared/config/FileInventory/`

- VSP 7000 device limitations affecting configuration functionality:

    o TACACS settings and Web Password settings related SNMP MIBs are not supported in VSP 7000 series switches. These operations result in a `noCreation` SNMP error.

- VSP 7000 configuration support limitations:

    o Inventory Manager actions can cause error (`noCreation` SNMP error) for ASCII config file upload/download for VSP 7000 series switches. Inventory Manager binary config upload/download may require increasing the SNMP timeout in the preferences to 10 sec or more. (Applies to VSP 7000 release 7.2.x and older).

- Changing snmp-community string via Device Password Manager (DPM) portlet of Device Software Management only changes the default snmpv1-read and snmpv1-write community string which have the indexes:-
1) first (group:v1v2grp and security name: readview) for snmp-read
2) second (group:v1v2grp and security name: initialview) for snmp-write

    In case, in the absence of these default entries on the device, community string change via DPM may not happen properly. As of now DPM takes care of only the changes to these default entries, and if default entries are not present appropriate error message will be thrown in the logs, once the DPM task is activated.

Affected device family : VSP 4K, VSP72xx, VSP8K, VOSS-White Box Edition and VSP 9K

11.1.2 VOSS device software management backup and restore

On VOSS software version 4.2 and 4.2.1.0, SCP is not supported by the devices. Device Software Management backup and restore operations on SSH fail with error:
```
/opt/avaya/afo/shared/config/BackupAndRestore/archive/<backup_directory_name>/config.cfg (No such file or directory)
```
If Device Software Management operations are needed, you can use telnet credentials for the VOSS devices on software version 4.2 and 4.2.1.0.

11.1.3 Network Discovery and Network Topology

1. A `Discovery Partially Successful` status means that a full discovery could not be performed due to license not being available or one of the discovery seeds not being reachable.

2. Discovery uses the write community strings to discover the device if both read and write community strings are provided, It will not fall back to read community strings if write fails.

3. The SPBM view in Network Topology uses SNMP write access to retrieve the SPB L2 MIBs.

11.1.4 Virtualization

1. If there are changes to the device hardware (adding or removing devices from the network, adding or removing units from a stackable), you need to complete the following tasks:

   a. Check if snmp is enabled on the new or existing ESXi server and update the snmp and ssh credentials in EFO credential tab for ESXi server. Below is the command to enable snmp.

      - `esxcli system snmp set –e yes`

      - `esxcli system snmp set –c public`

   b. EFO network discovery must be executed. Once the EFO Network discovery is completed successfully, EFO Virtualization Inventory Audit and Hypervisor connectivity is auto triggered.

c. If new network devices are added to the network, then EFO Network discovery must be followed by a device reassignment (manage or unmanage) using EFO Virtualization Device Management.

2. EFO Virtualization Component does not support virtual machine configurations involving vApp.

3. EFO Virtualization supports the following options of Port Group VLAN IDs:

    a. vSwitch Port group

        • 1-4094 — You can define a rule using the specific VLAN ID as the PortGroup VLAN ID for this port group.

    b. dvSwitch Port group

        • VLAN — You can define a rule using the specific VLAN ID as the PortGroup VLAN ID for this port group

4. EFO Virtualization does not configure the network for EST and VGT mode settings. The network administrator must configure EST and VGT settings manually. If some of the VMs are designated to use EST mode, then the network administrator must manually configure the ports on both source and destination switches.

5. You cannot directly export an EFO Virtualization report to an HTML format using the **export report** feature. However, you can save the report in a HTML format using the **Print Report** feature. For more information, see *Virtualization Configuration for Extreme Fabric Orchestrator* (NN48100-503).

6. See *Virtualization Configuration for Extreme Fabric Orchestrator* (NN48100-503) for information about the vCenter events that EFO Virtualization can manage.

7. EFO Virtualization blocks the network traffic for a VM when used in EST mode

8. If one of the uplink is down amongst the available, EFO Virtualization shows failed in Monitor Event for the particular VM transaction.

9. While configuring rules based on a port group, best practice is to consider the port group name along with the port group VLAN ID.

10. EFO Virtualization Hot Migrate of VM is not detected after HA-DRS as a result of Host shutdown or physical failure.

12 Document list

The following are the documents available for EFO Release 1.2.

Item	Document Identification	Document Title
1	NN48100-100	Network Management Solution Description
2	NN48100-102 (A-852078 rev3)	Getting started and Locating the latest software and Release Notes for Extreme Fabric Orchestrator
3	NN48100-101	Deploying Extreme Fabric Orchestrator
4	NN48100-600	Administration using Extreme Fabric Orchestrator
5	NN48100-500	Network Monitoring using Extreme Fabric Orchestrator
6	NN48100-501	Network Configuration using Extreme Fabric Orchestrator
7	NN48100-504	IP Flow Configuration using Extreme Fabric Orchestrator
8	NN48100-502	Bulk Device Configuration Management using Extreme Fabric Orchestrator
9	NN48100-503	Virtualization Configuration using Extreme Fabric Orchestrator
10	NN48100-700	Network Management Traps and Trends Reference
11	NN48100-701	Network Management Supported Devices, Device MIBs, and Legacy Devices Reference
12	NN48100-702	Troubleshooting Extreme Fabric Orchestrator
13	N/A	Extreme Fabric Orchestrator Northbound API user guide (HTML zip)
14	N/A	Extreme Fabric Orchestrator Release Notes

For links to download documentation, see Extreme Networks Documentation